

ADMINISTRATION REPORT
OF THE
MADRAS ANIMAL HUSBANDRY
DEPARTMENT
FOR THE YEAR
1956-57

PARTS I AND II (1ST APRIL 1956 TO
31ST MARCH 1957)



GOVERNMENT OF MADRAS
1958

(1590)

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1958

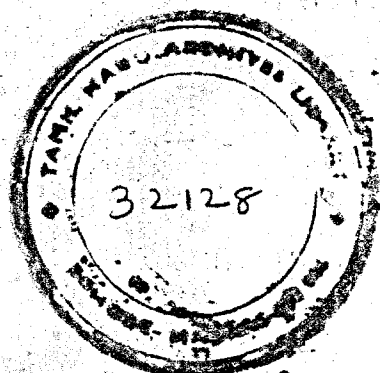
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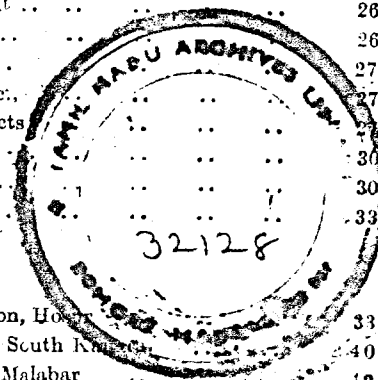


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ADMINISTRATION REPORT OF THE MADRAS ANIMAL HUSBANDRY DEPARTMENT FOR THE YEAR 1956—57.

PART I.

(From 1st April to 31st October 1956.)

CHAPTER I—GENERAL.

In pursuance of the policy of providing protection to the present population of livestock of the State and production of pedigrees and better livestock for the future prosperity the Animal Husbandry Department of Madras State as usual put forth its efforts during the period under report, from all angles of Animal Husbandry and in implementing its programme at all levels (viz.) village, district and State.

To cope up with the increased requirements in respect of Technical Personnel and pedigree livestock consequent to the implementation of schemes drawn by the department under Second Five-Year Plan, the department made a beginning towards the goal of attaining self-sufficiency in all aspects though faced with paucity of technical personnel and pedigreed stock. The department in its uphill task of development of livestock in this State did not fail to harness the enriched experience and enthusiasm of Practical Animal Husbandry men from rural parts which could be seen from the existence of the State Livestock Improvement Board at State level and a number of Cattle Improvement Associations in each of the Key Village centres wherein the above are also members.

The progress in the various sections of this department has been elaborated in the following chapters while the salient features in the various branches of the department during the whole of this year are dealt with in this chapter.

2. *Administration*.—On account of the growing activities of the department under Five-Year Plan and Community Projects and National Extension Service Schemes, the technical and administrative work at district level of certain districts grew beyond one's capacity to discharge as a district officer, his duties on all spheres in an efficient manner. So, to make good this hardship and in accordance with the principle that planned efforts in a concentrated way in a compact area bring forth better progress, the 3 revenue districts (viz.) Tanjore, Tiruchirappalli, Madurai were bifurcated and placed under separate District Veterinary Officers.

The district of Nilgiris which was till then under the control of the District Veterinary Officer, Coimbatore West, was separated and placed under a separate District Officer.

The growing activities of this department with the resultant increased strength in subordinate officers and expenditure through them on various schemes were canalised with strict

economy and efficiency on financial aspect by the opening of a separate audit section under this department with a full complement of staff under the charge of an Accounts Officer.

3. *Veterinary education.*—To overcome the paucity of technical personnel in the department and to cope up with the increased demand in respect of staff under Second Five-Year Plan, the student strength of B.V.Sc. course was increased from 100 to 120 and that of Stockmen course from 100 to 200 in the Madras Veterinary College during the year. In addition to the Stockmen Course at the Hosur Cattle Farm, 2 more centres, one at Pudukkottah and another at Orathanad, were opened in the District Livestock Farms located in these places.

The Post-Graduate Diploma Course in Veterinary Parasitology which was commenced last year to train Veterinarians for the survey and control of parasitic diseases among livestock in various States of India was continued during the year under report.

The post-graduate facilities afforded in the college were fully availed of by both students and staff. Six members of the staff took items of research leading to M.Sc., and two for Ph.D. degrees of Madras University. One staff member was awarded the M.Sc. degree during the year.

Two members of the department were awarded the Government of India scholarships for post-graduate research work in Animal Nutrition and Pharmacology, respectively.

Animal Nutrition department of the college was strengthened with additional staff headed by a Research Officer to carry out research work exclusively on Nutrition problems.

The standard of education imparted in the college was usually high and 68 Veterinary graduates and 99 stockmen qualified successfully during the year.

The programme of constructing additional multi-storeyed block in the Madras Veterinary College and another block in the hostel at an estimated cost of about Rs. 9.07 and 6.67 lakhs respectively was started during the year to meet the increased demand for teaching aids and students residential facilities in these fast growing institutions.

The tempo of extra curricular activities of the students of the college as usual, was of high order. They for the first time in the annals of the college won the May and Baker Shield in the Inter-Collegiate knock-out football tournament besides being runners up in the Inter-college league football tournament during the year. The Inter-collegiate oratorical contests, Inter-collegiate tournaments and Inter-University Athletics including boxing were also well represented by the students of this college.

The college through the enthusiastic co-operation both from the staff and the students took keen part in the Centenary celebrations of Madras University. Variety entertainment programmes were organized and an exhibition stall on Veterinary Education was also got up on a grand scale with the co-operation of the Department in appreciation of which a shield was awarded by the Centenary Committee.

4. *Institute of Veterinary Preventive Medicine.*—The production of various biological products at this institute had almost reached the stage of self-sufficiency both in respect of quantity and number of products required in this State which could be seen from the fact that only two products, (viz.) Johnin, Mallein in little quantities were purchased from outside for supply to the staff. The supply of various products to other States was continued as usual and bulk supply of Freeze Dried Rinderpest vaccine to Andhra State was also undertaken under the Pilot Scheme for eradication of Rinderpest sponsored by Government of India.

Research work was also of growing importance in this institute. Improvement in the technique and methods used in the manufacture of virus vaccines, manufacture of a combined vaccine against Haemorrhagic Septicæmia and Blackquarter, improvement of Haemorrhagic Septicæmia vaccine are some of the noteworthy items that were in progress during the year.

5. *Livestock Development.*—Striking feature of this year was the speedy progress in the implementation of various schemes covering all aspects of livestock development which could be well judged from the following items of work carried out during the year :—

- (1) Opening of a livestock farm at Ramanathapuram.
- (2) Opening of Sheep Breeding and Research Station at Chinnasalem.
- (3) Opening of 5 supplementary extension centres in Madurai, Chingleput, Salem and North Arcot districts with a view to utilise the breeding bulls available in the key village areas.
- (4) Extension of Key Village Scheme in 4 more centres in addition to the existing 9 centres.
- (5) Intensive development of sheep in key village areas.
- (6) Opening of 3 sheep demonstration units.
- (7) Expansion of District Livestock Farm at Orathanad.
- (8) Acquisition of land to the extent of about 600 acres near Pudukkottai for District Livestock Farm, Pudukkottai.
- (9) Establishment of a cattle colony in the vicinity of Madras City on the lines of Aarey Milk Colony Scheme of Bombay State to solve the problem of milk supply in Madras City.
- (10) Establishment of 6 poultry demonstration centres in rural parts with a strength of 100 birds each.
- (11) Encouragement to private poultry breeders through payment of annual subsidy subject to a maximum of Rs. 850 each for 10 breeders in the year.
- (12) Short practical training course in Poultry Husbandry for selected ryots from National Extension areas in batches of 12.
- (13) Relief to poultry rearing ryots or associations through the supply of poultry equipment like wire netting, etc., at subsidised rates.

(14) Intensive poultry development in key village areas through distribution of exotic cockerels for Desi ones in exchange.

(15) Conduct of State Cattle Show, and shows at district level in each of the districts.

The existing livestock farms were functioning satisfactorily both in respect of dairy performance and stock of young breeding bulls. Though 2 district livestock farms and one poultry farm were transferred to Karnataka and Kerala States subsequent to reorganization of States during the year, opening of one district livestock farm, sheep breeding and research station, 2 sheep development units and 6 poultry demonstration centres were also implemented.

There were 1,707 breeding bulls at the end of the year, inclusive of buffalo bulls for stud purposes located all over the State under various schemes of the department excluding those at artificial insemination centres and under key village schemes as against 1,439 in the previous year. These bulls have performed 90,384 services during the year. Seven artificial insemination centres were transferred to this department for further maintenance from the Community Projects Scheme on its changing over to National Extension Service pattern of which one was transferred to Kerala State consequent to reorganization of States. During the year 4 more key village centres were opened and 2 more villages were added to each of the 9 key village centres which were already in existence.

The strength of the poultry demonstration units in veterinary institutions was increased from 19 to 30. The Unit at Veterinary Hospital, Ootacamund, was revived and 12 units were transferred to this department from Community Project Scheme on its conversion into National Extension Service pattern. Two units were transferred to Kerala and Karnataka States on the reorganization of States. These units and Poultry Farms were maintained satisfactorily and a total number of 4,182 exotic birds and 26,989 eggs were issued to public for rearing and hatching respectively.

6. *Veterinary Health Service and Itinerant Staff.*—The strength of veterinary institutions was further increased consequent on the transfer of 14 institutions for further maintenance from the Community Projects Administration. On account of reorganization of States, 15 institutions were transferred to Kerala and Karnataka States while 5 institutions were taken over by this State on the integration of Kanyakumari district. These institutions continued to function very well wherein a total number of 822,380 sick animals were treated and 55,367 animals were castrated during the year as whole, as against 260,048 cases and 40,061 castrations in the previous year.

The purchase of microscopes for supply to veterinary institutions was sanctioned during the year as an essential aid for the quick confirmation of clinical diagnosis.

The growing popularity and importance of these institutions, as felt by the public, was reflected in the good number of appeals, memorials and representations received from all parts of the State for opening more and more of veterinary dispensaries.

Though the strength of the teams of touring staff of the department continued to be the same, their utility and efficiency was on the increase for which the statistics on disease position for the year will stand as testimony. There were 1,863 outbreaks of various diseases among livestock, resulting in 9,665 deaths during the year as a whole as against 4,058 outbreaks resulting in 20,418 deaths in the previous year. The speedy attendance of outbreak reports from rural parts and the prompt prophylactic measures adopted in affected areas and well in advance in free areas as well, were the salient aspects of the service rendered by these staff in bringing down the incidence of contagious diseases. To fulfil the expectation of rural public in respect of the expediency and efficiency on the part of itinerant staff in curtailing down the loss of livestock, to the minimum, 2 mobile veterinary units (vans) have been introduced in the Tanjore and Chingleput districts as an experimental measure to start with. The experience gained so far is well in favour of providing one for each of the districts. During the whole year under report, against various diseases 1,330,993 animals and birds have been protected against various contagious diseases of 80,583 in the previous year.

Livestock apart from 136,838 cases treated and 31,271 castrations performed as against 126,610 cases and 35,665 castrations in the previous year by the touring staff during the course of their tours and at their headquarters.

7. *Disease position in the State.*—The State maintained an enviable position in the matter of livestock diseases, when compared with previous years. It will be gratifying to note that the State was continued to be kept free from rinderpest during the year under review. The possibility of spread from neighbouring States was also kept under control by the continuance of the quarantine check posts on all important cattle routes.

It is noteworthy to mention here that the incidence of various contagious diseases among livestock during the year under report was considerably low as could be seen from the fact that only 1,863 outbreak reports with the resultant mortality figure of 9,665 were recorded during the year as against 4,058 outbreaks with 20,418 deaths in the previous year. Not only the incidence was low, but also the severity was also less. This was possible on account of the campaign of advance Preventive Inoculations organized by the departmental staff periodically in endemic areas, well in advance of the season. The two mobile units sanctioned in two districts during the period were of immense help and if the same elementary but vital aid is made available in all districts, the loss of livestock which affects their main occupation of rural public (viz.). Agriculture can be reduced still further to a considerable extent.

It is worthy of mention that during the year under report the incidence of Rabies in the Nilgiris district in a flaring up form, endangering the lives of the entire human population of this hilly region brought under control effectively and efficiently in time by the departmental staff with full support of the Collector and co-operation of the Public Health and Municipal staff.

8. *Investigation and Research.*—This branch of the department was further strengthened by the addition of a Research staff in the Animal Nutrition Section of the Madras Veterinary College, for laboratory *cum* field study for solving the problems on animal nutrition in respect of this State. Separate schemes for investigation into the incidence and control of Mastitis and Brucellosis in Madras State were submitted to Government and got sanctioned.

The following are the few noteworthy items of research and investigation carried out during the year under review :—

- (1) The safe method of vaccination against Anthrax (sheep).
- (2) Effective method of vaccination against sheep-pox.
- (3) Preparation and study on the combined single vaccine against Ranikhet disease and fowl-pox.
- (4) The investigation into the incidence of Brucellosis (abortion) in the State.
- (5) The effect of calfhood vaccination in eradicating Brucellosis.
- (6) Treatment of early cases of Hæmorrhagic Septicæmia with Sulphamezathine.
- (7) Investigation into mortality of calves in the urban and rural areas.
- (8) Investigation into the etiological and genetical aspect of Avian Leucosis complex.
- (9) Nutritional factor as a cause of low hatchability in poultry.
- (10) The experimental work on Cirrhosis among dogs in relation to protein diet.

9. *Veterinary Public Health.*—The department plays its vital role not only in the control, cure and protection in respect of diseases of livestock, but also in safeguarding the health of the human population of the State. This is done by the effective control of livestock diseases like Anthrax, Rabies, etc., which are also communicable to human beings endangering their lives and by the technical supervision to ensure the release of milk and meat on sale to the public on hygienic lines.

Preventive vaccination both in affected and free areas against contagious diseases common to both human beings and livestock, safe burial of carcasses of animals died of these diseases and the destruction of affected animals like rabid dogs were the salient measures adopted towards the safeguard of human lives.

Consumption of wholesome milk by the public was ensured by the inspection of cows and milking yards of co-operative societies and human hospitals.

Wholesome meat was made available to the public by the inspection of slaughter houses maintained by local boards in the State and by the examination of the animals both, before and after slaughter.

10. *Statistics.*—The statistical section continued to do useful work in the collection, compilation and statistical analysis of all problems related to this department. All the schemes formulated

for livestock development in this State, were planned with statistical scrutiny. The application of statistical principles for Animal Husbandry is being fully utilized by this section in analysing the breeding data available in the livestock farms of this State. Besides the routine items of statistical work arising in the day to day administration a beginning had also been made for the collection of vital statistics pertaining to Animal Husbandry of this State.

11. *Propaganda.*—Though handicapped for want of a full fledged propaganda section with modern amenities both at State and district levels much progress had been made in this line, keeping in view the importance of the year under report, being the first year of Second Five-Year Plan which aims at the raising of income of individual and Nation as a whole. Besides the usual items of preparation of charts, maps, graphs models, photographs, leaflets, etc., the translation in regional language of "Farm News Releases" issued from Indian Council of Agricultural Research in respect of Animal Husbandry was undertaken during the year.

Holding of exhibitions formed one of the activities of the department and such exhibitions and shows were organized in conjunction with the More Milk Day celebrations, Gosamwardhana Week, Pongal Week, etc. In the Centenary Exhibition organized by the Madras University a shield was awarded to the Madras Veterinary College in appreciation of its efforts in putting up a stall in the exhibition.

During the year, 77 livestock shows in rural parts and at district headquarters in each of the districts and 18 calfallies-cum-cattle shows in Key Village areas were organized. At State level in Madras City a cattle show was organized during the year for the first time in the annals of the department and incidentally it added credit to our State being the first one to start this as an annual programme for public participation to their benefit. The Second State Poultry Show was also conducted during the period in addition to the above.

CHAPTER II—ADMINISTRATION.

12. The administrative control and technical supervision of the activities of the department was vested with the Director of Animal Husbandry, who was assisted by 3 Deputy Directors of Animal Husbandry at State level who were in immediate charge separately of Veterinary, Livestock and Key Village inclusive of Artificial Insemination sections of the department.

(a) *Director of Animal Husbandry.*—Dr. V. R. Rajagopalan, G.M.V.C., DIP., BACT. (Manchester), continued to be the Director of Animal Husbandry, Madras, till 8th April 1956 when he proceeded on leave preparatory to retirement. Dr. D. Pattabhiraman, G.M.V.C., A.I.D.I., who was then the Deputy Director of Animal Husbandry (Livestock) took charge of the post of the Director of Animal Husbandry on 9th April 1956 forenoon and continued to be so till 31st October 1956.

During the period under report the Director of Animal Husbandry attended the following meetings and conferences as detailed below :—

Particulars.	Place of meeting.	Date of meeting.
(1)	(2)	(3)
1 Meeting of the Soil Conservation Board.	Ootacamund ..	4th May 1956.
2 Meeting of Heads of various departments and District Collectors of Madras State.	Do. ..	10th to 12th May 1956.
3 Meeting of Madras State Livestock Improvement Board.	Koila ..	20th May 1953.
4 Meeting of sub-committee of Indian Interim Veterinary Council.	Ootacamund ..	15th to 17th May 1956.
5 Southern Regional Committee meeting of the Indian Council of Agricultural Research.	Bangalore ..	13th to 16th September 1956.

In addition, he attended the following meetings at State headquarters :—

- (1) Meeting of The State Development Council.
- (2) Meeting of All-India Slaughter House Committee constituted by the Indian Council of Agricultural Research.
- (3) Meeting of the Rural Development Board.
- (4) Meeting of the State Planning Board.
- (5) Conference of officers of Animal Husbandry Department.

He paid a visit in June 1956 to the Aarey Milk Colony, Bombay and the Kaira District Co-operative Milk Supply Union, Limited, at Anand to have a personal study of these schemes for the implementation of Cattle Colonization Scheme for Madras City.

In company with the Director of Animal Husbandry, Travancore-Cochin State, he undertook a survey tour of Kanyakumari district for drafting integration proposals of the five taluks to be transferred to Madras State consequent on the proposals for the reorganization of States.

During the course of his tours in the State during the period the various institutions and offices like livestock farms, research institutions, veterinary institutions, offices of the District Officers of this department were inspected.

(b) *Deputy Director of Animal Husbandry (Veterinary).*—Dr I. D. Mantramurti, G.M.V.C., B.V.Sc., continued to hold the post of Deputy Director of Animal Husbandry (Veterinary) during the period under report.

The offices of District Veterinary Officers, Veterinary Disease Investigation Officers, veterinary institutions, touring billets, slaughter houses, quarantine stations and the work of Extension officers (Animal Husbandry) in National Extension Service and Community Project areas were inspected by him during the period. During the course of his tours, he investigated outbreaks of livestock diseases and checked up the efficiency of preventive measures taken by the staff of the department. In the National Extension Service and Community Project areas various activities and problems on this departmental work were discussed with the respective Block Development Officers and Project Officers.

The meeting of the Eastern Regional Animal Husbandry Committee of Indian Council of Agricultural Research at Puri and the meeting of the Central Rinderpest Control Committee at Srinagar were also attended by him during the period.

(c) *Deputy Director of Animal Husbandry (Livestock).*—Dr. D. Pattabhiraman, G.M.V.C., A.I.D.I., continued to be the Deputy Director of Animal Husbandry (Livestock) till 8th April 1956. From 9th April 1956 to 26th August 1956, the Deputy Director of Animal Husbandry (Key Villages) was in full additional charge of this post. From 27th August 1956 Dr. T. Anantapadmanabhan, G.M.V.C., was appointed as Deputy Director of Animal Husbandry (Livestock) who continued to be so, till the end of the period under report. The work carried out in livestock farms, poultry farms, research stations and progress under various livestock development schemes in the rural areas other than Key Village Scheme were periodically inspected. The State Livestock Improvement Board meeting held at Koila was attended by him.

(d) *Deputy Director of Animal Husbandry (Key Villages).*—Dr. T. Anantapadmanabhan, G.M.V.C., continued to be the Deputy Director of Animal Husbandry (Key Villages) till 26th August 1956 when he was appointed as Deputy Director of Animal Husbandry (Livestock). Dr. M. C. Chellam, G.M.V.C., F.R.V.C.S., was promoted as Deputy Director of Animal Husbandry (Key Villages) from 27th August 1956 without prejudice to his present post of Regional Sterility Officer. So, Dr. C. K. Subbu Singh, G.M.V.C., P.G. (Read) was then appointed as Deputy Director of Animal Husbandry (Key Villages) from 27th August 1956 who continued in the post till the end of the period.

The work of the Key Village Scheme and artificial insemination centres in the State were periodically inspected and the extension of this scheme to other areas was also attended to. He had also attended the Regional Conference of Officers of Artificial Insemination Centres held at Puri by the Indian Council of Agricultural Research during the period.

The details of the staff both gazetted and non-gazetted of the department who were working in various branches of this department are furnished in Table IX annexed. The staff of this department as a whole evinced keen interest in their respective spheres of work and gave their best in an efficient manner in all aspects (viz.), development of Livestock, disease control, disease investigation, education and research.

13. *Gazetted staff.*—The strength of the gazetted staff was increased from 63 to 79 during the period. The post sanctioned for the compilation of Livestock Manual was terminated on 4th June 1956 and the following 17 new posts were sanctioned during the period, thus making a total of 79 posts at the end of the period :—

1 Lecturer in Agricultural College, Coimbatore	1
2 Lecturer in Agriculture, Madras Veterinary College, Madras.	1
3 Lecturers, Stockmen course, Madras Veterinary College, Madras.	3
4 Research Officer, Animal Nutrition, Madras Veterinary College, Madras.	1

5 Research Officer, Mastitis, Madras Veterinary College, Madras.	1
6 Research Officer, Brucellosis, Madras Veterinary College, Madras.	1
7 District Veterinary Officers	5
8 Superintendent, Sheep Breeding Research Station, Chinnasalem.	1
9 Sheep Breeding Officer, Ootacamund	1
10 Superintendent, District Livestock Farm, Ramanathapuram.	1
11 Accounts Officer, Animal Husbandry Department, Madras.	1
Total ..	17

All the above posts except the last one carry a scale of Rs. 260/40—2—700. The scale of pay of the last post is Rs. 200—400.

The following districts were bifurcated during the period as shown below in view of the fact that the departmental work was growing leaps and bounds beyond the limits of a single District Officer to discharge and direct the activities of this department in an efficient manner :—

Name of districts bifurcated.	New districts formed.	Headquarters.	Jurisdiction (taluks).
1 Tanjore ..	Tanjore West ..	Tanjore ..	1 Tanjore. 2 Papanasam. 3 Kumbakonam. 4 Pattukkottai. 5 Orathanad. 6 Aranthangi.
	Tanjore East ..	Nagapattinam ..	1 Nannilam. 2 Tiruthuraiipoondi. 3 Mayuram. 4 Sirkazhi. 5 Mannargudi. 6 Nagapattinam.
2 Tiruchirappalli.	Tiruchirappalli (South).	Tiruchirappalli ..	1 Kulittalai. 2 Karur. 3 Pudukkottai. 4 Tiruchirappalli.
	Tiruchirappalli (North).	Ariyalur ..	1 Udayarpalayam. 2 Perambalur. 3 Musiri. 4 Lalgudi.
3 Madurai ..	Madurai (South) ..	Madurai ..	1 Periyakulam. 2 Tirumangalam. 3 Madurai. 4 Melur.
	Madurai (North) ..	Dindigul ..	1 Palani. 2 Dindigul. 3 Nilakottai. 4 Kodaikanal.
4 Coimbatore West (inclusive of Nilgiris).	Coimbatore (West).	Coimbatore ..	1 Pollachi. 2 Coimbatore. 3 Udumalpet. 4 Avanashi.
	Nilgiris ..	Ootacamund ..	Whole of Nilgiris district.

In view of the growing activities of this department and its importance in Nation-Building programmes, it was found necessary that detailed departmental annual audit should be undertaken in all Offices of the department and accordingly an Audit Section with a full complement of staff under the charge of an Accounts Officer was sanctioned during the period.

14. *Non-gazetted staff.*—The sanctioned strength of Veterinary Assistant Surgeons in the department as on 31st October 1956 was 482 as against 452 in the last year. The sanctioned strength of other categories of staff are given below :—

Veterinary and Livestock Inspectors	155
Stockmen	205
Stockmen Compounders	105

In the Government Milk Factory, Madras, which was functioning under this department there was a staff strength of 21 in the Technical, Engineering and Distribution sections and there was no change in the strength of the staff.

The sanctioned strength of Ministerial staff during the period was 171.

The distribution of staff in the department has been shown in Table IX annexed.

15. *Deputation on Training.*—Staff of this department were deputed abroad for advanced training and post-graduate courses.

Dr. P. Satyendra Rao, G.M.V.C., B.V.Sc., who has deputed in the last year to New Zealand for training in Dairy Cattle Improvement continued to be on training during the period.

Dr. K. S. Shanmugasundaram, G.M.V.C., B.V.Sc., who was deputed by the department, attended the Seminar on Milk Distribution and Sanitation at Denmark and International Dairy Congress at Rome during the period.

CHAPTER III—EDUCATION.

16. The Veterinary and Animal Husbandry education is also under the purview of the Animal Husbandry Department, which maintains a College at Madras for the benefit of this State as well as other States with a view to train out qualified personnel for being absorbed in various sections of the department.

The Madras Veterinary College continued to impart both theoretical and practical knowledge in the following courses during the year :—

- (1) The Course leading to degree of Bachelor of Veterinary Science of the Madras University.
- (2) A Course for stockmen.
- (3) A Course in faying.
- (4) A Post-Graduate Diploma Course in Parasitology.

(1) *The B.V.Sc. Degree Course.*—The course extends over a period of four years and a term, for training out students with a general educational qualification of Intermediate to obtain the degree, "Bachelor of Veterinary Science" awarded by the University of Madras. In order to obtain this degree the students of the course have to pass in the following examinations :—

- (i) B.V.Sc. (Preliminary) at the end of the first year.
- (ii) B.V.Sc. (Intermediate Part I) at the end of the second year.

(iii) B.V.Sc. (Intermediate Part II) at the end of the third year.

(iv) B.V.Sc. (Final) at the end of the course.

(a) *Admissions*.—The admission of students to this course was increased to 120 for the year under review and these 120 seats were distributed as detailed below :—

(1) For students coming from foreign countries ..	6
(2) For students coming from States other than Madras and Andhra.	6
(3) For students whose parents or guardians are Central Government Officers serving, but not domiciled in this State.	2
(4) For military demobilized personnel	1
(5) For students belonging to the Madras State ..	82
(6) For students belonging to the Andhra State ..	23
Total ..	120

The selection of candidates was done by a committee specially constituted by Government for this purpose.

In all, 205 applications were received from this State for admission, of which 89 were admitted to the course, availing of the seats not filled under those reserved for other communities and States.

The students admitted (Statewar) are detailed below :—

Mysore	5
Andhra	23
Coorg	2
Madras	89
Malaya	1
Total ..	120

The number of students on the roll during the period was 396.

(b) *Scholarships*.—Five scholarships sanctioned by the local Government were awarded to the students of the first year degree course. Scholarships granted in the previous year were also continued during the year for those who have qualified themselves for continuance of the same. Thirty-one students (from Madras and Andhra States) were awarded scholarship by Harijan Welfare Departments of the respective State Governments. The Scheduled Castes, Scheduled Tribes and other Backward Classes Scholarship Board, Ministry of Education, Government of India, was also pleased to sanction scholarships for 14 students.

(c) *Training in farms*.—Besides the theoretical, practical and clinical training imparted in the College to the students of the B.V.Sc. Degree Course, training in livestock farms was also given to students of all classes during summer months at the Livestock Research Station, Hosur.

(d) *Educational tours*.—The students of the degree course were also taken on educational tours during the period as detailed below :—

Class of students. (1)	Place of visit. (2)	Purpose. (3)
Second year.	Kilpauk ..	To study the working of the Corporation Water Works, purification of water and distribution, etc.
Do.	Red Hills and Poondi.	To study the water reservoir schemes of Madras Corporation and storage.
Final year.	Kambakkam Kancha.	For practical training in Gynaecology at the Salvage Farm for dry cows.
Do.	Bangalore ..	Visit to (i) Southern Regional Station, National Dairy Research Institute, (ii) Mysore Serum Institute and (iii) Hassargatta Farm.
Do.	Ootacamund.	Visit to the Sheep Farm.
Do.	Coonoor ..	Visit to the Nutrition Institute.
Do.	Coimbatore ..	Visit to the Central Farm at the Agricultural College and for a lecture course in Agriculture Economics.

(e) *Examinations*.—The examinations were held as usual for students of all the four years by the University of Madras, in April and October for first three years and in June for the final year. The details of students who appeared and passed during the year are detailed below :—

	Number appeared.		Number passed.	
	Whole.	By parts.	Whole.	By parts.
Annual (April and June 1956)—				
Preliminary	96	13	39	7
Intermediate, Part I	63	18	17	13
Do. Part II	80	9	37	9
Final	60	11	21	11
Supplementary (October 1956)—				
Preliminary	10	48	2	39
Intermediate, Part I	5	50	2	41
Do. Part II	2	41	2	35

(2) *Course for stockmen*.—This course is intended for training out in a short period, a cadre of technical personnel with elementary knowledge in Veterinary Science and intensive training in animal husbandry with a view to provide assistance to the Veterinary Assistant Surgeons in their day-to-day field work. Candidates with general qualification of S.S.L.C. or its equivalent are selected and given theoretical and practical training for eight months at the Livestock Research Station, Hosur, and for three months at the Madras Veterinary College.

(a) *Admissions*.—The number of admissions was the same as that of the previous year (viz.) 100. All the seats were filled by candidates of Madras State and the general principles applicable to B.V.Sc. Degree Course were also applicable to this course in the mode of selection. In September 1956, another centre to run this course was started with a strength of 50 students at Pudukkottai.

Three hundred and forty-eight applications were received of which 150 were selected as detailed below :—

Scheduled Castes and Tribes	..	..	..	..	5
Backward Class	..	..	..	..	108
Others	..	..	..	..	34
Total					150

One hundred and fifty students were on the rolls at the end of the year.

(b) *Stipends*.—The students of stockmen course were eligible for a monthly stipend at Rs. 30 in the case of Backward Classes and Rs. 35 in the case of Scheduled Castes and Tribes.

(c) *Examinations*.—The annual examination for this course was held in June during the year and all the 99 students of last year's course passed out in the examination.

(3) *Course in flaying*.—Under the scheme sanctioned in 1952-53 by Madras Government to start a flaying school in Madras Veterinary College for training professional flayers and Veterinary Assistant Surgeons who are to train in turn, flayers in the districts, this course was continued for the third year during the year under report. This course is of three months' duration. Licensed butchers and those interested in this branch who will be able to read and write are usually taken up for this course. A total number of 17 candidates consisting of 13 new recruits and four butchers were trained during the year in three batches. Besides the training at Madras Veterinary College, the candidates from mufassal were also trained, through the opening of auxiliary centres at important towns. Thus during the period three auxiliary centres were functioning at Tuticorin, Pattukkottai and Karur. Twenty-four candidates were trained in these centres during the period.

(a) *Stipends*.—The students of flaying course were given a subsidy of Rs. 10 per month in the case of licensed flayers and Rs. 25 per month in the case of new recruits.

(4) *Post-graduate Diploma Course in Veterinary Parasitology*.—The Post-Graduate Diploma Course of nine months' duration in Veterinary Parasitology which was started last year with a view to train Veterinarians for the survey and control of parasitic diseases in domestic animals of the various States in India, was continued this year also. It is conducted for the benefit of Veterinarians of recognized institutions deputed by various States and Central Government. All the six candidates admitted last year completed the course successfully during the period. During the period under report five candidates were admitted from various States as detailed below :—

Madras	..	..	..	..	..	..	2
Bihar	..	..	..	..	..	..	1
Orissa	..	..	..	..	..	..	1
Andhra	..	..	..	..	..	..	1

17. *Post-Graduate Research*.—Advanced research studies by the staff and graduates of this college were undertaken both in India and abroad.

(a) *Staff*.—One of the Assistant Lecturers who was awarded research fellowship in Animal Bacteriology by the Government of India continued his research work at the Indian Veterinary Research Institute, Izatnagar. Research work was pursued in the college itself by five of the staff members, of which four had registered for M.Sc. and one for Ph.D. in the previous year. The thesis submitted last year for qualifying for M.Sc. Degree by one of the Assistant Lecturers last year was approved and he was awarded the degree during the period.

Two of the Assistant Lecturers continued their post-graduate courses in Animal Husbandry and Bacteriology in America while another one had left for Germany for advanced study in Veterinary Clinical Surgery.

(b) *By students*.—Among the graduates of this college, three continued their research, one for obtaining Ph.D. and two others for M.Sc. degrees of Madras University.

18. *Extra curricular activities*—(a) *Athletics and games*.—During the year these activities were under the charge of a Sports Secretary appointed from among the gazetted staff of the college, assisted by a qualified Physical Director. The college provided facilities to students to play the following games :—

Foot-ball.	Badminton.
Hockey.	Volley Ball.
Cricket.	Basket Ball.
Tennis.	Boxing.

During the year, the college took part in the Inter-Collegiate knock-out tournaments in foot-ball, hockey and boxing. Three students of this college were selected to represent the Madras University in foot-ball, boxing and athletics in the Inter-University tournaments.

(b) *Association*.—The Madras Veterinary College Medical Association continued to function during the period providing a platform for the students and staff to read out papers of professional interest and to meet the experts in Animal Husbandry and Veterinary Sciences, and other distinguished visitors to the college.

The inaugural address of this Association was delivered by Sri V. Lakshmi Sahai, Director, Indian Veterinary Research Institute, Izatnagar. The Association was continued to be affiliated to the Madras City College Council and the World University Service.

During the period, the Association celebrated the following functions :—

(1) "Independence Day" when Sri P. P. I. Vaidyanathan, I.C.S., Secretary to Government, Department of Agriculture, addressed the gathering.

(2) "Wild Life Week" when Sri B. V. Ramanujam, Superintendent of the Madras Zoo, addressed the students.

(c) *Social Service League*.—The Madras Veterinary College Students' Social League which was affiliated to the Madras Students' Social Service League continued its activities during the

period also, in the amelioration of people in slums and in the distribution of milk powder, etc., to poor children in the vicinity of the college.

19. *College bus.*—The students of the college were provided with a bus for their curricular and extra-curricular activities both in and out of Madras City. A new bus-chassis was purchased and entrusted to the Central Government Workshop, Chromepet, for body building.

20. *Library.*—A library with collections of technical and general books was maintained which was strengthened by the purchase of 197 books more. The library also subscribed for 13 journals during the period. The library had 3,359 books and 1,470 bound volumes of various periodicals. Two thousand two hundred and sixty-one books were in circulation during the period among the staff and students.

21. *Hostels.*—Two hostels were continued to be run during the year, one at Madras and the other at the Hosur Cattle Farm and a third one was started at Pudukkottai.

The hostel at Madras was overcrowded as usual with 222 students inclusive of students of foreign nationality. With a view to relieve the overcrowding, in the land adjacent to the existing hostel which was acquired during last year, the construction of additional blocks at a cost of 9.8 lakhs of rupees was sanctioned during the period.

The hostel provided facilities for both the in-door and out-door games. A radio and a telephone were also provided in the hostel. The inmates of the hostel celebrated the Independence Day during the period.

In the hostel at Hosur, 58 students of the stockmen course were accommodated during the year besides the students of the Madras Veterinary College during their farm training in the months of April, May and June. In the hostel at Pudukkottai, 50 students of the stockmen course were accommodated. The discipline and health of students in all the hostels were good.

22. *Hospital.*—(a) A well-equipped hospital is attached to the college consisting of three wards with both out and in-patient facilities for cattle, horses and small animals respectively. A pharmacy, a radiology department, a shoeing forge and a clinical laboratory have also been attached to the hospital section with a view to impart practical and clinical knowledge to the students.

(i) The work turned out during the period is detailed below :—

(i) *Cases treated.*

	1st April to 31st October 1956.
In-patients—	
Bovines	175
Equines	43
Canines and others	268
Out-patients—	
Bovines	3,053
Equines	74
Canines and others	5,300
	<u>8,913</u>
Daily average attendance	133.8

(ii) *Operations.*

	1st April to 31st October 1956.	
	Major.	Minor.
Bovines	72	66
Equines	21	..
Canines and others	9	133
Total ..	<u>102</u>	<u>199</u>

(iii) *Castrations.*

	1st April to 31st October 1956.
Bovines	9
Equines	4
Canines and others	22
Total ..	<u>35</u>

(ii) The details of medical and surgical cases treated during the year are detailed below :—

	Bovines.	Equines.	Canines and others.	Total.
<i>Medical cases.</i>				
Contagious diseases and infectious diseases.	109	1	1,163	1,275
Diseases of respiratory system	87	..	49	136
Do. digestive system	1,149	18	175	2,024
Do. circulatory system	1	..	30	31
Do. urinary system	8	1	18	27
Do. nervous system	24	..	195	219
Do. generative system	427	..	45	472
Do. locomotor system	50	4	90	144
Do. skin (parasitic)	14	..	90	105
Do. skin (non-parasitic)	32	2	476	510
General diseases	97	22	280	399
Diseases of unknown origin	68	4	143	215
Anti-rabic treatment	57	..	206	263
Total ..	<u>2,123</u>	<u>52</u>	<u>4,545</u>	<u>6,720</u>

Surgical and other cases.

Abscess, wounds, etc.	284	23	354	660
Tumour, cyst, etc.	53	..	86	139
Hernia, prolapse, etc.	52	..	14	66
Diseases of bones	35	2	97	134
Do. horns	110	..	..	110
Do. articulation	12	13	15	40
Do. muscles, tendons, etc.	2	3	8	13
Do. vessels and nerves	..	..	..	..
Do. glands	196	..	36	232
Do. foot	39	8	88	135
Do. eye, ear, nose and throat.	45	1	156	202
Urinary and genital system	126	8	67	201
Docking	2	..	31	33
Castrations	9	..	..	9
<i>Other cases—</i>				
Tests for pregnancy	124	..	..	124
Received for destruction	..	5	50	55
Carcases received for postmortem.	16	3	21	40
Total ..	<u>1,105</u>	<u>65</u>	<u>1,023</u>	<u>2,193</u>

(b) *Small Animal Clinic*.—During the year 5,568 cases were treated against 5,282 in the corresponding period of last year.

(i) *Rabies*.—Of the 159 dogs admitted for observation for rabies, 141 proved positive. Necessary, prophylactic measures were taken and thus 153 dogs were protected against rabies free of cost during the period as against 275 in the whole of previous year.

(ii) *Ranikhet disease*.—Two hundred and seventy-five birds were protected against this disease as a prophylactic measure.

(c) *Cattle Ward*.—Three thousand two hundred and twenty-eight bovines were treated during the year as against 3,474 in the corresponding period of the last year:

(i) *Blackquarter*.—Three cases suspected for this disease in the hospital were confirmed as positive microscopically.

(ii) *Rabies*.—Seventeen cases were admitted with symptoms of rabies of which 15 were confirmed. Fifty-seven animals were given prophylactic treatment.

(iii) *Mastitis*.—One hundred and ninety-six cases were brought for various conditions associated with mammary glands like injuries to the teat, occlusion, stricture, etc.

(iv) *Sterility*.—During the period under report, 679 cases consisting of 445 gynæcological and 234 obstetrical cases were dealt with as classified under—

Gynæcological cases.

1 Vaginitis	37
2 Cervicitis	12
3 Endometritis, first degree	7
4 Endometritis, second degree	12
5 Pyometra	7
6 Hypoplastic genitalia	32
7 Fibrous ovaries	23
8 Cystic ovary	18
9 Persistent corpus luteum	49
10 Anoestrus	50
11 Suboestrus	41
12 Abortion	2
13 Miscellaneous arbalanitis	22
14 Post-partum dyspepsia	10
15 Positive cases of pregnancy	123

Obstetrical cases.

1 Dystokia maternal	8
2 Dystokia foetal	4
3 Prolapse vagina ante-partum	9
4 Prolapse vagina post-partum	10
5 Prolapse uterus	3
6 Retained placenta	77
7 Check up for heat, etc.	123
Total	679

(v) *Protozoan diseases*.—Eighty cases met with during the period were treated on usual lines.

(vi) *Theileriosis*.—Six cases met with were treated successfully with 1 per cent Acriflavine intravenously and alum and boric acid by mouth.

(vii) *Piroplamosis*.—One case due to *B. bigeminum* was met with and treated with Babsan.

(viii) *Trypanasomiasis*.—Three cases of surra due to *T. Evansi* were treated either with Antimoni Tartaratum or Antrycide.

(ix) *Nasal Granuloma*.—Nine cases were treated successfully with Bayer's Antimosan.

(x) *Coccidiosis*.—Sixty-three cases were treated successfully with sulphamezathine.

(xi) *Skin diseases*.—Thirty-two specimens of skin scrapings were subject to microscopical examination.

(d) *Horse ward*.—One hundred and seventeen cases were treated as against 131 in the corresponding period of the previous year. The fall in the admission is due to depletion in equine population. Four stallions were castrated.

(e) *Pharmacy*.—A total number of 19,222 prescriptions were dispensed in the pharmacy with a daily average of 89.82 as against 18,241 in the previous year. Of this total number, 126 were from private cases, 819 from horse ward, 6,527 from cattle ward and 11,756 from dog ward.

(f) *Radiology department*.—Construction of X-ray Block was sanctioned and commenced during the period. Fifty-five cases had radiographic examination of which 10 were from cattle ward, 43 from dog ward and 2 from horse ward. Seventeen cases were charged for the examination and 38 were for diagnostic and demonstration purposes.

(g) *Shoeing forge*.—Three hundred and fifteen horses were shod in the year against 567 in the last year. The forge serves mainly as a demonstration centre for training students in the art of shoeing on scientific lines.

(h) *Fees*.—The owners of animals whose income is over Rs. 200 per month are charged for certain operations and general treatment. The details of amount realized thus are shown below :—

Years.	Number of cases treated.	Amount realized. RS.
1954-55	13,783	5,839-14
1955-56	15,422	16,188-77
1956-57 (1st April to 31st October 1956).	8,913	10,007-92

23. *Laboratories*.—(a) Examination of specimens from the Hospital and from field staff in and outside the States were undertaken in the laboratories of the departments of Bacteriology, Pathology and Parasitology in addition to the Clinical Laboratory.

Thus, during the period under review, 6,451 specimens of various kinds from various places were examined as against 12,656 in the whole of previous year as detailed below:—

(i) Specimens received from—

	Number received.
1 The staff of the department in the field	838
2 The wards and laboratories of the Madras Veterinary College.	4,816
3 Livestock Research Station and other Farms of the department.	347
4 Veterinary Investigation Officers, Ranipet	61
5 Corporation of Madras	4
6 Agricultural Department	4
7 Forest Department	13
8 Co-operative Department	14
9 Private bodies and other States including Andhra ..	295
10 King Institute, Guindy	1
11 Community Projects and National Extension Service Blocks.	26
12 Institute of Veterinary Preventive Medicine, Ranipet.	..
Total ..	6,451

(ii) Details of examination of specimen—

1 Adenocarcinoma	1
2 Anemic changes	9
3 Ascaridia	12
4 Ascaridia galli	14
5 Ascaridia vitulorum	3
6 Avian leucosis complex	16
7 Anthrax	11
8 Auto-vaccine	8
9 Babesia bigemina	3
10 Babesia canis	1
11 Blackquarter	4
12 Bovine lymphangitis	39
13 Broncho-pneumonia	11
14 Carcinoma (fowl)	1
15 Cholangio cellular carcinoma	1
16 Cnemadocoptes sp.	4
17 Cysticadenoma (cow)	1
18 Cystic fibro adenoma (bitch)	1
19 Cysts and growths	3
20 Diphyllobathalum latum	1
21 Demodex	67
22 Ecto parasites	7
23 Foot and mouth	1
24 Fibro Sarcoma	1
25 Gouty Nephritis	1
26 Hemorrhagic Septicæmia	12
27 Helminthic lesions	3
28 Helminths	40
29 Hapatazoon canis	8
30 Histocytic sarcoma in fowls	2
31 Inflammatory tissues	28
32 John's disease	64
33 Leomyoma	1
34 Lympho sarcoma	2
35 Microfilaria	5
36 Notodres	3
37 Oocysts of coccidia (Eimeria)	75
38 Oocysts of Isospora	2
39 Ova of Amphistomes	35
40 Ova of Ancylostomes sp.	773
41 Ova of Ascaris lumbricoides	154
42 Ova of Capillaria sp.	34
43 Ova of D. Caninum	18
44 Ova of Fasciola sp.	4
45 Ova of Moniezia sp.	10
46 Ova of S. Spindialis	1

	Number received.
47 Ova of Spirocerca lupi	106
48 Ova of Strongyle sp.	180
49 Ova of Strongyloides sp.	39
50 Ova of Taenia sp.	21
51 Ova of Toxocara canis	25
52 Ova of Trematodes	112
53 Ova of Trichuris sp.	29
54 Papilloma	1
55 Rabies	60
56 Reiney's corpuscles	1
57 Sarcopites	25
58 Schistosoma Nasalis	32
59 Schistosoma Indicum	1
60 Squamous cell carcinoma	13
61 Theileria mutans	16
62 Toxascaris leonina	1
63 Trichophyton sp.	11
64 Trypanosoma evansi—Bovines	6
65 Trypanosoma evansi—Equines	1
66 Venereal sarcoma	4
67 Miscellaneous	11
Total ..	4,240
Negatives	3,324
Materials of insignificant nature	863
Materials unfit for examination	53
Total ..	2,211
Grand total .. (4,240 + 2,211)	= 6,451

(b) Bacteriology Laboratory.—Seven hundred and ninety-eight specimens were received for diagnostic examination as against 1976 in the whole previous year. The kinds of specimens are detailed below:—

(i) Microscopical examination—

(a) Smears consisting of blood, pus and tissues.	295
(b) Bowel washings and rectal pinch smears.	105
Total ..	400

(ii) Cultural examination—

(a) Blood swab	56
(b) Ear swab	36
(c) Pus swab	38
(d) Tissue swab	14
(e) Uterine and vaginal swabs	36
(f) Blood	1
(g) Milk	117
(h) Urine	6
(i) Tissues	30
(j) Stomach and intestinal contents.	17
Total ..	351

(iii) Biological test—

(a) Blood swabs, tissue swabs and tissue fluid.	3
(b) Tissues	27
(c) Goat hair, bone sinews, etc., for issue of Anthrax-free certificates.	3
(d) Milk	1
Total ..	34

(iv) Serological tests—

Sera, Synovial fluid and amniotic fluid.	13
--	----

Grand total .. 798

(v) The results of examination of the materials received are given below :—

Diseases suspected.	Positive.	Negative.	Total.
1 Anthrax	11	40	51
2 Haemorrhagic septicaemia ..	12	28	40
3 Blackquarter	4	9	13
4 Bovine lymphangitis	39	6	45
5 John's disease	54	52	106
6 Tuberculosis	..	9	9
7 Brucellosis	..	12	12
8 Actinomycosis	..	3	3
9 Foot and mouth	1	..	1
10 Auto vaccine	8	4	12
11 Materials not coming under the above diseases.	..	..	506
Total ..	129	163	798

Biological tests.—Biological tests were conducted with the materials suspected for Anthrax, Blackquarter, etc., with the following results :—

Diseases suspected.	Positive.	Negative.	Total.
1 Anthrax	5	17	22
2 Blackquarter	1	3	4
3 Haemorrhagic Septicaemia ..	1	7	8
4 Foot and Mouth	1	..	1
5 Safety tests for auto vaccine.	..	9	9
6 Leptospirosis	..	1	1
7 Experimental	..	..	4
Total ..	..	..	49

(vi) *Auto vaccine.*—During the period, 11 courses of auto vaccines of which 6 for canines and 5 for bovines were prepared and supplied for treatment.

(vii) *Mastitis.*—One hundred and seventeen milk samples from clinically suspected cases of Mastitis were examined both microscopically and culturally. The causal organisms detected are as shown hereunder :—

Straphylococci	39
Streptococci	16
Coli aerogenes	16
Diphtheroids	2
Micrococci	3
Contaminants	14
No growth on incubation	27
Total ..	117

(c) *Pathology Laboratory.*—(1)* during the year, 150 autopsies were performed for diagnostic purposes as against 435 in the whole of previous year, details of which are given below :—

Dogs	44
Cattle	20
Horses	8
Bison	1
Cats	6
Bear	1
Goat	1
Poultry	69
Total ..	150

The following are the interesting conditions met with in the conduct of autopsies :—

- (1) Congenital dilatation of the oesophagus in an aesian pup.
- (2) *Cysticercus cellulosae*—in brain of a dog.
- (3) Cholangi cellular carcinoma liver—cat.
- (4) Hepato cellular carcinoma liver—Fowl.
- (5) Leiomyoma oviduct and myo fibroma kidney of a fowl.
- (6) Intussusception in a fowl.
- (7) Rupture of a spirocerca nodule in aorta at its commencement causing haemopericardium in a dog.
- (8) Lympho sarcoma mesenteric lymph nodes with metastasis in liver of dog.
- (9) Pyometra in two bitches.
- (10) Cirrhosis of liver in a dog.
- (11) Visceral gout in a fowl.

(d) *Parasitology Laboratory.*—As many as 1,307 clinical materials consisted of blood smears, faecal samples, skin scrapings,

nasal washings, urine, ecto and endo parasites, etc., were received for examinations during the period under report as against 4,185 in whole of the previous year.

(1) *Schistosoma spindalis*.—This fluke was recovered from a cow belonging to the Andhra State.

(2) *Schistosoma Indicum*.—Ova of this fluke were seen in the dung of a bullock received from the Andhra State.

(3) *Trichostrongylus sp.*—These worms were noticed in the intestines of a capachun belonging to the Zoological gardens of Madras.

(4) *Gnathortoma spenigerum*.—These helminths were seen in the stomach tumours of a dog and a cat.

(5) *Capilaria Annulata*.—Infection by this helminth was recorded in six fowls.

(6) *Microfilaria sheathed*.—These were observed in a number of fowls at Ernakulam.

(7) *Microfilaria unsheathed*.—These were seen from bleeding nodules of an elephant.

(8) *Dracunculus Medenensis*.—The Guinea worm was recovered from the abscess of a dog.

(9) *Lipoptena cervi*.—These hippo botsids were collected from a barking deer.

(10) *Haematomyzus elephantis*.—These lice were collected from a barking deer.

(11) *Pulex Irritant* and *Lincognathus sp.*—These were collected from a barking deer.

(12) *Haemophysalis sp.*—Ticks belonging to the genus haemophysalis were collected from elephants and a deer.

(13) *Limponyssus Bursa*.—These tropical mites were recovered from fowls causing mange like lesions.

(14) *Rainey's Corpuscles*.—These were seen in the heart blood smears of a bullock.

(e) *Physiology Laboratory*.—The total number of clinical materials received for biochemical examination during the year under report was 705 as against 958 in whole of the previous year, as detailed below:—

Nature of specimens.	Canines.	Bovines.	Equines.	Others.	Total.
1 Urine for examination	203	49	4	1	257
2 Blood for total cell count ..	104	10	..	2	116
3 Blood for Hæmoglobin estimation.	91	4	..	..	95
4 Blood smears for differential count.	151	24	..	1	176
5 Serum for calcium estimation ..	4	26	..	..	30
6 Serum for magnesium estimation.	..	3	..	..	3
7 Ascitic fluid for examination ..	..	2	..	..	2
8 Blood for glucose estimation ..	1	22	..	..	23
9 Blood for urea estimation ..	2	..	..	..	2
10 Milk for presence of Acetone ..	..	1	..	..	1
Total ..	556	141	4	4	705

(f) *Animal Husbandry Section*.—Breeding bulls and a poultry unit were maintained under this section.

There were 12 bulls at stud most of which were utilised for artificial insemination work. The bulls intended for natural services performed 67 natural services and the rest of the bulls were used for artificial insemination at the centre in the college. Two thousand seven hundred and two inseminations were done from the collections of semen from these bulls.

A poultry unit of Rhode Island Red birds was also maintained for experimental and teaching purposes. At the beginning of the period there were 64 hens and 13 cocks. During the year, 146 and 129 cocks were added and 100 hens and 80 cocks were sold leaving a balance of 130 hens and 42 cocks at the end of the period.

Sixty thousand five hundred and ninety eggs were collected during the period of which 1,361 were set for hatching and 1,361 sold to public for hatching. There were some noteworthy performances as noted below:—

- (i) Most of the hens laid more than 200 eggs a year; and
- (ii) fertility rate of the unit was about 80 per cent.

During the period 268 chicks were hatched out and added to the stock of chicks present of which 195 chicks were sold to the public, 185 transferred and 127 died leaving a balance of 344 chicks at the end of the year.

(g) *Animal Nutrition Laboratory*.—To impart practical knowledge in fodder cultivation to the students and to serve as demonstration centre to the public of the Madras City, a small area to the extent of 6,466 square feet within the premises of College compound was made use of for growing exotic grasses and legumes during the period.

During the period 44,000 lb. of green fodder consisting of buffalo grass, Napier grass, Guinea grass, Rhodes grass, lucerne, Ceylone spinach and sweet potato vines were issued to the breeding bulls and Laboratory animals of the college.

Dry seeds and pods of *Leuceana Glauca* was analysed for their nutrient composition. Scientific opinion on the manufacture of fishmeal and use of Bago molasses was also offered. The nutrient value of *Iponea carnea* the latest popular green manure crop was studied by analysis.

24. *General*.—(a) The members of the staff contributed the following papers of professional interest during the period:—

Anatomy Department.—Anatomy of the Foetal Indian Elephant—Part IV. The muscles, blood vessels and nerves of the hind limb.

Animal Nutrition Department.—Nutritive value of green manure crops, *Glyricidia maculata*.

Nutritive value of green manure crops, *Phaseolus Aconati-folius* or pillipesers.

Feed economics in egg production.

Nutritive value of green manure crops, crotalaria, Pucca, Sunnhemp.

Economic feeding for milk production.

Phosphorus for profit and prosperity of cows.

Fat in milch cows' feed.

Modern grazing.

Symposium on medicated feeds.

Lucerne—its cultivation and feeding value for livestock.

(b) The staff of the college attended the following seminars and conferences during the period, details of which are given below :—

Name of conference.	Place.	Designation of staff attended.
Animal Breeding Committee of Indian Council of Agricultural Research.	New Delhi	.. Professor of Genetics.
Meeting of Principals of Agriculture and Veterinary Colleges and Standing members of Indian Council of Agriculture Education.	Do.	.. Principal.

25. *Animal Husbandry in Agricultural College, Coimbatore.*—To impart training in Animal Husbandry subjects which is included in the Agricultural Degree Course one lecturer in Animal Husbandry and two Veterinary Assistant Surgeons are working at the Agricultural College, Coimbatore. One more additional lecturer and one Veterinary Assistant Surgeon were sanctioned during the year owing to the increased strength in the admission to this college. There is a Veterinary Hospital and also a sub-centre for Artificial Insemination with Kangayam bull, 2 Sindhi bulls and one Murra buffalo bull.

CHAPTER IV—INSTITUTE OF VETERINARY PREVENTIVE MEDICINE.

26. (a) *Staff.*—The institute continued to be in charge of a Superintendent assisted by one Special Officer for Freeze Dried Vaccines, one Research Officer (Virus Vaccines) and 13 Veterinary Assistant Surgeons.

(b) *Accommodation and equipment.*—Improvement to 45 'J' type quarters was carried out during the period.

(c) *Water-supply.*—As the water-supply to the institute hitherto was effected through Messrs. Parry & Co., at the rate of Re. 0-11-0 per thousand gallons, a borewell was sunk last year at the institute. The yield of water from the well was not sufficient for a day and hence the water-supply from Parry & Co., had to be continued during the period as before.

(d) *Livestock and Fodder.*—The animals required during the period for the production of sera and vaccines and biological tests were obtained as detailed below :—

Species of animals.	Number of animals obtained during the period.	Source.
1 He-buffaloes	19	Purchased on contract basis.
2 Buffalo calves	267	
3 Bull and heifer calves	46	
4 Goats	1,123	
5 Sheep	79	Bred at the Institute.
6 Guinea pigs }	..	
7 Mice }	..	A small poultry unit is maintained at the Institute for a regular supply of eggs and chicks for manufacture of poultry vaccine and tests.
8 Poultry	..	

After the preparation of biological products, 19 he-buffaloes and 145 buffalo calves, 21 bull and heifer calves, 36 sheep and 53 goats were sold to the contractors and in the process of manufacture of biological products 49 buffalo calves, 9 bull and heifer calves, 1,063 goats and 35 sheep died during the period.

The fodder and feed for cattle were purchased on contract basis. The grains (ragi) required for poultry was received from the Livestock Research Station at Hosur, and the raw feed like onions, greens, etc., required for small animals and poultry were purchased locally, according to necessity.

(e) *Cultivation of fodder crops, fruit trees, etc.*—Cholam crop was raised on about 2 acres of land. Glyricidia seeds and cuttings from the plants available at the institute were supplied to the Agricultural departmental officers for distribution to ryots.

(f) *Production of biological products.*—All the vaccines and sera required for the protection of various species of livestock in this State were manufactured at the institute during the year except for a few products, viz., Johnin and Mallein, which were obtained from the Indian Veterinary Research Institute at Mukteswar.

Freeze Dried Rinderpest vaccine was supplied in large quantities to Andhra State and, in addition, to other States also, viz., Kurch, Sourashtra and Bhavnagar; and Ranikhet vaccine was supplied to Andhra, Coorg, Tranvancore, Cochin and Hyderabad. The following vaccines were manufactured in the freeze dried form during the period :—

Rinderpest Goat Tissue vaccine, Ranikhet Disease vaccine, Pigeon-pox vaccine, Sheep-pox vaccine, Rinderpest Goat Tissue extract vaccine (Experimental).

(i) *Anti-Rinderpest serum.*—At the beginning of the period, there was a stock of 17,628 doses of 5 c.c. each. Forty thousand two hundred doses of serum was prepared during the period. Thirty-five thousand nine hundred and twenty-three doses of serum was issued for field use.

(ii) *Rinderpest Bull virus.*—Fifty buffalo calves were used for the production and maintenance of this virus at the institute.

The quantity Rinderpest Bull virus manufactured during the period was 3,850 c.c. as against 4,965 c.c. during the whole of previous year. As in previous years, the Rinderpest Bull virus strain was maintained for Anti Rinderpest serum production and for testing Rinderpest Freeze Dried vaccine.

(iii) *Rinderpest Goat Virus*.—Five hundred and eighty-one c.c. of Goat Blood virus was manufactured by using 19 goats during the period as against 36,495 c.c. from 133 goats in the whole of previous year. Of these, 106 c.c. were issued for use in the field during the period as against 33,245 c.c. in the whole of previous year. The fall in demand and issue was due to the use of Freeze Dried Goat Tissue vaccine.

(iv) *Freeze Dried Rinderpest vaccine*.—There was heavy demand for this product during the period and large quantities of this produce were supplied to the Andhra State for protecting animals both in infected and free areas and for use in the Rinderpest Eradication Campaign. This product was also supplied for use in the various quarantine stations (check posts) in this State for protecting the animals that were brought into the State from outside. In addition, this product was supplied to other States, viz., Kutch, Sourashtra and Bhavnagar.

Forty-six batches of Freeze Dried Rinderpest vaccine were manufactured during the period under report. Thirty-eight batches from these and 3 from last years' batches of vaccine were tested during the period. In addition to the stock of 132,700 doses of the vaccine available at the beginning of the period, 1,453,300 doses of the vaccine were manufactured during the period (seven months) under report as against 1,535,850 doses in the whole of previous year.

Ten lakhs ninety-five thousand five hundred and fifty doses were issued as against 1,714,150 doses in the whole of the previous year, for use in field including the staff of Andhra State. Every batch of vaccine produced was tested for safety, potency and purity and the exact titre of virus in each batch was ascertained before issue.

(v) *Haemorrhagic Septicaemia Vaccine*.—There was a stock of 127,788 doses of 5 c.c. each of this vaccine at the beginning of the period. During the period under report, 1,468,320 doses of 5 c.c. each of the vaccine were manufactured as against 2,244,780 doses in the whole of previous year. Of these 1,537,446 doses were supplied to the field staff during the period as against 2,173,136 doses in the whole of previous year.

(vi) *Blackquarter Vaccine*.—The stock of Blackquarter vaccine at the beginning of the year was 104,830 doses of 5 c.c. each. Thirteen brews of the vaccine consisting of 864,420 doses of 5 c.c. each were manufactured during the period as against 2,636,250 doses in the whole of previous year. Each brew of the vaccine was tested for sterility, safety and potency before issue to the field.

(vii) *Anti Anthrax Serum*.—The stock of the produce on hand at the beginning of the year was 1,740 doses of 15 c.c. each and during the period under review, 8,960 Anti-Anthrax serum was manufactured. Six hundred doses of the serum were supplied

to the Staff for use in the field as against 4,700 doses in the whole of previous year. The stock of serum at the end of the year was 10,600 doses of 15 c.c. each.

(viii) *Anti-Anthrax Spore Vaccine*.—The product manufactured at the institute was supplied to the Veterinary Disease Investigation Officer (Cattle), Veterinary Disease Investigation Officer (Sheep and Goats), and field staff and it was found to be safe and efficient product for protecting cattle, sheep and goats against Anthrax. During the period 55,104 doses of the vaccine were manufactured and tested as against 26,640 doses manufactured during the whole of previous year. Forty-five thousand nine hundred and fifty-five doses of the vaccine were issued for field use as against 48,530 doses issued during the previous year.

(ix) *Bovine Lymphangitis vaccine*.—Vaccine sufficient for 42 animals was in stock at the commencement of the period. One thousand and ten courses were manufactured during the period as against four hundred courses in the previous year. The number of courses of vaccine issued to the field staff was 953 as against 391 in the whole of previous year.

(x) *Sheep-Pox vaccine*.—There was a stock of 8,100 doses of the vaccine on hand at the beginning of the year. Three batches of Sheep-Pox vaccine in freeze dried form yielding 1,26,200 doses were manufactured and 48,125 doses were issued to the field staff during the period as against 1,11,300 doses manufactured and 1,86,220 doses issued to the staff during the previous year. Sixty sheep were utilized for the manufacture of this product and for the various experiments connected with it.

(xi) *Brucella Abortus vaccine*.—During the period under report, 9 brews of the vaccine comprising of 4,800 doses of 5 c.c. each were manufactured and tested. Of these, 3,480 doses were issued to the Veterinary Diseases Investigation Officer (Cattle) and Veterinary Assistant Surgeon in charge of Brucella Eradication Scheme, Coimbatore. All the batches of the vaccine were tested for safety and potency before issue to the staff.

(xii) *Bacterin for Enterotoxaemia in Sheep*.—During the period 29,160 doses of Cl. welchii anaculturo using types B and D were manufactured as against 39,720 doses in the last year. Thirty-four thousand nine hundred and thirty doses were issued for use in the field as against 35,484 doses issued during the previous year. The results of vaccination are reported to be quite satisfactory and in many places the outbreaks are reported to have subsided after vaccination.

(xiii) *Fowl Cholera Vaccine*.—There was an opening balance of 1,865 doses of the vaccine. This vaccine was not manufactured during the period under report as against 1,925 doses of the previous year. Eight fowls were used for testing the brews of the vaccine. Two hundred and thirty doses of the vaccine were issued to the field staff during the period as against 1,090 doses in the last year.

(xiv) *Ranikhet Disease vaccine*.—The manufacture and supply of this product in freeze dried form was continued during the period under report. The stock of the product on hand at the

beginning of the period was 297,800. During the period under report, 12 brews of the vaccine consisting of 6,475 ampoules of 200 doses each (i.e.), 1,295,000 doses were manufactured as against 2,308,000 doses during the previous year and 1,173,000 doses each (2,378,000) were issued to the staff in Madras and Andhra States, as against 2,398,000 doses issued during the previous year. One hundred and thirty eight chicks were used for testing the vaccine and for various experiments in the section.

(xv) *Fowl-Pox vaccine*.—The vaccine was prepared using the American strain of Fowl-pox virus growing the virus on the chorionallantoic membrane of the developing chicks and freeze dried. The period opened with a balance of 19,400 doses of the vaccine and 6,000 doses of these were issued to the Veterinary Disease Investigation Officer (Poultry) and field staff.

(xvi) *Pigeon-Pox vaccine*.—The vaccine is prepared in a freeze dried form by growing the virus on the Chorio Allantoic membrane of developing chicks and freeze drying the harvested membranes. The stock of the product on hand at the commencement of the period was 14,800 doses. Three brews of this vaccine yielding 811 ampoules of 50 doses each (40,550 doses) were manufactured during the year as against 61,750 doses of the previous year; and 34,450 doses of the vaccine were issued to the field staff for protecting chicks against fowl-pox as against 89,050 doses during the whole of previous year. Fifty-four chicks were used for testing the vaccine and for experiments in the section.

(xvii) *Other products*.—Other products supplied to the staff during the year are furnished below. They were purchased from the Indian Veterinary Research Institute, Mukteswar—

Johnin doses	..	..	..	..	1,495
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(g) *Laboratory*.—During the period under report 434 specimens were examined as detailed below :—

Blood smears	..	..	..	..	302
Liver impression smears	..	..	..	..	42
Spleen smears	..	..	..	..	31
Faeces	..	..	..	..	8
Pus smears	..	..	..	..	2
Muscle smears	..	..	..	..	36
Culture smears	..	..	..	..	13

The positive findings during the year are detailed below —

B. Anthracis	..	..	..	..	16
Clostridia	..	..	..	..	89
Pasteurella	..	..	..	..	49
Coccidia	..	..	..	..	..
Culture organism	..	..	..	..	..

During the period, post-mortem examination was conducted on 1,243 animals.

(h) *Sale of Biological products.*—During the period a sum of Rs. 57,324-84 was realized by the sale of biological products to other State Governments excluding the value of products supplied to Andhra State. Details of supply of vaccines to other States are furnished below in a statement.

Statement showing the particulars of biological products sold to the outsiders from the Institute of Veterinary Preventive Medicine for the period from 1st April to 31st October 1956.

[illegible]

Statement showing the particulars of biological products sold to the outsiders from the Institute of Veterinary Preventive Medicine for the period from 1st April to 31st October 1956—cont.

Name of parties.	(1)	Anti-Rinderpest serum.	Goat virus.	Bull virus.	Freeze-dried vaccine.	Ranikhet disease vaccine.	Pigeon Pox vaccine.	Fowl Pox vaccine.	Fowl Cholera vaccine.	Haemorrhagic Septicemia vaccine.	Black-quarter vaccine.	Cl. Welch Anaculture.	Sheep-Pox vaccine.	Bovine-Lymphogitis vaccine.	Brucella abortus vaccine.	Anthrax vaccine.	Sporo.	Anti-anthrax serum.
		DOSES.	C.C.	C.C.	DOSES.	DOSES.	DOSES.	DOSES.	DOSES.	DOSES.	DOSES.	DOSES.	DOSES.	C.C.	DOSES.	DOSES.	DOSES.	DOSES.
Chief Veterinary Officer, Coorg.		3,000				40,000	300			24,000	2,400							
Veterinary Officer, Pondicherry.		180	150			1,200	150			1,860	2,040							
Block Development Officer, Vallanur.						2,000	200			1,800	600				1,000			
Chief Municipal Veterinary Surgeon, Colombo (Ceylon).																		
Goleya Development Board, Ceylon.														20				
Honorary Secretary, Kannan Devan Hills Produce Company, Sethuparvathipuram.																		
Miscellaneous other parties.						4,800	700	100	50	300								
Andhra Pradesh ..					550,000	394,400	14,600	1,600	180	153,020	388,500	15,420	6,800				13,904	40

(i) *Miscellaneous.*—The human dispensary attached to the Junior Certified School, Ranipet, was ordered to cater to the medical needs of the staff of this institute also, as per G.O. Ms. No. 3728, Home, dated 29th December 1955. The research and experimental work carried out at the institute during the year have been detailed out in Chapter IX on "Investigation and Research."

CHAPTER V—LIVESTOCK.

27. One of the main activities of the department was to open farms for various species of livestock at suitable centres of the State with a view to produce pedigree stock for supply to the public for upgrading the local stock and to serve as demonstration centres to the public for practical study of Animal Husbandry on scientific lines.

Thus during the period there were four livestock farms, one livestock research station, one sheep farm, one poultry research station, one district poultry farm and poultry demonstration centres attached to the veterinary institutions in the State during the period of which four livestock farms and one sheep farm were opened during the first Five-Year Plan Period. The details on location, species and breed of livestock maintained in these farms, etc., are given in Table XI (a), (b), (c) and (d) annexed to this report. Steps were taken to open one Sheep Breeding and Research Station at Chinnasalem and District Livestock Farm in Ramanathapuram district during the period.

1. CATTLE.

28. Cattle development was carried out by scientific breeding in all the five livestock farms at Hosur (Salem), Koda (South Kanara), Thiruvazhamkunnu (Malabar), Pudukkottai (Tiruchirappalli) and Orathand (Tanjore) which are intended chiefly for the supply of pedigree stock of bulls of various breeds suited to the tracts with a view to up-grade the local stock of cattle besides serving as demonstration centre on cattle rearing and fodder production on scientific and economic lines. A dairy was also run in all these farms. Steps were taken to open one more district livestock farm during the period at Ramanathapuram district.

In general the breeding policy in all the farms is more or less the same (viz.) selective breeding with a view to keep up pedigree of various breeds and at the same time to improve the milk-yielding capacity along with other qualities of the breeds for which they are noteworthy.

In the dairies attached to these farms rational system of maintaining averages and systematised with recording were adopted.

The progress in each of the farms are given in detail in the following pages.

(i) *Livestock Research Station, Hosur Cattle Farm P.O., Salem district.*

29. (a) This is mainly a cattle-breeding station with a dairy attached along with a sheep-breeding unit and a poultry farm.

This is one of the biggest farms in East which was an army remount depot for nearly 96 years till 1st September 1924 when it was handed over to the Agricultural Department of our State from whom it was transferred to the Animal Husbandry Department on 1st April 1938. This farm has now grown to be a centre of advanced scientific activities in breeding, feeding and management of all classes of livestock.

(b) Various breeds of cattle, sheep and poultry are maintained here as detailed below:—

(i) Cattle.	(ii) Sheep.	(iii) Poultry.
Kangayam.	Bellary.	White Leghorn.
Scindhi.	Bikanir.	Rhode Island Red.
Hallikar.	Mandya.	Black Minarca.
Gir.		

(c) The Chief object of the farm is to raise a pure stock of pedigree stud bulls for distribution in this State for upgrading the local stock besides being a practical field of advanced Animal Husbandry activities for both the public and to the students and workers in this science.

(d) During the year under report, this farm had the distinction of receiving the following distinguished persons:—

(1) Hon'ble Sri S. K. Misra, Deputy Minister for Planning, Government of India.

(2) Sri R. L. Kaura, the Cattle Utilization Officer, Ministry of Food and Agriculture, Government of India.

(3) The Director of Regional Institute of National Dairy Research, Bangalore.

(e) This research station provided for practical training in various sections for the students of the B.V.Sc. Course of Madras University and of Stockmen Course of this department during this year. Further this station formed one of the centres of the educational tours for the students and officers of the following institutions:—

(1) Co-operative Extension Officers from Tiruppattur.

(2) Basic Agricultural Training School, Koilpatti.

(f) *Cattle population in the farm.*—(i) The total strength of cattle including buffaloes and horses were 989 at the beginning of the period as against 1,110 in the last year. During the period 14 were added and 146 were disposed of as detailed below:—

Additions—		Disposals—	
By births ..	136	By deaths	18
By purchases ..	..	By sale for breeding ..	20
By receipts from other farms.	6	By transfer (External) ..	5
		By way of loan	1
		By auctions	102
Total ..	142	Total ..	146

(ii) Thus the total strength of the cattle at the close of the period stood at 985 as against 989 in the previous year. The classwar strength on 31st October 1956 is detailed below:—

Breed.		Breeding bulls.	Young bulls.	Cows.	Heifers.	Young stock.		Work cattle.	Total.
						Bull calves.	Heifer calves.		
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Scindhi ..	..	7	104	107	93	45	46	13	415
Kangayam ..	..	7	96	89	71	40	31	36	370
Gir ..	..	4	24	31	29	11	8	3	110
Cross-breed ..	..	..	16	16	9	5	70	10	63
Hallikar ..	..	3	..	..	..	..	..	11	14
Tharparkar ..	..	..	..	..	..	..	..	4	4
Sah'wal ..	..	..	..	..	..	..	..	..	..
Murrah Buffaloes	..	1	1	..	..	..	..	..	2
Horses ..	..	2	..	2	1	2	..	..	7
		(stallion).		(mares).	(filly).	(filly—foal).			
Total ..		24	241	245	263	101	94	77	985

There was no appreciable change in the strength during the period when compared with that of last year.

(g) *Dairy.*—The general improvement achieved during last year in this section was continued to be maintained by way of increase in the average milk yield for the total herd of cows and cows in milk as could be seen from the details below:—

	1955-56.		1956-57.	
	1st Apr. to 31st Oct. 56.		1st Apr. to 31st Oct. 56.	
Total average herd of cows ..	300.9		261.6	
Cows remained in milk ..	171.7		152.5	
Total yield of milk ..	3,98,156.0 lb.		3,73,802.5 lb.	
Daily individual average over the cows in milk.	10.8		11.5	
Daily individual average over the whole herd.	6.2		6.5	

The milk yields under various herds were also continued to be maintained more or less in the same level as in the corresponding period of last year.

Breed.	Average number of cows in the herd.	Average number of cows in milk.	Total milk yield during the period in lb.	Daily average yield per cow during 1956-57		Daily average yield per cow during 1955-56	
				for the cows in milk.	for the cows in the herd.	for the cows in milk.	for the cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sindhi ..	118.9	76.7	218,463.5	13.4	8.7	12.4	7.8
Kangayam ..	98.0	52.0	77,868.5	7.9	3.7	6.9	3.5
Cross-breed ..	16.9	9.2	32,477.0	16.3	9.3	13.0	9.7
Gir ..	27.8	14.5	44,993.5	14.6	7.6	15.4	7.8

Details of good performances in various herds have been furnished below :—

Breed.	Cow number.	Milk yield in lb.	Number of days in milk.	Daily average for lactation.
(1)	(2)	(3)	(4)	(5)
Scindhi	301	5,136.5	283	18.2
Do.	649	6,036.0	327	18.4
Do.	746	5,050.0	328	15.4
Do.	611	5,034.0	296	17.0
Do.	483	6,336.0	280	22.6
Kangayam	757	3,425.5	308	11.1
Do.	967	4,160.5	351	11.9
Do.	720	4,089.5	280	14.3
Gir	55	7,039.5	303	23.2
Do.	47	8,031.5	357	22.5
Cross-breed	470	6,363.0	345	20.2
Do.	489	5,133.5	343	15.8

(h) *Incidence of diseases in the farm*—(1) *Contagious and infectious diseases*.—The farm was free from most of the common contagious diseases and the loss due to other diseases was also low total mortality being 18 during the period under report as against 43 in the whole of last year—

(i) *Rinderpest*—Nil.

(ii) *Black-quarter*—Nil.

(iii) *Haemorrhagic Septicæmia*—Nil.

(iv) *Anthrax*—Nil.

(v) *Foot and Mouth*—Nil.

(vi) *Contagious Abortion*—Nil.

(vii) *Johne's disease*—There were five attacks during the period under report of which one proved fatal. The disease in all cases were confirmed both on post-mortem examination and by Principal, Madras Veterinary College, on the examination of bowel washing sent.

(viii) *Mastitis*.—All the cows in milk were periodically tested for Mastitis with Mastitis Detection cards. As a result of this routine examination 19 cows were found affected with this disease. All of them were treated successfully with antibiotics.

(ix) *Coccidiosis*.—There were 42 attacks among young calves only. All of them were successfully treated with Sulphamezathine.

(x) *Mange*.—There were 23 cases during the period. All of them were confirmed to be demodeotic mange and was treated successfully.

(xi) *Ring Worm*.—Fifty-two young calves in the dairy between the ages of 1 to 4 months were affected with this disease. However all of them were treated successfully on routine lines of treatment.

(xii) *Navel ill*.—There were three animals only affected by this disease and all of them were treated successfully.

(xiii) *Helminthiasis*.—One hundred and seventy-six animals were infected with worms, mostly of strengyle species and all of them were treated successfully.

(xiv) *Piroplasmiosis*.—Four cases were recorded during the period.

(xv) *Theileriasis*.—Four cases were recorded during the period.

(xvi) *Ephemeral fever*.—Seventy-three animals were affected during the period of which one proved fatal.

(2) *Other diseases*—

(i) *Abortion*.—Nil.

(ii) *Retention of Placenta*.—There were three cases during the period and all of them were treated successfully with no secondary complications.

(i) *Mortality*.—There were 18 deaths during the period as against 43 in the previous year. The percentage of mortality was 1.8 during the period as against 3.1 in the previous year.

(j) *Veterinary hospital*.—During the period under report, the hospital attached to this farm registered a total of 762 cases under admission for treatment as against 614 in the corresponding period of last year. Five castrations were done during the period as against three in the previous year. The daily average attendance was 49.17 as against 51.87 in the same period of the last year.

(k) *Laboratory work*.—(i) From the farm, 128 specimens were sent for examination to the Principal, Madras Veterinary College and Veterinary Diseases Investigation Officers at Ranipet besides, the 2,329 specimens dealt with at the clinical laboratory attached to the farm.

(ii) *Clinical laboratory*.—In order to overcome the delay in diagnosis, treatment and control of diseases for want of laboratory facilities at hand, a clinical laboratory was opened in this farm at the end of last year which was sanctioned in G.O. No. 1035, Agriculture, dated 3rd April 1954, which continued during this year for exclusive use of the farm and Hosur taluk.

During the period under report, 2,003 specimens were dealt with at this laboratory as against 1,284 in the previous year as detailed below:—

Nature of clinical materials examined.	Number of specimen received, and collected.	Number of specimens examined.	Result of examination.	
			Positive.	Negative.
(1)	(2)	(3)	(4)	(5)
Faeces or drug	1,275	1,275	431	844
Blood smears	468	468	42	426
Pus smears	3	3	2	1
Scrappings	33	33	21	12
Nasal washings	19	19	10	9
Urine	12	12	5	7
Milk	11	11	3	8
Worms or insects	10	10	10	..
Blood analysis	..	..	..	..
Other specimens	172	172	93	79
Total	2,003	2,003	617	1,386

(iii) *Biological tests*.—Nil.

(iv) *Johnin test*.—Johnin test was conducted on 241 animals of which one cow was found positive. Eight cows and one bull were suspected, materials (bowel washings and rectal pinch) from which were declared negative for organisms of John's disease.

(l) *Work on sterility in the farm*.—The work on diagnosis and treatment of sterility was continued this year also on the lines suggested by the Food and Agriculture Organization Expert. The cows manifesting the following conditions were examined:—

(1) Cows which have been served are examined for pregnancy.

(2) Cows which have prolonged anoestrous period, if they do not come to heat within three months after calving are examined.

(3) Heifers which are over 2½ years and which have not taken the bull are also examined.

Sindhi herd.

(1) Persistent Corpus Luteum	20
(2) Anoestrous cases	5
(3) Follicles	1
(4) Vaginitis	2

Kangayam herd.

(1) Persistent Corpus Luteum	24
(2) Anoestrous cases	2
(3) Follicles	1
(4) Vaginitis	4
(5) Cystic ovaries	1

Gir herd.

(1) Persistent Corpus Luteum	6
(2) Anoestrous cases	3
(3) Follicles	1
(4) Infantile genitalia	1

Cross-bred herd.

(1) Persistent Corpus Luteum	2
(2) Follicle	..
(3) Anoestrous cases	4
(4) Vaginitis	..
(5) Metritis	..

All the above cases were given various treatments according to the conditions with successful results in most of them.

(m) *Miscellaneous work*.—(i) *Soil Conservation Scheme*: In accordance with the scheme sanctioned for undertaking soil conservation measures in this farm, a detailed soil conservation (contour) survey was conducted for a part of the farm area extending over 297 acres farming a separate sub-catchment.

Along with the survey work, soil conservation measures were undertaken in areas where the loss of top soil by erosion in monsoon rains was alarming. The measure adopted was mainly contour bunding with the protection by establishing grass over these bunds.

Thus detailed contour survey was carried out in 460 acres and contour bunding was executed to a length of 14,946 R.ft. in an area of 42.34 acres.

(ii) *Horboriculture*.—Tree planting was also attended to, during the period as usual. Nurseries for Pungam, Seshum,

Sesbania, Boganvilla together timber trees were raised and the following were planted :—

Sesum	..	..	..	..	100
Casuarina	..	..	..	..	100
Sesbania	..	..	..	..	200
Luceana gluca	..	..	..	..	150
Agathi	..	..	..	..	100

(iii) *Apiculture*.—There were 10 hives during the period under report from which 20 lb. of honey was extracted.

(iv) *Recreation and first-aid*.—A radio centre and first-aid medical centre were run for the benefit of the farm staff inclusive of labourers. During the period 8,574 patients were treated with a daily average attendance of 41.23 at the medical centre.

(n) *Receipts and charges*.—A total amount of Rs. 47,375.27 was realised through the sale of cattle and cattle products during the period as against an expenditure of Rs. 1,50,342.74 incurred on maintenance of cattle.

A total quantity of 230,963.8 lb. of milk was received during the period of which 155,895 lb. were sold for consumption as whole milk. The balance was used up for feeding calves and poultry and for conversion and sale as butter and ghee. 376.12 lb. of butter and 844.7 lb. of ghee were sold during the period.

During the period, eight bulls were issued from the farm as against 124 in the previous year.

At the end of the period, there were 241 bulls as against 204 in the previous year as detailed below :—

Sindhi	..	..	..	..	104
Kangayam	..	..	..	..	96
Sahiwal	..	..	..	..	..
Gir	..	..	..	..	24
Murrah	..	..	..	..	1
Cross-breed	..	..	..	..	16
Total	..	..	..	..	241

(ii) *District Livestock Farm, Koila, South Kanara district.*

30. (a) This farm was opened in February 1950 in Puttur taluk of South Kanara district at a distance of 38 miles from Mangalore. The objects of this farm are (i) to supply pedigree stock of cattle and poultry to the district with a view to upgrade the local stock and (ii) to serve as a demonstration centre in the district for the advanced scientific methods in breeding, feeding and management of livestock.

Sindhi and Gir breeds of cattle and Murrah and Dharwar breeds of buffaloes are maintained in this farm.

(b) *Cattle population of the farm*.—The total strength of the farm on 1st April 1956 was 321 as against 306 in the last year. There were 62 additions and 18 disposals during the year as detailed below :—

Additions—		Disposals—	
By birth	 62	By death	 16
		By sale for breeding	 2
	<u>62</u>		<u>18</u>

Thus there was 365 animals at the end of the period as against 321 in the last year. The increase in strength is due to the number of births during the period. The classwar strength of animals is detailed below :—

Breed.	Cows.	Helpers.	Young bulls.	Breeding bulls.	Bull calves.	Heifer calves.	Work cattle.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Murrah	..	58	35	34	1	18	22	168
Dharwar	..	6	4	1	1	2	1	15
Schindhi	..	15	17	9	3	7	5	56
Gir	..	4	4	2	1	1	1	13
Local	..	34	19	14	..	16	13	96
Hallikar	..	..	..	..	..	..	17	17
Total	..	177	79	60	6	44	42	365

(c) *Dairy*.—Out of a total number of 110.8 cows in the herd during the period 70.6 cows were in milk and yielded 135,132 lb. of milk during the period as against 248,884.5 lb. in the whole of last year. Daily individual average milk yield per cow over the cows in milk was 9.1 lb. and over the cows in the herd was 5.8 lb. as against 10.3 and 6.1 respectively in the whole of previous year. Breedwar yield particulars are given below :—

Breeds.	Average number of cows in the herd, 1956-57.	Average number of cows in milk, 1956-57.	Total milk yield during the year 1956-57.	1955-56 Daily average yield in lb.		1956-57. Daily average yield in lb.	
				for cows in milk.	for cows in the herd.	for cows in milk.	for cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Murrah	..	57.0	38.3	1,01,535.5	13.0	8.2	12.4
Dharwar	..	6.0	2.7	4,160.0	9.1	3.5	7.0
Sindhi	..	14.4	8.7	18,535.5	11.8	7.0	9.8
Gir	..	3.0	1.5	3,891.0	12.7	8.7	12.0
Local	..	30.4	19.4	7,013.0	1.9	1.0	1.7

Details on some of the good performers are given below :—

Breeds.	Cow number.	Milk yield in lb.	Number of days in milk.	Daily average for lactations in lb.
(1)	(2)	(3)	(4)	(5)
Murrah	..	65	6,441.5	355
Do.	..	17	5,617.5	303
Sindhi	..	471	6,591.0	396
Gir	..	28	5,067.0	350

(d) *Incidence of contagious and infectious diseases*.—There was no case of contagious or infectious disease in the farm during the period except for one death due to John's disease. Preventive inoculation against Rinderpest was carried out among 210 animals during the period. In the Veterinary dispensary attached to the farm, 72 cases were treated during the period as against 193 cases in the whole of last year.

(e) *Mortality*.—There were 16 deaths during the period working out a percentage of 4.6 as against 6.8 in the previous year. The death rate were reduced among calves despite the inadequacy of accommodation for housing calves.

(f) *Clinical laboratory*.—A clinical laboratory to the benefit of the farm and the South Kanara district was opened on 1st October 1955 in the farm. Forty-nine specimens of dung and blood smears were examined for diagnostic purposes during the period.

(g) *Receipts and charges.*—A total amount of Rs. 24,707.52 was realized in the farm through the sale of cattle and cattle products during the year. The total expenditure on maintenance of cattle was Rs. 61,704.84.

Out of a total quantity of 113,742.08 lb. of milk during the period 107,847.00 lb. were sold and the rest used for feeding of calves and poultry during the period.

The farm issued two bulls during the period as against 10 in whole of last year. At the end of the year there were 46 young bulls as detailed below as against 39 in the last year:—

Murrah	..	..	..	..	34
Sindhi	..	..	..	..	9
Gir	..	..	..	..	2
Dharwar	..	..	..	..	1
					—
Total	..				46
					—

(iii) *District Livestock Farm, Thiruvazhamkunnu, Malabar district.*

31. (a) This farm was opened in 1950-51 at the foot of Western Ghats in the village of Thiruvazhamkunnu, Walluvanad taluk, with a view—

(i) to maintain pedigree stud bulls of Sindhi breed of cattle and Murrah breed of buffaloes;

(ii) to supply pedigree stud bulls of acclimatized strain to the area for the improvement of local stock;

(iii) to maintain a herd of Dharwar Breed of buffaloes to study their milk yield potential;

(iv) to maintain Malabar goats;

(v) to issue pedigree bucks to develop the local stock of goats; and

(vi) to serve as a demonstration centre on practical animal husbandry on modern lines in all its aspects, viz., breeding, feeding and management.

(b) At the beginning of the period there were 161 animals as against 131 last year. During the year 20 animals were received and 11 were disposed of, as detailed below:—

Additions.				Disposals.			
By births	..	..	19	By death	..	..	4
By transfer from other stations.	1			By transfer to other stations for breeding.			3
				By sale for breeding	..	..	..
				By auction sale	..	..	4
Total	..		20	Total	..		11

Thus at the end of the period the strength of livestock stood at 170 as against 161 of last year. The increase in strength was due to the more number of births during the year.

The herdwar particulars on total strength are detailed below:—

Breeds.		Breeding bulls.	Young bulls.	Cows.	Heifers.	Bull calves.	Heifer calves.	Work cattle.	Total
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sindhi	..	1	15	8	2	2	2	1	31
Murrah	..	2	25	43	13	8	6	..	97
Dharwar	..	1	2	6	5	1	..	..	15
Gir	..	..	2	..	..	..	..	..	2
Kangayam	..	..	..	..	..	..	..	..	..
Hallikar	..	..	..	..	..	..	..	25	25
Non-descript (local)	..	..	..	..	..	..	..	..	..
Total	..	4	44	57	20	11	8	26	170

(c) During the period, the total production of milk in the farm was 83,734.5 lb. from an average number of 30.6 cows in milk out of a herd of 47 animals in the herd on an average. The daily individual average over the cows in milk and over the cows in the herd worked out to 12.8 lb. and 8.3 lb. respectively as against 15.3 lb. and 7.3 lb. in the previous year. The decrease was due to the cows in milk were either first milkers or aged or in advanced lactations.

The milk yield of herds (breedwar) in the farm are detailed below:—

Breeds.	Average number of cows in the herd.	Average number of cows in milk.	Total production of milk in lb. during the period.	Daily average yield per cow in pounds, 1956-57		Daily average yield per cow in pounds, 1955-56	
				for cows in milk.	for cows in the herd.	for cows in milk.	for cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sindhi	8.4	7.4	160,32.0	10.1	8.9	14.8	4.1
Murrah	32.6	20.9	660,72.5	14.8	9.4	16.6	7.2
Dharwar	6.0	2.3	1,630.0	4.3	1.5	9.7	5.3

Details on some of the best yielders (breedwar) are furnished below:—

Breed.	Number of animals.	Total yield during the period.	Daily average for the lactation.	Number of days in milk.
(1)	(2)	(3)	(4)	(5)
Sindhi	523	7,932.0	18.1	438
Murrah	25	2,362.5	26.5	89
Dharwar	7	1,940.5	8.7	222

(d) *Incidence of diseases.*—There was no incidence of either contagious or infectious disease except for the one death due to John's disease during the period. The Veterinary hospital in the farm continued to function well during the period. Forty cases were admitted during the period.

(e) *Mortality.*—There were four deaths only during the period as against nine in the last year, working out a percentage of 2.2 as against 4.96 in the previous year.

(f) *Receipts and charges.*—During the period the total receipt of revenue through sale of cattle and cattle products was Rupees 16,710.06 and the total expenditure on maintenance of cattle was

Rs. 32,449-66. Out of a total quantity of 72,662-0 lb. received during the period 69,841-0 lb. were sold to the public and the balance was fed to calves.

There were 44 young bulls at the end of the period as against 31 in the last year as mentioned below :—

Sindhi	..	..	..	..	..	15
Gir	..	..	..	..	..	2
Murrah	..	..	..	..	..	25
Dharwar	..	..	..	..	..	2

(iv) District Livestock Farm, Pudukkottai.

32. (a) This farm which was formerly the dairy farm for His Highness the Maharaja of Pudukkottai, was taken over in 1951-52 by this department on the merger of this State with the Madras State, is chiefly intended (i) to meet the local demand for pedigree stock, (ii) to improve the local stock of the district, (iii) to serve as a demonstration centre for the district on practical Animal Husbandry on modern lines, and (iv) to raise a dairy to meet the local demand for milk.

(b) *Cattle Population of the Farms.*—The total strength of the farm at the beginning of the period was 168 as against 154 in the previous year. There were 41 additions and 53 disposals during the period as detailed below :—

Additions.			Disposals.		
By births	..	16	By sale for breeding	..	..
By receipt from other stations.	25		By culling and sales for non-breeding purposes	..	38
			By death	..	3
			By transfer to other stations	..	12
Total	..	41	Total	..	53

Thus at the end of the period the strength stood at 156 as against 168 in the previous year. There was no appreciable change in the strength when compared to the previous year. The classwar strength of animals are detailed below :—

Breeds.	Stud bulls.	Cows.	Young bulls.	Heifers.	Bull calves.	Heifer calves.	Work cattle.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sindhi	..	3	8	2	6	2	2	25
Graded Sindhi	..	..	10	9	8	3	5	35
Kangayam	..	8	24	16	23	5	4	83
Gir	..	3	..	..	..	..	..	3
Murrah	..	5	..	..	..	..	..	5
Total	..	19	42	27	37	10	11	156

(c) *Dairy.*—During the period on an average 18-2 cows remained in milk out of 40-6 cows in the herd, yielding a total quantity of 39,177-5 lb. of milk as against 89,092-5 lb. yielded by 31-6 cows in milk out of a total herd of 53-3 cows in the whole of previous year.

There was considerable increase in the daily average yield per cow of the farm over the cows in milk as could be seen from the figures below :—

	1956-57 LB.	1955-56 LB.
Daily average yield for cow over the cows in milk	10-1	7-7
Daily average yield per cow over the cows in the herd	4-5	5-8

The breedwar particulars on milk yield are furnished below :—

Breeds.	Average number of cows in the herd.	Average number of cows in milk.	Total yield of milk during the period in lb.	Daily average yield in lb.			
				1st April to 31st October 1956.		1955-56.	
				For cows in milk.	For cows in the herd.	For cows in milk.	For cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Scindhi	..	6-4	2-5	10,094-0	17-4	7-5	9-3
Graded Sindhi	..	10-0	6-1	16,600-5	12-7	7-7	11-1
Kangayam	..	23-1	8-8	12,321-5	6-4	2-7	5-7
Non-descript	..	0-8	0-8	153-5	3-3	3-3	..

The breedwar average yield of milk was also on the increase during the period.

Details on some of the good performers in milk yield are given below :—

Serial number and breed.	Number of animals.	Milk yield in lb.	Daily average for the lactation in lb.	Number of days in milk.
(1)	(2)	(3)	(4)	(5)
		LB.		
1 Sindhi	..	528	5,849-0	12-9
2 Do.	..	757	3,186-5	21-1
3 Graded Sindhi	..	61	4,852-5	12-9
4 Do.	..	78	4,840-0	13-3
5 Kangayam	..	855	2,552-5	14-9
6 Do.	..	885	3,573-5	10-0

(d) *Incidence of diseases in the farm.*—There was no outbreak of any of the contagious diseases during the period except for the mild outbreak of Foot and Mouth Disease affecting only 32 animals with no resulting mortality.

Surra.—There was no attack during the period. But 21 animals were given prophylactic treatment with Antrycide.

Contagious Abortion.—Nil.

Abortion.—There was one abortion during the period, materials from which proved negative for Brucellosis.

Retention of Placenta.—Nil.

(e) *Mortality.*—There were three deaths against four in the last year working out a percentage of 1-8 as against 2-4 in the last year.

(f) *Sterility work done.*—Nil.

(g) *Clinical Laboratory.*—The clinical laboratory attached to this farm was handed over to the Veterinary Assistant Surgeon in charge, Veterinary Hospital, Pudukkottah.

(h) *General—Apiculture.*—Three beehives were functioning out of which 1½ lb. of honey was collected during the period.

(i) *Receipts and Charges.*—The total revenue received during the period through the sale of cattle and dairy products was Rs. 12,825.44 and the total expenditure incurred on maintenance of cattle was Rs. 34,276.50 but out of a total quantity of 30,650 lb. milk received during the period 28,673.5 lb. milk sold to the public and the balance was fed to the calves.

The farm issued no bulls during the period as against 10 in the last year. There were 27 bulls at the end of the period as detailed below as against 19 in the previous year:—

Sindhi	2
Kangayam	16
Graded Sindhi	9
Total	27

(v) *District Livestock Farm, Orathanad.*

33. (a) *Strength.*—There were 242 animals at the beginning of the period as against 160 in the last year. During the period there were 119 additions and 38 disposals as detailed below:—

Additions.		Disposals.	
By births	41	By transfer to other stations.	24
By receipt through purchase and transfer from other stations.	78		
		By deaths	4
		By auction	10
		By sale	..
Total	119	Total	38

Thus at the end of the period, the strength stood at 323. The breedwar and classwar strength has been detailed below:—

Breed.	Stud bulls.	Cows.	Young bulls.	Helpers.	Bull calves.	Heifer calves.	Work cattle.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sindhi	7	17	19	14	6	8	..	71
Umbalachery	2	33	11	40	12	15	8	121
Kangayam	..	..	14	..	..	..	12	26
Gir	2	..	4	..	..	..	..	6
Cross-breed	1	..	..	..	..	..	..	1
Murrah	2	43	5	10	17	21	..	93
Total	14	93	53	64	35	44	20	323

(b) *Dairy.*—During the period under report on an average there were 85 cows and she-buffaloes in the herd of which 59.6 cows and she-buffaloes were in milk yielding 147,828.0 lb. of

milk with a daily individual average yield of 11.4 lb. over the cows in milk and 8 lb. over the whole cows in herd as against 9.6 lb. and 5.7 lb. respectively in the corresponding period of last year.

Breedwar particulars on milk yield are detailed below:—

Breed.	Average number of cows in the herd.	Average number of cows in milk.	Total milk production during the period in lb.	Daily average annual yield per cow from 1st April 1956 to 31st October 1956 in lb.		Daily average yield per cow from 1st April to 1st October 1955 in lb.	
				For cows in milk.	For cows in the herd.	For cows in milk.	For cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sindhi	19.3	12.9	33,221.0	11.9	8.0	13.4	5.9
Umbalachery	22.7	12.8	5,750.5	2.0	1.2	3.3	1.6
Murrah	43.0	33.9	108,856.5	15.0	11.8	12.2	9.3

Details on the good performances by individual animals are given below:—

Breed and number.		Milk yield in lb.	Number of days in milk.	Daily average for the lactation.
(1)	(2)	(3)	(4)	(5)
Sindhi 679	6,557.0	320	20.5	
Sindhi 546	5,248.0	355	14.8	
Umbalachery 5	952.0	221	4.3	
Umbalachery 19	872.5	231	3.8	
Murrah 5	5,636.0	308	18.3	
Murrah 10	5,503.0	316	17.4	

(c) *Incidence of diseases.*—There was no outbreak of any contagious disease and incidence of infectious diseases during the period.

(d) *Mortality.*—There were only four deaths due to other causes during the period as against six in the corresponding period of last year working out a percentage of 1.1 as against 2.8 in the last year.

(e) *Laboratory Work.*—Twenty-eight specimens were sent to Principal, Madras Veterinary College, for examination of which 2 were declared positive.

(ii) The Clinical Laboratory started in this farm in the previous year could not undertake the work for want of microscope and buildings during the period.

(f) *Sterility works.*—The work on sterility continued to be undertaken during the period, the details of which are furnished below:—

Sindhi Breed—

1 Anoestrous	1
2 Cystic ovaries	1
3 Persistent Corpus Luteum	1

Murrah—

1 Anoestrous	23
2 Persistent Corpus Luteum	2
3 Cystic ovaries	..

Umbalachery—

1 Anoestrous	5
2 Persistent Corpus Luteum	2

(g) *Miscellaneous*—(i) *Apiculture*.—Out of 20 beehives functioning at the beginning of the year only 8 were functioning during the period. Six and quarter lb. of honey was collected during the period.

(ii) *Pisciculture*.—The fingerlings released in the previous year were grown up for harvest and right of collection was sold by auction realising a sum of Rs. 223.

(iii) *Horboriculture*.—Tree planting was continued, details of which are given below :—

Casuarina seedlings	..	..	..	..	6,000
Glyricidea cuttings	..	..	..	..	6,500
Agathi seedlings	..	..	..	..	1,000
Tamarind seedlings	..	..	..	..	150
Silk cotton seedlings	..	..	..	..	530
Coconut seedlings	..	..	..	..	12
Lime layers	..	..	..	..	6
Mango sapplings	..	..	..	..	70

(h) *Receipts and charges*.—A total amount of Rs. 25,952.43 was realised under livestock section receipts and the total expenditure on maintenance of cattle was Rs. 63,078.25.

A total quantity of 147,828.0 lb. of milk was received during the period. 113,896.0 lb. was sold to public for consumption and the balance was fed to calves and converted as ghee.

There were 53 young bulls at the end of the year as against 40 in the last year as detailed below :—

Sindhi	..	..	..	..	..	19
Umblacherry	..	..	..	..	..	11
Murrah	..	..	..	..	..	5
Kangayam	..	..	..	..	..	14
Gir	..	..	..	..	..	4
Total						53

(vi) *Season and crops in Livestock Farms.*

34. A. *Livestock Research Station, Hosur, Salem*.—(1) On the whole the season and rainfall during the year was not favourable for cultivation on account of south-west monsoon failure, which handicapped the preparation of cultivation and heavy rains during the north-east monsoon which spoiled the crops through stagnation of water in field.

The total rainfall during the period was 33.55 inches in 60 days as against 24.24 inches in 55 days in the corresponding period of last year.

(2) *Pastures*.—An area of 933.91 acres was under pastures with speargrass both for hay-making and grazing. 526.01 acres was under speargrass, 11.3 acres under ragi, 29.45 acres under cholam, 19.5 acres under teosinte and 27.5 acres was under ragi and lab

mixture. The following were also grown under pasture conditions on an experimental basis in plots of 10 cents :—

1 Kudzu vines.	6 Weeping Love grass.
2 Pillipesara.	7 Dew gram.
3 Rhodes grass.	8 Wooly finger.
4 Kolukattai grass.	9 Calapogdnium.
5 Australian grass.	10 Kikuv grass.

(3) *Hay-making*.—Hay-making was not undertaken during the period.

(4) *Garden cultivation*.—A total area of 314.18 acres consisting of wet, dry and garden lawns was under this section for growing fodder, fodder grasses, legumes and cereal crops. The yield particulars on the various crops and grasses grown are given below :—

Details of crops.		Area in acres.	Yield in lb.		
			Green fodder.	Straw.	Grains
(1)		(2)	(3)	(4)	(5)
Berseem	..	9.66	91,597	8,154	540
Lucerne	..	9.19	125,232	..	327
Guinea grass	..	9.22	207,989	..	..
Sudan grass	..	0.20	5,320	..	..
Buffalo grass	..	5.21	161,888	..	..
Napier grass	..	3.72	25,022	..	..
Rhodes grass	..	2.00	29,971	..	..
Battoon cholam	..	2.00	3,352	..	..
Ragi	..	2.24	..	30,236	5,841
Cholam	..	54.39	767,902	..	..
Teosinto	..	17.06	524,075	3,812	1,440
Maize	..	12.57	232,254	..	..
Sweet potato vines	..	0.60	3,400	..	..
Sun hemp	..	16.03	4,552	..	425
Velvet beans	..	..	..	..	..
Horsegram	..	..	..	..	..
Paddy	..	3.50	..	10,000	7,900
Wheat and oats	..	..	..	..	..
Mixed grass on bunds	..	..	519,978	..	..

(5) *Silage*.—A total quantity of 1,061,308 lb. of green fodder was ensiled in three silo pits as against 1,767,658 lb. in the previous year. The green material ensiled were teosinte, cholam, maize, napier grass, guinea grass, mixed grasses.

(6) *Fodder position*.—The fodder supply to cattle during the year was satisfactory. The farm was self-sufficient in respect of its fodder requirement and no fodder was purchased from outside.

A total quantity of 2,684,492 lb. of fodder consisting of green, dry and silage material was supplied to the livestock of the farm during the period.

B. District Livestock Farm, Koila, South Kanara district—
(1) *Rainfall.*—There was a total rainfall of 150.96 inches in 133 days as against 143.96 inches in 137 days during the last year. Intensity of rainfall was felt severely due to unprecedented rainfall during the south-west monsoon.

(2) *Pasture and cultivation.*—Five hundred acres were under pasture and 50 acres were under fodder cultivation during the year.

(3) *Hay.*—Hay-making was not commenced during the period under report.

(4) *Silage.*—A total quantity of 70,000 lb. of pasture grass were ensiled in silo pits during the period.

(5) *Fodder production.*—Various fodder grasses and crops were cultivated, details of which are furnished below :—

Crops.	Acreage.	Quantity in lb. harvested.	Remarks.
(1)	(2)	(3)	(4)
Sunhemp ..	1.60	..	Crop in the field.
Teosinte ..	0.40	..	Do.
Guinea grass ..	11.84	66,500	Obtained in second cuttings.
Thin napier grass ..	2.00	..	Crop in the field.
Pillipesara ..	2.00	..	Do.
Kudzu vine ..	0.08	..	Do.
Buffalo grass ..	0.20	160	Obtained in first cuttings.
Velvet beans ..	0.20	1,600	Obtained in second cuttings.
Pasture grass ..	20.24	40,480	Obtained from bund, roadside pasture, etc.

C. District Livestock Farm, Tiruvazhamkundu, Malabar—
Rainfall.—A total rainfall of 118.33 inches was received in 110 days during the period as against 128.61 inches in 125 days in the same period of last year.

Pasture.—A total of 96.96 acres were under pasture of which 50.0 acres were reserved for hay-making and 4.96 acres were under grazing by farm animals. The following grasses were grown spear grass, rhodes grass, kolukatti grass, thin napier grass and Australian drought resistant grass.

Silage-making.—A total quantity of 143,100 lb. of green materials consisting teosinte, Guinea grass, elephant grass and cholam were ensiled in four pits during the period.

Compost-making.—Four pits were filled with an expected production of 750 tons of compost during the period.

Fodder cultivation.—62.05 acres were under fodder cultivation during the period and a total quantity of 1,177,348 lb. of fodder harvested as detailed below :—

Name of crop.	Irrigated.		Not irrigated.	
	Extent in acres.	Yield in lb.	Extent in acres.	Yield in lb.
(1)	(2)	(3)	(4)	(5)
Guineas grass ..	2.52	50,075	..	..
Buffalo grass ..	0.40	55,038	..	..
Elephant grass ..	1.00	21,330	..	..
Bunds grass ..	..	29,052	..	..
Guinea grass ..	..	..	16.06	2,09,466
Guinea Bunds grass ..	..	..	..	4,82,565
Buffalo grass ..	..	..	3.25	38,840
Thin Napier grass ..	..	..	0.35	3,000
Korai grass ..	..	..	0.32	2,300
Odian grass ..	..	..	0.70	5,600
Kudzu vine ..	..	..	0.05	2,040
Teosinte ..	..	..	53.61	1,43,900
Cholam ..	..	..	23.70	10,500
Cowpea ..	..	..	1.25	14,510
Maize ..	..	..	1.00	..
Mixed grass ..	..	..	..	44,600

D. District Livestock Farm, Pudukkottai—(1) *Season and rainfall.*—During the period a total rainfall of 28.28 inches spread over in 38 days was received as against 40.59 inches in 59 days in the same period of last year. As could be seen from the above figures, the season and rainfall was not favourable during the period under report.

(2) *Pasture and cultivation.*—There was no area under pasture in this farm. An area of 5.98 acres was under fodder cultivation the details of which are given below :—

Name of crop.	Area cultivated (in acres and cents).	Total yield.
(1)	(2)	(3)
		LB.
Guinea grass ..	4.09	1,26,363
Rhodes grass ..	0.78	15,735
Buffalo grass ..	0.26	11,398
Napier grass ..	0.10	4,022
Berseem ..	0.11	164
Cholam ..	0.51	23,833
Bund grasses ..	..	3,868

As only a small area was available for cultivation in this farm, self-sufficiency in respect of fodder requirement could not be achieved. Hence to meet the requirements of the farm, 250,500 lb. of paddy straw worth of Rs. 7,672 had to be purchased during the period.

Action taken to increase the fodder.—Intense cultivation was taken up even on bunds leaving no space of land uncultivated. Steps were taken to require more lands in Machuvadi Reserve Forest area in the vicinity of the Pudukkottai town.

E. District Livestock Farm, Orathanad.—(1) There was a total rainfall of 66.77 inches spread over 31 days as against 43.27 inches in 57 days in the whole of last year. Though the intense rainfall was detrimental to the cultivation and harvest paddy crops, it was beneficial to dry crops.

(2) *Pasture and cultivation.*—An area of 39 acres was reserved for grazing. 167.00 acres were under cultivation for growing cereal crops and fodder crops and grasses. The details of crops and grasses grown are given below:—

Name of the crop.	Area cultivated in acres.	Grain.	Straw.	Green fodder.
(1)	(2)	(3)	(4)	(5)
		lb.	lb.	lb.
Kuruvai paddy ..	18.10	30,781	39,820	..
Cholam ..	1.70	232	6,000	..
Cholam ..	50.64	..	..	213,010
Maize ..	2.66	..	..	24,130
Ragi ..	2.25	5,935	34,820	..
Horsegram ..	19.50	880	..	6,610
Guinea grass ..	12.82	..	..	404,835
Napier grass ..	4.90	..	..	150,135
Rhodes grass ..	0.30	..	..	6,360
Kolukattai grass ..	0.03	..	..	300
Buffalo grass ..	2.10	..	..	63,280
Lucerne ..	0.68	..	..	1,760
Groundnuts ..	2.12	Crop	Failed	..
Sesbania ..	6.00	450	..	30,000
Daincha ..	2.00	180	..	10,000
Greengram ..	1.00	140	..	..
Greengrass from bunds.	..	..	..	233,620

(3) *Silage-making.*—During the period two silos were filled with 104,605 lb. of various green fodders grown in the farm as detailed below:—

	LB.
Guinea grass ..	33,780
Napier grass ..	28,975
Buffalo grass ..	1,500
Cholam ..	29,450
Bunds grass ..	5,500
Ragi straw ..	5,400

(vii) *Kangayam Cattle Improvement Scheme.*

35. *Object.*—(a) This scheme was started on 31st July 1942 by the Indian Council of Agricultural Research in co-ordination with the Animal Husbandry Department of Madras State in the Cattle Farm of the Pattagar of Palayakkottai with 60 Kangayam heifers and 2 bulls. The object of the scheme is to improve the milking qualities of Kangayam cows without impairing the draught capacity

of the breed on scientific lines (viz.), by selective breeding, balanced feeding and sound management. The scheme has been extended during the year to be in operation for a further period of two years from 1st April 1957 to 31st March 1959.

(b) The strength of animals as on 1st April 1956 and 31st October 1956—

	Strength on 1st April 1956.	Strength on 31st October 1956.
(1)	(2)	(3)
Cows in milk ..	59	59
Dry cows and cows nearing parturition ..	59	66
Heifers (above 1 year) ..	89	93
Young bulls (above 1 year) ..	87	114
Heifer calves (below 1 year) ..	48	47
Bull calves (below 1 year) ..	51	58
Bulls at stud ..	2	2
Work cattle ..	89	89
	484	528

The increase in strength was due to increase in birth (viz.), 68 during the period whereas only 20 animals were culled out either due to old age or poor yield or atypical breed characters and four animals died due to accidental causes like snake-bites, etc.

(c) *Dairy.*—Out of a total number of 116 cows in the herd, on an average 66.3 cows remained in milk yielding 15,032.0 lb. of milk. There was an increase in the daily individual average during the period as could be seen from the following data:—

	1st April to 31st October 1956.	1955-56.
(1)	(2)	(3)
Daily individual average over cows in milk in lb.	7.4	7.1
Daily individual average over cows in herd in lb.	4.3	3.9

Details of some of the good performers are given below:—

Breed and bull number.	Total milk yield up to the date of drying in lb.	Daily average for the lactation in lb.	Number of days in milk.
(1)	(2)	(3)	(4)
Kangayam 427	2,825.0	9.4	299
" 471	2,766.8	8.9	309
" 67	2,683.0	9.3	290
" 476	2,570.0	9.1	284

Calvings.—There were 68 births, of which 38 were bull calves and 30 were heifer calves.

(d) *Experimental work done—Birth weight of calves.*—Recording of birth weight of calves was also undertaken the details of which are given below :—

Particulars.	1st April to 31st October 1956.	1955-56.
(1)	(2)	(3)
	LB.	LB.
Average birth weight of a calf	43.8	44.2
Average birth weight of a bull calf	45.5	46.4
Average birth weight of a heifer calf	41.6	42.2
Maximum weight of calf	61.0	59.0
Minimum weight of calf	32.0	26.0

(e) *Testing of animals for draught capacity.*—This item of work was entrusted to a committee of local experts after general discussion with Animal Husbandry Commissioner with the Government of India. Committee comprises of the Pattagar of Palayakottai and three non-official members with the Deputy Director of Animal Husbandry (Livestock) and the Superintendent, Kangayan Cattle Improvement Scheme, as official members. Periodical meetings of the committee were held and their opinions were recorded regarding the draught capacity of bullocks included in the scheme in respect of ploughing fields, whole work and dragging loads. It was only a rough test and from the observations made so far there was no difference found in the working ability between the bullocks descending from high milk yielding dams and low milk yielding dams. If some mechanical contrivance is made available more authentic information can be collected.

(f) *Maturity of heifers.*—As a result of study on maturity among heifers it was observed that the average of maturity was 43.3 months with a maximum of 47.3 months and a minimum of 38.0 months as against 43, 57 and 37 months respectively in the previous year.

(viii) *Cross-breeding Scheme, Ootacamund.*

36. (a) This scheme is in operation since 20th January 1956 in the Nilgiris hills of this State at Ootacamund with a net work of four sub-centres (viz.), Nanjanad, Prospect Estate, Dhavani and Thummanahatty in co-ordination with the Indian Council of Agricultural Research.

(b) *Object of the Scheme.*—The scheme aims at improving the milk yield of local cows (non-descript) by the introduction of pedigreed Jersey blood in a systematic well-planned manner, without affecting the stamina to withstand the environmental factors. The main object is to strike and ascertain the proportion of foreign blood under which the crosses are able to do their best as regard milk yield as well as the capacity to withstand the environmental factors.

In this hilly and heavy rainfall area it is proposed that the breeding up with the Jersey bulls should go on for two generations so as to produce cows with 75 per cent Jersey blood initially. Further programme as to whether these graded animals are to be graded up with Jerseys or down graded to an Indian breed or breed among themselves will be decided after studying the adaptability of the crosses, to the environmental factors.

Out of the total population of 5,227 cows of breedable age in the area under the scheme, 2,500 indigenous ones with no foreign blood as far as could be known were selected and their full history were brought into the preliminary survey and livestock registers with tattooing for identification in the future study.

(c) *Milk recording.*—Milk recording for the non-descript and cross-breed cows at random at monthly intervals was done as per the instructions contained in the tour notes of the Deputy Livestock Adviser to Government of India. During the period under report 1,368 non-descript cows and 607 cross-breed cows were milk-recorded. The average milk yield for the non-descript cows was 3.0 lb. and for the cross-breed the average milk yield was 6.5 lb.

(d) To eliminate the adverse effects of breeding with scrub bulls Livestock Improvement Act was enforced and 360 castrations were done during the period under report.

(e) The introduction of Jersey blood was carried out through artificial insemination with the Jersey semen, received thrice in a week from the Central Artificial Insemination Centre, Bangalore, by air transport. The results of inseminations were also followed up by verification of the services and the calves born. The details of work done in this aspect are furnished below :—

Particulars.	1st April to 31st October 1956.	1955-56.
(1)	(2)	(3)
Number of inseminations done with Jersey Semen.	1,314	545
Number of services verified	584	..
Number of calves born	108	157
Number of calves inspected	108	157
Number of calves born to registered cows under the scheme.	17	..

The tattooing of heifer calves will be taken up shortly as they were too young to be tattooed during the period under report.

(f) Besides the insemination, registration of progeny, milk recording work, the staff of the scheme were also engaged in rendering first-aid for morbid cases while on tour and enforcing prophylactic vaccinations against contagious diseases of endemic to the area. One thousand and ten cases were treated; and animals were protected as detailed below :—

Particulars.	Number of animals protected.
Blackquarter	1,065
Haemorrhagic Septicaemia	180
Ranikhet disease	65
Rabies	152

The progress under this scheme earned the good impressions of the eminent visitors like Dr. E. Palsson, F.A.O., Expert, Dr. T. Gullickson, T.C.M., Animal Nutrition Expert, Deputy Livestock Adviser to Government of India and the Director of Livestock Research, Bihar.

(ix) Artificial insemination.

37. There were seven artificial insemination centres with ten sub-centres at the beginning of the period functioning in places as shown below :—

Place of location of artificial insemination centres.	Place of location of sub-centres.
1 Madras City	1 Saidapet. 2 Mylapore. 3 Basinbridge. 4 Royapuram. 5 Kodambakkam.
2 Coimbatore Town	1 Government Agricultural College, Coimbatore. 2 Tudialur. 3 Singanallur.
3 Madurai	1 South Veli Street, Madurai. 2 Ponnagaram.
4 Tiruchirappalli .. .. .	....
5 Erode .. .. .	....
6 Salem .. .. .	....
7 Kozhikode .. .. .	....

During the period one more centre was opened at Mangalore on 24th April 1955. Thus at the end of the period, there were eight artificial insemination centres with ten sub-centres. All of these main centres are located in the premises of veterinary hospitals of the respective places.

Consequent to reorganization of States, the centres at Kozhikode and Mangalore came under the Kerala and Karnataka States respectively on 1st November 1956.

During the period 42 bulls of various breeds were maintained in these centres, out of which 1,481 collections of semen were made to conduct 13,354 inseminations as against 44 bulls, 1,516 collection and 18,753 inseminations in the whole of previous year. The details of work done at the various centres are given below :—

Location of the Artificial Insemination Centre.	Number of bulls maintained under each breed.							Number of collections made.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Madras	1	1	2	..	2	2	6	223
Madurai	..	..	2	1	3	7	182	182
Coimbatore	..	..	2	1	2	5	435	435
Tiruchirappalli	..	..	2	1	2	5	120	120
Erode	..	..	..	2	2	4	126	126
Kozhikode	..	..	2	..	2	4	106	106
Mangalore	..	..	2	..	2	5	153	153
Salem	2	..	..	2	1	6	131	131
Total	4	1	14	7	16	42	1,481	1,481

Centres.	Number of inseminations made.	Rate of insemination per collection.	Number of pregnancies verified.	Number of calves inspected.	Number of sterility cases handed.	Remarks.
	(9)	(10)	(11)	(12)	(13)	(14)
Madras	2,702	11.85	1,305	460	..	....
Madurai	1,036	9.99	1,373	644	14	....
Coimbatore	5,616	12.91	1,902	343	..	....
Tiruchirappalli	606	5.05	516	95	..	....
Erode	712	5.65	587	32	8	....
Kozhikode	485	4.57	376	15	..	....
Mangalore	1,039	6.78	583	179	..	....
Salem	558	4.25	568	20	6	....
Total	13,354	9.01	7,210	1,788	24	

In the centres at Madras City and Coimbatore, semen of Jersey and Tharparker breeds were imported by air from the Central Artificial Insemination Station, Bangalore, details of which are given below :—

Centres.	Number of semen collections received.	
	Jersey.	Tharparker.
(1)	(2)	(3)
Madras	93	24
Coimbatore	66	24
Total	159	48

Studies on semen.—Periodical studies on the quality and the keeping quality of semen used for insemination were made at the various centres. While the keeping quality of semen of Kangayam and Sindhi bulls were good, that of buffalo bulls was not satisfactory. A course of vitamin C injection was tried in buffalo bulls and the semen improved in its keeping quality up to a duration of 72 hours while previously it was not preservable for even 24 hours. As a rule semen more than 72 hours old was not used. The preservability of semen ranged from two to five days in case of buffaloes and three to seven days in case of Ongole and Sindhi bulls.

Training.—Training of veterinary personnel was undertaken in artificial insemination centre in Madras. During the period under report eight Veterinary Assistant Surgeons and 26 Stockmen of this State were given training for a period of a fortnight. One Veterinary Assistant Surgeon from Pondicherry State was also trained in artificial insemination work for a fortnight. This centre at Madras continued to impart training in artificial insemination work to the final year students of the B.V.Sc. course of the Madras Veterinary College as a part of their syllabus.

38. *Artificial insemination centres handed over from Community Project areas.*—During the period, consequent to the conversion of Community Project Scheme into National Extension Service, the artificial insemination centres under this scheme were handed

over to this department for maintenance in future. The details on these centres thus handed over are given below :—

Location of centre.	Number of Bulls at the centre.				Collection made.	Insemination done.	Number of calves born and inspected
	Kangayam.	Sindhi.	Murrah.	Total.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cheraumahadevi	1	1	1	3	111	239	10
Thirukalikundram	..	2	4	6	40	115	33
Dharmathupatty	2	..	2	4	39	196	*
Vadipatty	2	..	2	4	40	170	..
Kavandapaddy	2	..	2	4	94	523	..
Malayampalayam	2	..	2	4	66	292	18
Palghat	..	3	2	5	123	559	..

* Opened only on 15th September 1956 and 2nd April 1956 respectively.

(x) Key Village Scheme.

39. (a) *Key Village Centre.*—The Key Village Scheme sponsored at All-India level by the Government of India was inaugurated in Madras State in 1952-53. This scheme is in implementation in Kangayam breeding tract, in Anamalais Hill area for Sindhi breed and at Hosur Cattle Farm for Hallikar breed.

There were nine key village centres during the period. The details of location of these centres are given below :—

Name of key village centres.	Breeding tract.	Number of key villages attached to the centres.
(1)	(2)	(3)
1 Vellakkoil	Kangayam	4
2 Kangayam	Do.	4
3 Mulanur	Do.	4
4 Sankarandampalayam	Do.	4
5 Thoppampatti	Do.	4
6 Chikkanapuram	Do.	4
7 Malayandipatnam	Do.	4
8 Chinchona (Anamalais)	Sindhi.	4
9 Livestock Research Station, Hosur	Hallikar.	4
Cattle Farm.		

There were 112 breeding bulls in the scheme at the end of the period as against 104 in the previous year. Out of these bulls 14,711 inseminations were made during the period besides 1,415 natural services as against 29,350 inseminations and 3,111 natural services in the whole of previous year. The details of location of bulls, semen collections, inseminations done at various centres are given below :—

Location of key village centres.	Number of bulls in the centres and key villages.	Number of collections made.	Number of inseminations done.	State of inseminations.	Number of natural services performed.	Number of calves born.	Number of calves in the subsidised scheme.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Kangayam	13	386	2,480	6.3	93	522	65
Vellakkoil	13	235	2,043	8.7	123	835	108
Sankarandampalayam	12	175	1,639	9.4	190	691	65
Chikkanapuram	13	167	1,567	9.4	154	363	2
Mulanur	13	241	2,160	9.4	114	741	34
Thoppampatti	14	268	2,555	9.6	168	225	12
Malayandipatnam	12	145	1,121	7.7	142	419	55
Chinchona	9	135	1,510	3.8	147	270	12
Livestock Research Station, Hosur.	12	97	408	6.2	281	393	75

Under the Key Village Scheme in addition to inseminations and follow up of these cases, the other aspects of Animal Husbandry in this area like production and preservation of fodder, protection in advance of livestock against epidemics, rendering treatment to morbid cases, castration of scrub bulls and rams were also attended to by the personnel of these centres. House-to-house survey was also made from time to time in villages along with insemination with a view to study the feasibility of solving livestock problem at village, the formation of livestock co-operatives for both production and marketing of livestock and livestock products.

(b) *Work on sterility.*—Among the morbid cases, special attention was paid to study and treat the pathological conditions of reproduction system with a view to augment the early and frequent calving among cows and thereby increase the milk production.

(c) *Disease control.*—Besides the work on development side, control measures to avert the incidence of epidemic were undertaken in the scheme through preventive inoculation in all species of livestock as detailed below :—

Name of disease against which preventive inoculations were done.	Number of inoculations done.
(1)	(2)
Cattle—	
Blackquarter	9,334
Hæmorrhagic Septicæmia	1,152
Sheep—	
Sheep-pox	781
Enterotoxæmia	245
Poultry—	
Ranikhet	519
Fowl pox	200

(d) *Subsidy scheme for Pasture Development.*—The scheme for the improvement of pastures through grant of subsidy in key village areas which was undertaken last year in (comprising of 17 plots) 100 acres of pasture land in the area of Kangayam centre was continued during the period. Trenching contour bunding and hay-making were carried out and subsidy at Rs. 50 per acre was also paid for all plots except one wherein bunding was not completed.

(e) *Calf Subsidy Scheme.*—The scheme of subsidy selected calves in the key villages with a grant of Rs. 10 per month per calf was continued during the period. One bull calf over six months of age that are expected to become good breeding bulls are selected for subsidy every month. Thus there were 478 calves enlisted in this scheme at the end of the period.

(xi) Key farm centres.

40. (a) Six key farm centres were run during the period with 13 sub-centres with a total number of 51 bulls of Sindhi, Kangayam and Murrah breeds maintained.

In these centres 821 collections of semen were made out of which 5,105 inseminations were carried out as against 1,262 collections and 9,631 inseminations in the whole of previous year. The details of work done at these institutions are given below :—

Location of key farm centre.	Districts.	Number of bulls maintained.				Natural services performed.
		Kanga. yam.	Sindhi.	Murrah.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Neikarapatty	Madurai.	5	2	7	14	316
Idayakkottai	Do.	4	..	3	7	
Chidambaram	South Arcot.	..	2	2	4	
Valarpuram	Chingleput.	..	..	5	5	
Kilacheri	Do.	..	2	3	5	168
Sivagiri	Coimbatore.	12	..	4	16	

Location of key Form Centre.	Number of collections made.	Number of inseminations done.	Rate of insemination per collection.	Number of calves born & inspected.		Number of pregnancies verified.
				Artificial insemination.	Natural services.	
(8)	(9)	(10)	(11)	(12)	(13)	
Neikarapatty	187	1,594	9.54	390	25	1,264
Idayakkottai	223	1,164	5.14	143		701
Chidambaram	117	426	3.60	42		151
Valarpuram	46	134	2.90	35		139
Kilacheri	137	535	3.90	93	81	623
Sivagiri	131	1,270	9.70	426		1,283

(b) In addition to the artificial insemination work, the staff rendered treatment and castrated scrub bulls through first-aid veterinary centres attached to the institutions at Idayakkottai, Valarpuram and Neikarapatti and also while on tour for verifying services and inspecting the progeny. Preventive inoculations against epidemics were also undertaken in the areas under these institutions; the details of work are given below :—

(i) Number of cases treated	1,641
(ii) Number of castrations done	872
(iii) Number of preventive inoculations done—	
Against Haemorrhagic Septicaemia	4,755
Against Blackquarter	6,675
Against Enterotoxaemia in sheep	1,685
Against Ranikhet disease	2,632

(c) *Sterility work done.*—In addition to treatment and preventive inoculations, the staff at these centres paid special attention to the diagnosis and treatment of anæstrus and sterile conditions among female stock. Thus 37 cases were treated during the period.

(d) *Calv Subsidy Scheme.*—The scheme for payment of subsidy to selected calves of these centres at the rate of Rs. 10 per month was continued during the year on the same lines as in the key village centres. There were 112 calves at the end of the period.

(xii) *Scheme for the salvage of dry cows.*

41. (a) Under this scheme, a farm was opened in 1944 at Kambakkam Kancha in Chingleput district, at a distance of 54 miles from Madras. The object of this scheme is to prevent the cows in the City being taken to abattoirs for economic reasons

soon after they become dry and thereby in a way to increase the milch production in the City. As per this scheme, cows in the City during their dry period are taken to this farm and are maintained there for a nominal fee of Rs. 10 per mensem till they are being taken back as pregnant or after calving.

(b) *Strength.*—Only such of those animals that were further fit for breeding, were admitted in the farm, so as to maintain the popularity and the usefulness on economic lines of the farms. In this regard, the advice of the Regional Sterility Officer was followed. The details of admissions, etc., of the farm are as follows :—

Details.	1st April to 31st October 1955.	1st April to 31st October 1956.
(1)	(2)	(3)
1 Number of cows on hand at the beginning of the period.	197	175
2 Number of cows admitted during the period.	116	128
3 Number of cows returned after calving ..	93	89
4 Number of cows returned as unfit for calving.	32	13
5 Number of cows returned pregnant ..	13	8
6 Number of cows died	6	2
7 Number of cows transferred to adult stock.	..	..
8 Number of cows on hand at the end of the period.	169	191

The average period of stay of a cow in the farm was 298 days as against 299.8 days in the previous year.

(c) *Breeding bulls.*—There were five breeding bulls at the beginning of the period of which one died. Two hundred and four services were performed by these bulls and 104 calves were born during the period under report.

(d) *Pasture.*—The grazing facilities were not satisfactory due to seasonal conditions and panther menace in the grazing area.

(e) *Fodder.*—Owing to the shifting of the farm to Alamadhi area, fodder crops were not raised and only the Australian drought-resisting grass was maintained. In three cuttings during the period, 10 tons and 2,168 lb. of grass was produced during the year.

(f) *General.*—During the period, the Advisory Committee for the Salvage Farm made use of the services of the Regional Sterility Officer, Madras, for check-up and treatment of the condition of the sterile cows. Initial arrangements were made for shifting the farm from Kambakkam to Alamadhi.

(xiii) *Salvage farms and goshalas under private agencies.*

42. There were two salvage farms in Malabar district at Chathamangalam and Ayithara run by the local co-operative milk supply union and Society for Prevention of Cruelty to Animals, respectively.

(1) *Chathamangalam Farm*.—This farm is in existence since 1950, being maintained by the Co-operative Milk Supply Union, Kozhikode, and situated at a distance of 4 miles from Kozhikode. The area of the farm is 53.79 acres in which fodder grasses are grown in an extent of 10 acres. The Salvage Fee is Rs. 10 per month for adult animals and Rs. 6 per month for calves. About 100 animals can be maintained in this farm.

(2) *Ayithara Farm*.—This farm was opened on 5th November 1954 by the Society for Prevention of Cruelty to Animals, Tellicherry. In addition to the 30 acres available to start with, right of grazing in 56 acres of land in the area was acquired during the period. About 40 animals were maintained during the year in addition to the small Pinjarapole with about 10 invalid animals. An *ad hoc* grant of Rs. 500 was sanctioned by Government in appreciation of the good work turned out in this farm.

(3) *Gandhi Seva Gosadan, Perur*.—Gandhi Seva Sadan, Perur, in Walluvanad taluk, was maintaining a Gosadan with a strength of 38 animals inclusive of 1 Kangayam bull.

(xiv) *Village Livestock Improvement Scheme.*

43. (a) The main feature of the scheme as worked out by this department and through the co-operative societies are—

(i) the castration of all unwanted male stock thus making available only services of the approved bulls to the cows in the area;

(ii) the protection of all the animals in the area against the various cattle diseases;

(iii) the maintenance of necessary records with regard to breeding pedigree, production, etc., and tattooing of the cows and the progeny; and

(iv) the provision of subsidy for the payment of Rs. 5 per mensem, for heifer-calves from seventh month to an age of two years born to the cows registered for proper maintenance, at the rate of 50 calves per year in each centre.

(b) The scheme continued to function in the firkas which were allotted to this department under the scheme, viz., Saliangalam (Tanjore district), Malli (Ramanathapuram district), Kumbala (South Kanara district).

(1) *Saliangalam*.—The scheme continued to be in operation since 12th March 1951 in the area comprising of Palliyur, Thirubhuvanam, Poondi and Saliangalam villages. Three Umbalacheri bulls were maintained which were allowed for services free of cost. Two hundred and five services were performed during the period. Forty-five calves were born. Eighty-two calves have been registered for payment of subsidy and 45 heifer calves were given subsidy. Madras Livestock Improvement Act was enforced in the area during the period.

(2) *Malli Centre*.—The scheme is continued to be in operation since 26th January 1953 with 2 Kangayam bulls and 2 Murrah buffalo bulls were maintained. Two hundred and one

services were performed by the bulls and 81 calves were born of them during the period. Forty-three scrub bulls were castrated under the Livestock Improvement Act.

(3) *Kumbala (Kinnigoli) Centre*.—This scheme which was handed over to the Community Project administration in last year, was again transferred to this department on the closure of Community Project Scheme on 1st October 1956. Two Sindhi bulls and 1 Murrah buffalo bull were maintained which performed 203 services. One hundred and forty-two calves were born of which 116 were inspected by the staff. Fourteen selected heifers were paid subsidy during the period.

(xv) *Cattle breeding through Co-operative Societies and Associations.*

44. With a view to inculcate among the agriculturists the enthusiasm for co-operative endeavour towards the improvement of livestock, solving the problems at village level from all aspects (viz.) breeding, feeding and management, cattle breeding associations, and co-operative societies were encouraged to be formed by persuasion, propaganda and subsidy. Thus during the year nine breeding associations were functioning—

(1) *Anamalai Hill Cattle Society, Anamalai, Coimbatore district*.—This society which was started 20 years ago with the idea of grading up local cattle in the Sindhi breed continued to function during the period with 42 Sindhi bulls.

(2) *Livestock Improvement Association, Kottur Malayandipatnam*.—This association organized under Key Village Scheme was doing good work in the sphere of livestock improvement work.

(3) *The Kangayam Cattle Breeding and Marketing Co-operative Society, Limited, Palladam, Coimbatore district*.—This society continued to function during the period and had distributed among its members 171 Kangayam bulls with the grants made available under National Extension Service Scheme funds.

(4) *Anchetty Co-operative Cattle Breeding Society, Anchetty, Salem district*.—The society continued to function during the period. There were 7 Hallikar breeding bulls with the members for stud purposes. Two hundred and six-three services were performed by these bulls and 132 calves were born.

(5) *Mecheri Co-operative Cattle Breeding Society, Salem district*.—This society continued to function during the period with 11 Hallikar breeding bulls. Three hundred and thirty-two services were performed by these bulls and 134 calves were born.

(6) *South Kanara Cattle Improvement Association, South Kanara district*.—This association continued to exist during the period attending to the needs for improvement of livestock in the district.

Besides the above, 14 Cattle Breeding Associations were functioning in National Extension Service areas by taking active part in Animal Husbandry activities upgrading the local cattle, control of cattle diseases, organising cattle shows and exhibitions.

(xvi) *Breeding bulls under Departmental Schemes.*

45. Pedigree breeding bulls of various breeds were located in the State at the rate of 1 for every 100 cows of breedable age, under various schemes for grading up the stock in urban and rural areas. They are detailed below :—

Breed of bulls.	Veterinary Institutions.	Premium Schemes.	Government Male Live-stock Distribution Schemes.	District Board Schemes.	Total.
Kangayam ..	71	383	89	198	741
Gir ..	2	..	14	1	17
Sindhi ..	70	105	94	2	271
Sahiwal ..	1	..	..	..	1
Ayrshire ..	..	5	..	..	5
Holstein ..	..	3	..	..	3
Cross-bred ..	1	17	..	..	18
Hallikar ..	1	87	1	4	93
Umbalachery ..	..	100	..	7	107
Alambady ..	..	3	..	..	3
Murrah ..	72	150	57	..	279
Jersey ..	3	6	..	..	9
Ongole ..	3	1	..	..	4
Tharparkar ..	..	1	..	..	1
Total ..	224	861	255	212	1,552

(a) *Bulls at Stud in Veterinary Institutions.*—There were 224 breeding bulls located at the veterinary institutions during the period. They performed 5,148 services during the period. Three thousand seven hundred and thirty-three calves were born of these bulls of which 2,416 calves were inspected.

(b) *Bulls under Male livestock Distribution Scheme.*—This scheme is for location of bulls free of cost in villages with suitable custodians interested in cattle improvement, under the condition that they should maintain it for three years for stud purposes. There were 255 bulls under this scheme located in villages at the end of the period as against 277 in the previous year. A total number of 5,954 services were performed by these bulls during the year. Two thousand and ninety-one calves were born of these bulls, of which 1,314 were inspected.

(c) *Bulls under Premium Scheme.*—This scheme provides for utilizing the bulls for the benefit of the village that are maintained by individuals for their use, through payment of an amount of Rs. 200 for bulls and Rs. 220 for buffalo bulls per annum as premium, up to a maximum period of five years for a bull in the same centre.

There were 861 bulls at the end of the year as against 713 in the previous year. Twenty-nine thousand five hundred and eighty-two services were performed by the bulls during the year. Nine thousand three hundred and forty-four calves were born of which 5,412 were inspected.

(d) *Bulls under District Board Scheme.*—This scheme encourages the District Boards to take up livestock improvement work also by way of payment of grant by the Government.

Bulls are located in villages by the District Boards with suitable custodians who have to bear certain percentage of the cost of the bull and maintain the same for three years for stud purposes. Under this scheme there were 212 bulls as against 189 in the previous year. These bulls performed 6,419 services during the year. Three thousand six hundred and forty-two calves were born of these bulls of which 2,966 were inspected.

(e) *Bulls at stud in Agricultural Research Station, Koilpatti and Rice Research Station, Ambasamudram.*—There were five bulls at the end of the period which performed 278 services. Twenty calves were born of which 8 were inspected.

(xvii) *Breeding bulls under other schemes.*

46. (a) *Toda Welfare.*—Under the Toda Welfare Scheme, there were no breeding bulls during the period but 3 Murrah Buffalo bulls were given to 3 leading Todas under Government Male Livestock Distribution Scheme for the benefit of the Toda Community in Nilgiris district.

(b) *Local Development Works.*—Fifteen bulls were purchased from the funds of Local Development Works in Madurai and Salem districts.

(c) *Bulls purchased from Common Good Funds of Co-operative Societies and by Panchayats.*—Twenty-six bulls in Salem district were purchased out of these funds by cattle breeding and co-operative milk supply unit societies and continued to be maintained during the period.

(d) *Bulls purchased from the funds of National Extension Service Scheme.*—A total number of 3 bulls were purchased with the grant available under the scheme in Nilgiris district, during the period as against 24 purchased in the last year.

(e) *Malnad Development Subsidy Scheme, South Kanara.*—There were 9 bulls under this scheme at the end of the period. Ninety-four services were performed by these bulls during the period. Fifteen calves were born of which three were inspected.

(xviii) *Livestock Improvement Board.*

47. (a) With a view to advise the Government on Animal Husbandry matters and schemes relating to livestock improvement and allied questions, a Livestock Improvement Board was first constituted in 1940 with both official and non-official members. During the year under report, the Board consisted of the following members with the Minister for Agriculture as its Chairman and Deputy Secretary to Government, Agriculture Department, as its Secretary :—

Official Members.

- (1) The Director of Animal Husbandry.
- (2) The Director of Agriculture.
- (3) The Registrar of Co-operative Societies.
- (4) The Deputy Director of Animal Husbandry (Livestock).

Non-Official Members.

- (1) Sri K. S. Lakshminpathy Naicker, M.L.A., Idayakottai, Madurai district.
- (2) Dr. K. Balappa Shetty, Secretary, Livestock Improvement Society, Mangalore.
- (3) Sri Sankaravarma Raja, M.L.A., Mandur post, Palayan-gadi, North Malabar.
- (4) Sri R. Srinivasa Ayyar, advocate and Secretary, Ryots' Association, Pattukkottai.
- (5) Sri V. K. Ramaswami Mudaliar, M.L.A., Cheyyur, Maduranthakam taluk, Chingleput district.
- (6) Sri Haji G. Osman Khan Sahib, President, Madras Veterinary Association, Madras.
- (b) The 30th meeting of the State Livestock Improvement Board was held at the District Livestock Farm, Koila, South Kanara, on 20th May 1956.

The following subjects were discussed at the meeting :—

- (1) Starting of a sheep farm and a buffalo farm in Chingleput.
- (2) Free supply of milk to school children.
- (3) Maintenance of Goshalas by the Temple Authorities.
- (4) Starting of an artificial insemination centre at Taliparamba, North Malabar.
- (5) Propaganda on artificial insemination.
- (6) Starting of a cattle farm at Taliparamba in Malabar.
- (7) Utilization of facilities offered by the Central Semen Production Station, Bangalore.
- (8) Extension of Calf Subsidy Scheme in vogue in key village centres to selected areas of artificial insemination centres.
- (9) Imparting practical training to young farmers in the management of livestock and dairying.
- (10) Introduction of artificial insemination facilities in areas where the village livestock improvement centres are functioning.
- (11) Appointment of Superintendents of all Government livestock farms in the State as ex-officio members of Advisory Committee of Community Projects or National Extension Service of the respective areas.
- (12) Scheme for providing decentralized day-time salvage farm at village level in South Kanara district.
- (13) Model scheme for encouragement of rearing poultry in backyard by the ryots.
- (14) Popularization of "Gobar Gas Plant."
- (15) Subsidizing the cost of a bulldozer and tractor with other accessories required by the Madras Milk Supply Union for the development of village pastures.
- (16) Provision of milk testing equipments to milk supply co-operative societies which produce more than 100 Madras measures of milk a day.

(17) Subsidizing the cost of 6 and 5 H.P. pumpsets required by the Madras Milk Supply Union to enable some of its affiliated village co-operative societies to grow fodder by lift irrigation.

(18) Objection to the construction of a post-mortem shed just in front of the Superintendent's office and cattle-shed of the Livestock Farm at Orathanad.

(19) Supply of stud-bulls to custodians and their sending them back for reconditioning.

(20) Collection of fees for services in Government Farms.

(21) A pedigree bull must be maintained at every Veterinary Dispensary where there is no bull of good breed at the station.

(xix) Milk supply.

48. (i) *Milk supply through private agencies.*—(a) The collection and distribution of milk to public for consumption in the State were looked after by various organizations like co-operative milk supply unions and societies, private dairies in addition to the Government livestock farms, Government Milk Factory and the private milkmen. The biggest of all the co-operative milk-supply unions is the Ayyanavaram Co-operative Milk Supply Union, which handles the largest quantity of milk serving the public of Madras City and its suburbs.

(b) *Private dairies.*—The private dairies that were functioning in the districts are detailed below :—

Districts.	Name of dairy.
(1) Madras	1 Loyola College Dairy, Nungambakkam Farm.
(2) Chingleput	2 Dairy Farm of Messrs. C.M.V.R. Agricultural Co-operation, Chunampet.
(3) Tiruchirappalli	3 St. Joseph's College Dairy Farm, Tiruchirappalli.
	4 Southern Railway Dairy Farm, Golden Roek.
	5 Central Jail Dairy Farm, Tiruchirappalli.
	6 Dalmia Dairy Farm, Dalmianagar.
(4) Madurai	7 Narendra Dairy Farm, Neikkarapatti.
	8 Dairy Farm, Idayakkottai.
	9 Dairy Farm, Angu Vilas, Dindigul.
(5) Tirunelveli	10 Vaniankulam Estate Dairy Farm.
	11 Denavoor Missionaries Dairy Farm.
	12 Dairy Farm, Agricultural Farms, Limited, Ramayampatti.
	13 Dairy Farm at T.V.S. Farm at Eravadi.
(6) Coimbatore	14 S. P. Subbaroya Gounder's Dairy Farm, Modakkurichi.
(7) Nilgiris	15 Municipal Dairy, Ootacamund.
(8) Malabar	16 Hebbar's Dairy Farm, Kalmandapam.
	17 Nambisan's Farm, Kalmandapam.
	18 Sri Krishna Dairy Farm, Vadakkanthurai.
	19 Parakulam Dairy Farm, Venganoor.
	20 Kakkoor Dairy Farm, Kozhikode.
	21 Ayinibad Dairy Farm, Badagara.

(ii) *Government Milk Factory, Teynampet.*—The Government Milk Factory, which was started under the Revenue Board, to augment the milk-supply to the city by supplementing with toned milk and reconstituted milk, was handed over to the Animal Husbandry Department on 1st October 1955 whence "Toned Milk" was produced exclusively instead of reconstituted milk. This was done with a view to supply fresh, clean, whole milk to the public at cheaper cost. This was done by toning up the buffaloes' milk in all its qualities. The toned milk produced at this factory was certified on investigation by the Bio-chemical Laboratory of Madras University to be as good as cow's milk in biological and nutritive values.

The factory was equipped with all necessary plants such as—

- (1) Refrigeration plant.
- (2) Milk pasteurisers.
- (3) Homogenisers.
- (4) Cooler.
- (5) Automatic refrigerating plant.
- (6) Bottle cleaning machine.
- (7) Can washing unit.
- (8) Boiler.
- (9) Milk Pump, etc.
- (10) Aluminium cap type bottling machine.
- (11) Milk vans (insulated).

The quantities of milk produced and sold during the period under report are detailed below :—

Toned milk produced—1,186,571.5 lb.

Toned milk sold—1,185,787.0 lb.

NOTE.—Four thousand lbs. of reconstituted milk produced were distributed free to the folk and children on 'More Milk Day'. Besides the toned milk, milk products such as ice cream, rose milk were also produced at the factory for sale to public at cheaper cost. Thus 21,813 lbs. of rose milk and 10,658 cups of ice cream were manufactured during the year.

The sale price of milk and milk products during the period are given below :—

Milk per bottle of 1 pint—Re. 0-5-0 (Re. 1 local Madras measure).

Ice-cream per cup of 3 oz.—Re. 0-2-6.

Rose milk per cup of 6 oz.—Re. 0-2-0.

Distribution of milk to the various parts of city was undertaken through regional distributors employed on commission basis.

2. SHEEP AND GOATS.

49. Though the State may be having a good proportion of sheep and goats in its livestock population, their quality and condition in respect of wool and meat production are not up to the standard as they are expected to be. The rearing of sheep in rural areas is mostly with the main object of manuring and not on commercial aspects of wool and mutton except in Nilgiris areas, where flocks of woolly sheep, that too of low quality are seen. The result was that the breeding and rearing of these were at the lowest standard and

the department had to take up the task of improving the sheep from all aspects, viz., breeding, care and management and wool production through persuasion, propaganda and demonstration. The development activities on sheep was carried out by the department through the Sheep Breeding Farm, Ootacamund, Sheep Breeding Station at Livestock Research Station, Hosur, and the three sheep shearing demonstration units at Coimbatore, Madurai and Cuddalore, Kancheepuram. Steps were taken to open a Sheep Breeding and Research Station at Chinna Salem and Sheep Demonstration Unit at Salem during the period. The details of location, area, etc., of the farms are furnished in Table XI (b) herein annexed.

A. Sheep.

(i) Sheep Breeding Farm, Ootacamund.

50. (a) The object of the farm is to standardize the present woolly sheep in Nilgiris in its wool qualities, to improve its carcass weight, to supply good stud rams to the public, to grade up the local sheep and to study the disease problems under farm conditions. The farm has also undertaken investigation to establish suitable grasses that will withstand the weather conditions of the area. For the purpose of improving the wool of local stock, both in quality and quantity of cross-breeding, ten Romney Marsh rams were received during the year from Australia.

(b) *Strength.*—There were 497 animals at the beginning of the period as against 475 in the last year.

There were 122 additions and 63 disposals as detailed below :—

Receipts.				Disposals.			
By births ..	..	..	122	By deaths ..	..	..	40
„ purchases ..	..	..	..	„ sale for breeding ..	..	..	15
			—	„ culling and auction ..	..	..	8
Total ..			122			Total	63

Thus there were 556 animals at the end of the year as against 497 in the last year. The breedwar and classwar details are given below :—

Breeds.	Rams.	Ewes.	Ram lambs.	Ewe lambs.	Total.	Cows.	Bullocks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Nilgiris	81	341	64	60	546	..	..
Romney Marsh	10	..	..	..	10	..	..
Romney-Nilgiris cross	..	..	..	..	..	..	..
Scindhi	..	..	..	..	..	1	..
Cross-breed	..	..	..	..	..	..	2
Total ..	91	341	64	60	556	1	2

(c) *Wool yield.*—During the period, only the 10 Romney Marsh rams were shorn in September 1956 which yielded 95 lb. of clean wool giving an average of 9.5 lb. per ram. Some of the best performances are detailed below :—

Ram number.	Wool yield in lb.
169	11 lb. 10 oz.
338	11 lb. 6 oz.
256	11 lb. 4 oz.

(d) *Season and rainfall.*—A total rainfall of 42·9 inches in 81 days was received during the year as against 56·52 inches in 82 days in the previous year.

(c) *Pasture and cultivation.*—18.85 acres of land were under cultivation during the year. Various exotic frost-resistant grasses were tried on this farm in addition to intensive cultivation of fodder crops such as berseem oats, maize, Italian rye and lucerns. It is noteworthy that the farm was continued to be self-sufficient in its fodder requirements. The fodder problem in the farm and in Ootacamund taluk was acute from November to April as the natural grasses of the area completely destroyed by frost besides the existing pasture grasses being very poor in nutritive value. Field trials to improve the existing pasture with frost-resistant variety of grasses were undertaken.

The following are some of the important exotic grasses and fodder plants tried in the farm :—

(i) Exotic Grasses—

Eragrostris Curirifa.

Dactylis Glomerata.

Lobium Parenne.

Fastuca Elabor.

(ii) Fodder plants—

Mehlotus Alba.

Kale (3 varieties—Marrow stemmed, Hungry Gap and Thousand headed).

(iii) Clovers—

White Clover.

Sweet Clover.

During the period 33,629 lb. of fodder grasses and leaves were cut as against 20,973 lb. in corresponding period of last year.

(f) *Soil conservation.*—The contour bunds, trenches and lines formed in the last year were maintained satisfactorily and rotational grazing was adopted to prevent erosion.

(g) *Incidence of diseases.*—It is worthy of mention that there was no incidence of contagious diseases during the period.

(h) *Mortality*.—There were 40 deaths during the period as against 9 in the same period of last year. The deaths were mostly due to debility and parturition at old age. The percentage of mortality worked out to 6.5 as against 3.6 in the same period of last year.

(ii) Wool Analysis Laboratory, Ootacamund.

The Wool Analysis Laboratory, Ootacamund, was established to analyse the wool of sheep of Sheep Farm, Ootacamund, in order to draw breeding programme and to watch the progress of the achievements made by adopting various better policies.

The equipments required for the laboratory have not yet been received due to the closure of Suez Canal though the orders were placed with the company long ago. With the available equipments

measurement of length of samples received from the Sheep Farm, Ootacamund, and estimation of modulation by the count method are being carried out.

A total of 484 samples were received from the Sheep Farm, Ootacamund, and the same were hand opened, washed in soft soap solution and then allowed to dry in the atmosphere temperature prevailing there in room. After drying 484 samples were analysed for mean length by the Burns Tant method. During the period 484 samples were analysed for medullation.

(iii) Livestock Research Station, Hosur.

51. (a) Sheep breeding is continued in this farm since 1st April 1938 when this farm was taken over by this department. The Indian Council of Agricultural Research was contributing up to 31st March 1952 towards the "Madras Sheep Breeding Scheme" started in this farm in 1938. Thereafter, the Madras Government had taken over the scheme.

(b) *Strength*.—There were 286 sheep at the beginning of the period as against 301 in the previous year. There were 45 additions and 57 disposals as detailed below :—

Additions.				Disposals.			
By birth	45			By culling and auction ..	21		
				„ deaths	13		
				„ sale for breeding ..	23		
Total ..	45			Total ..	57		

Thus at the end of the period there were 274 sheep as against 286 in the last year. The breedwar strength as on 31st October 1956 is given below:—

Breed.	Rams.	Ewes.	Ram lambs.	Ewe lambs.	Total.
Bikanir	18	59	19	17	113
Bellary	2	7	2	2	13
Mandhya	30	58	23	37	148
Total ..	50	124	44	56	274

(c) *Matings*.—The mating seasons were two, one in April-May and the other in October-November. The details of matings in the former seasons are given below :—

Bread and number.				Number of ewes put.	Number served.	Number lambd.
1	Bikanir R.	42	.. ..	19	19	11
2	Bikanir R.	62	.. ..	3	3	1
3	Bollary R.	796	.. ..	4	4	2
4	Mandya	18	.. ..	8	8	7
5	Do.	68	.. ..	8	8	7
6	Do.	7	.. ..	6	6	6

Breedwar fertility percentage worked out as follows :—

Bikanir—54.5 per cent.

Bellary—50 per cent.

Mandya—90.9 per cent.

(d) *Shearing*.—The sheep were usually shorn twice in a year after being washed and dried with improved shears and shearing machines. The details of shearing are given below :—

Breed.		Average number of sheep shorn.	Total yield of wool.		Average yield per head.	
			LB.	OZ.	LB.	OZ.
Bikanir	.. ..	83	123	8	1	7
Bellary	.. ..	10	14	8	1	7

Mandya flock was also shorn twice a year. During the period 92 sheep were shorn giving a total yield of 70 lb. of hair at an average of 12 oz. per head.

(e) *Wool yield*.—The study on wool yield of sheep sexwar was carried out as in the previous year and the details are given below :—

Breed.		During this period.			
		Adults.		Yearlings.	
		Rams.	Ewes.	Rams.	Ewes.
Bellary .. ..	.. ..	2.0	1.3	..	..
Bikanir .. ..	.. ..	2.3	1.2	2.3	1.14

Some of the best performances for the different breeds are given below :—

Breed.		Sex.	Tag number.	Wool yield.	
				LB.	OZ.
Bellary .. ..	.. ..	Ram	796	2	0
Do. .. ..	.. ..	Do.	934	2	0
Do. .. ..	.. ..	Ewe	873	1	8
Do. .. ..	.. ..	Do.	898	1	4
Bikanir .. ..	.. ..	Ram	65	2	8
Do. .. ..	.. ..	Do.	48	2	4
Do. .. ..	.. ..	Ewe	151	1	8
Do. .. ..	.. ..	Do.	22	1	8

Wool analysis was carried out by testing and recording the modulation percentage of each and every animal. All the wool was graded and sorted according to region of the body, colour, age, breed and quality.

(f) *Body weight*.—All sheep were weighed after shearing. Their average weight are furnished below :—

Breed.		Average body weight.			
		Rams.		Ewes.	
		LB.	OZ.	LB.	OZ.
(1)	(2)	(3)			
Bellary .. ..	.. ..	91	15	65	12
Bikanir .. ..	.. ..	61	5	50	1
Mandya .. ..	.. ..	68	10	54	9

(g) *Incidence of diseases*.—There were only 17 deaths as against 43 in the previous year. No contagious disease was prevalent during the period except John's disease which proved fatal in four animals.

(h) *Mortality*.—The percentage of mortality was 5.9 during the period as against 9.4 in the previous year.

(iv) *Sheep Shearing and Demonstration Units*.

52. The three sheep shearing and demonstration units at Coimbatore, Madurai, Cuddalore and Kancheepuram continued to function during the year. These units conducted intensive propaganda and visual demonstrations on better production and clean harvesting of wool, using improved shears, grading of wool, deworming and deticking. These units also trained workers on all the above subjects. Propaganda was also done on all aspects of sheep and goats husbandry such as improving the breed by selective breeding, castration of scrub males, adjusting the mating season in such a way as to get lambs in favourable seasons, advance protective inoculations against contagious diseases and better housing and feeding. For these purposes, breeding calendars have been drawn up for each region.

During the period one more unit was opened in September 1956 at Salem, for the benefit of ryots in Salem district.

The summary of work done by the units is furnished below :—

(i) Number of villages visited	478
(ii) Number of Shearing demonstrations conducted	49
(iii) Number of Sheep washed	2,722
(iv) Number of Shepherds trained	19
(v) Number of castrations done	780
(vi) Number of rams and bucks inspected	128
(vii) Number of sheep shorn	2,761
(viii) Number of sheep dewormed	6,662
(ix) Number of sheep deticked	18,909

(v) *Grading Scheme for Mutton Sheep at Hosur*.

53. The scheme for improving the mutton quality of the local sheep with Mandya rams in the Hosur taluk was continued during the period. Controlled mating with superior rams supplemented with systematic castration, deworming and deticking operations were undertaken in these villages, the benefits of which were well realized by the rural folk on seeing the good condition of graded up progeny. Ninety-three Mandya rams distributed in previous years were at stud in 15 villages. The details of work done in these areas are as follows :—

Number of sheep dewormed	883
Number of sheep deticked	1,441
Number of sheep washed and shorn	637
Number of rams castrated	169
Number of lambs born to approved rams inspected	176
Number of persons trained in shearing with improved shears	9
Number of sheep shows conducted	1

Additions.		Disposals.	
By births	45	By sale for breeding ..	4
		By culling and auction ..	14
		By deaths	
Total ..	45	Total ..	22

(e) *Tiruchirappalli district*.—During the year one Sheep Demonstration Unit was opened with headquarters at Tiruchirappalli. The staff of the Unit toured all over the district and did

Thus at the end of the year, there were 129 animals as classified below :—

Bucks	..	..	..	..	..	3
Does	..	..	..	..	..	45
Goatlings	..	..	..	..	..	15
Bucklings	..	..	..	..	..	18
Kids	..	..	..	..	..	48

The increase in strength was due to decrease in the number of disposals, viz., 22 this year than in previous year (67).

(c) *Diary*.—Out of 37 does in the herd on an average 21·6 were in milk and they yielded 1,028 lb. of milk with a daily individual average of 1·5 lb. over the goats in milk and 0·92 lb. over the goats in herd as against 1·5 and 1·0 respectively during the same period of previous year.

(d) Details of some of the good performers are given below :—

Number of does.				Total yield in lb.	Number of days in milk.	Daily average yield in lb.
16	..	..	..	792.50	241	3.3
52	..	..	..	347.75	137	2.5

(e) *Incidence of diseases.*—It will be gratifying to note the farm was free from any of the contagious diseases during the period under report.

(f) *Mortality*.—There were four deaths as against 13 in the previous year working out a percentage of 2·7 as against 7·5 in the previous year.

(viii) Development of goats through grading.

57. In addition to the above farm, bucks were distributed under different schemes and the services of bucks were also made available in Veterinary institutions in urban areas.

(a) *Bucks under various schemes—Madurai district.*—The Goat Breeding Association formed at M. Pathanadhi in Tirumangalam Block with 3 bucks and 14 does of Tellicherry breed continued to work well and had become a breeding centre. In Usilampatti Block Jamnabari bucks were distributed at 50 per cent cost under National Extension Service Scheme.

Malabar district.—There were two Jamnapari bucks stationed at Veterinary Hospital, Kozhikode, which had performed 112 services during the period. The tract for Tellicherry breed of goats is in this district and goat rearing is a common cottage industry of this area especially in coastal towns of this district.

South Kanara district.—There were five Tellicherry bucks, one under the male livestock distribution and four under scheme for improvement of milch goats which had performed 247 services. One hundred and forty-nine kids were born of these bucks of which 96 were inspected.

(b) *Bucks at stud in Veterinary Institutions.*—Pedigree bucks were stationed at Veterinary Institutions in the West Coast

districts, viz., Coimbatore, Malabar and South Kanara. The details of location are given below :—

Place of location.	Breed.	Number of bucks stationed.	Number of services performed during the year.	Number of kids born.	Number of kids inspected.
(1)	(2)	(3)	(4)	(5)	(6)
Veterinary Hospital, Coimbatore.	Tellicherry ..	1	64	21	21
Veterinary Hospital, Kozhikode.	Jamnabari ..	2	112	..	..
Veterinary Hospital, Mangalore.	Tellicherry ..	1	102	63	56

3. POULTRY.

58. Poultry development work in the State was undertaken through the Poultry Research Station, Teynampet, District Poultry Farm, Cannanore, Poultry Sections in the Livestock Farms at Hosur, South Kanara, Malabar and Orathanad, the poultry demonstration units at the various veterinary institutions and the poultry demonstration centres in rural areas. Besides being practical study centres for the public, pedigree birds and eggs were supplied to the public and on an intensive scale in areas under Key Village, Community Projects and National Extension Service Schemes at nominal cost and thus 2,509 birds and 13,567 eggs were distributed for rearing and hatching out respectively from these farms and units during the period.

The summary of work done at the various farms and units is detailed below :—

(i) *Livestock Research Station, Hosur.*

59. (a) In the poultry section, Livestock Research Station, Hosur, White Leghorn, Rhode Island Red and Black Minorca breeds of poultry were maintained. There was a total strength of 1,388 birds at the beginning of the period as against 475 in the previous year. There were 1,387 additions and 1,073 disposals during the year as detailed below :—

Additions.				Disposals.			
By hatch	..	..	1,387	By sale for breeding	..	..	323
				By culling and sale for table	..	..	527
				By transfer to other stations	..	..	13
				By deaths and destruction	..	..	191
	Total	..	1,387		Total	..	1,054

Thus at the end of the year there were 1,721 birds as against 1,388 in the last year.

There was reduction in the sale for breeding as the opening strength was very low on account of severe culling in the previous year as a measure to eradicate Avian Leucosis. The breedwar strength in the Farm is detailed below :—

			Cocks.	Hens.	Chicks.	Total.
White Leghorn	..	..	6	91	461	558
Rhode Island Red	..	..	9	105	938	1,052
Black Minorca	..	..	1	13	97	111
			16	209	1,496	1,721

(b) *Egg production.*—During the period 9,955 eggs were collected as against 3,972 eggs in the corresponding period of last year. There was considerable increase in the eggs produced on account of the fact that the strength of laying stock was also on the increase. The receipt and disposal of eggs are detailed below:—

Receipts.		Disposals.	
Opening balance	27	Kept for hatching	3,019
Collected during the period	9,955	Sold for hatching	357
		Transferred to other stations for hatching.	1,249
		Sold for table	4,366
		Broken and fed to chicks ..	523
		Free transfer to Artificial Insemination sections.	64
		Closing balance	404
Total ..	9,982		9,982

(c) *Percentage of hatchability.*—The overall percentage of hatchability for 3,019 eggs set for hatching was 45.9 as against 39.3 in the previous year.

(d) *Performance of birds.*—There were an average of 102.65 laying hens of all breeds which yielded 9,955 eggs giving an overall flock average of 97 eggs per hen as compared to 68.52 laying hens yielding 3,973 eggs with an average of 58 in the corresponding period of previous year. Breedwar performances are furnished below:—

Breed.	1956-57.		1st to 31st October 1956.	
	Average number of laying hens.	Total egg yield.	Average per hen.	
(1)	(2)	(3)	(4)	
White Leghorn	40.46	3,601	88.9	
Rhode Island Red	58.06	6,100	105.6	
Black Minorca	4.16	254	63.4	

The number of pullets that had completed their first year laying are given below breedwar with details of their performance:—

Breed.	Number of birds that completed their first year of laying.	Number of eggs laid in the pullet year.	Average egg yield.
White Leghorn ..	8	1,552	194.0
Rhode Island Red.	8	1,379	172.4
Black Minorca ..	3	323	107.7

(e) *Incidence of diseases.*—(i) *Avian Leucosis complex.*—This disease continued to be prevalent during the period accounting for 57 deaths. Visceral form of this disease was generally met with.

(ii) *Fowl pox.*—Nil.

(iii) *Coccidiosis.*—There were only 14 deaths on account of this disease.

(iv) The other conditions that were causing mortality are shown below:—

1 Hatched weak	51
2 Born cripple	8
3 Enteritis	8
4 Ruptured yolk	5
5 Crop bound	19
6 Unabsorbed yolk	9
7 Pullet Disease	1
8 Rupture of oviduct	3
9 Conjestion of brain	1
10 Pericarditis	1
11 Visceral Gout	1
12 Debility	5
13 Egg bound	1
14 Hæmorrhagic	3
15 Egg peritonitis	3

(f) *Mortality.*—There were 190 deaths as against 314 in the previous year. The percentage of mortality was 13.7 as against 14.1 in the previous year.

(ii) *Poultry Research Station, Teynampet, Madras.*

60. (a) This station was started in the year 1941 with a view to study (i) the performance of exotic birds under the existing environmental conditions, (ii) for production and supply of exotic birds of eggs to the public of the State, (iii) to study the potentialities like increased egg yield, body weight, etc., of local indigenous birds under farm conditions, (iv) to evolve thereupon by selective breeding a strain noted with increased production and (v) to serve as a central institution for training both departmental and private candidates in poultry husbandry.

The following breeds of exotic poultry were maintained in the farm during the year:—

(1) White Leghorn, (2) Rhode Island Red, (3) Black Minorca, (4) Light Sussex and (5) Brown Leghorn.

(b) *Strength.*—At the beginning of the period there were 3,534 birds as against 1,149 in the corresponding period of last year. During the period under report there were 1,456 additions and 3,108 removals as detailed below:—

Additions.		Disposals.	
By hatch	922	By sale for breeding	906
By receipt from other stations.	24	By sale for table	610
Purchased from abroad ..	510	By transfer to other stations ..	21
		By deaths and destructions ..	1,571
Total ..	1,456	Total ..	3,108

That at the end of the period there was a strength of 1,882 birds. The breedwar strength are as follows:—

Breed.	Cocks.	Hens.	Chickens.	Total.
White Leghorn	31	995	184	1,210
Rhode Island Red	28	221	124	373
Black Minorca	1	74	5	80
Light Sussex	2	5	17	24
Brown Leghorn	4	79	22	105
Indigenous	4	68	18	90
Total	70	1,442	370	1,882

(c) *Egg production.*—During the period 14,661 eggs were collected as against 4,912 in the corresponding period of last year. Receipt and disposals of eggs during the period are detailed below:—

Receipts.	Disposals.
Opening balance	201 Set for hatching
Number collected	14,661 Sold for hatching
Number purchased	400 Transferred to other stations
Received from other stations.	1,453 for hatching.
	Sold for table
	Feed to chicks
	Transferred to other stations for table.
	Closing balance
16,715	16,715

(d) *Performance of birds.*—Trap nesting was done for all the laying birds at the farm with a view to record the performance of individual birds breedwar. The breedwar details of performance are given below:—

Breed.	Average number of layers.	During the period.
		Number of eggs. Average yield.
White Leghorn	150.4	8,182 54.2
Rhode Island Red	69.1	3,805 54.3
Black Minorca	23.2	268 70.4
Indigenous	10.6	492 47.56
Light Sussex	19.4	1,012 55.9
Brown Leghorn	17.9	902 49.7

(e) *Percentage of hatchability.*—Out of a total 4,307 eggs set during the year, 922 chicks were hatched out a percentage of 21.4 as against 36.3 per cent in the previous year.

The low hatchability was due to the incidence of contagious Coryza and Avian Leucosis complex which devitalised the general system. Further mass scale hatching had to be adopted to raise a large number of chicks for meeting the requirements of the various schemes under the Second Five-Year Plan and almost every egg was incubated. A large number of available eggs were also obtained from the other farms for hatching which were subjected to condition during the transport that lowered the hatchability.

(f) *Incidence of diseases*—(i) *Contagious coryza.*—This disease was prevalent during the period in the farm resulting in the death of 342 birds. Drugs like 'Avisol' and 'dihydro streptomycin' were tried which afforded only temporary relief. Long range measures for the complete eradication of the disease were

also undertaken through raising of stock from the newly hatched ones under isolated rousp free conditions.

(ii) *Avian Leucosis Complex.*—This disease was also prevalent causing death of 327 birds during the period. Prophylactic measures by way of segregation and culling after blood test were adopted.

(iii) *Foul pox.*—There were 124 deaths owing to the outbreak of this disease during the period. Preventive vaccinations were carried out periodically.

(iv) *Coccidiosis.*—There were 89 deaths on account of this disease. Further spread of this disease was kept under control by rearing chicks on wire net flooring and periodical dosing of birds with Sulphamazathine.

(v) There were deaths due to other causes as detailed below:—

(1) Rupture of Liver	4
(2) Rupture of Oviduct	8
(3) Enteritis	32
(4) Hatched weak	303
(5) Congestion of Liver	3
(6) Crop bound	4
(7) Shock	4
(8) Egg peritonitis	11
(9) Spirochaetosis	4
(10) Wounds	229
(11) Debility	29
(12) Mongoose bite	4
(13) Ulcer-cloaca	1
(14) Endocarditis	1
(15) Accident	1

(g) *Mortality.*—One thousand five hundred and fifty-seven birds died during the period working out a percentage of 31.2 as against 18.9 in the previous year.

The large number of deaths in general were due to the high susceptibility and want of body resistance especially among the imported stock, in spite of taking all possible precautions and preventive methods. It is hoped that after acclimatization, the existing stock and their progeny would gain sufficient resistance and the mortality would be reduced to the minimum.

(h) *Investigation and research*—*Selective breeding among indigenous birds.*—The experiments under this programme could not be continued as exotic blood was observed to be mixed up in the experimental stock.

(i) *Education and training.*—The Poultry Research Station, Teynampet, which was hitherto a production-cum-research centre for poultry was made into an education centre for practical courses in poultry husbandry.

(ii) *Poultry husbandry course.*—A theoretical-cum-practical course in poultry husbandry extending for a period of four months was started to train out personnel to meet the demand for trained personnel for the various poultry development schemes under Second Five-Year Plan. The first batch of 12 candidates were admitted for the course with a stipend of Rs. 30 per mensem.

(iii) *Practical training in poultry-keeping for farmers.*—Under the pilot scheme of poultry development a training course extending for a period of six weeks for farmers from Block Development areas with a stipend of Rs. 20 per mensem per head was started and continued. Nine candidates were trained out of which eight completed the training successfully.

(iii) *Poultry Development Schemes in Madras State.*

61. (a) *All-India Poultry Development Scheme.*—In the last year the Government of India chose Madras as one of the centres for its implementation of the Pilot Scheme for Poultry Development mainly intended for improving poultry in the country which will provide better eggs and poultry meat.

The scheme envisaged the following items of works.—

(i) Rearing of 3,000 imported day old chicks at Poultry Research Station, Teynampet, up to an age of five months.

(ii) Location of Poultry Development Blocks in National Extension Service areas in consultation with departmental District Officers, Collectors and Block Development Officers, with 300 birds in each block by distributing them to persons in units of one cockerel, two pullets of five months' age at concessional rates of Rs. 2 per bird.

(iii) Starting of three demonstration forms with 200 birds each in places where no such forms or centres are visiting nearby already.

(iv) Distribution of 10 birds each for 20 persons in three towns or cities at concessional rate of Rs. 5 per bird.

(v) Training of selected persons from Block Development areas for a period of 1½ months with a stipend of Rs. 20 per month.

(vi) (a) Distribution of accessories like wire netting, etc., for protection of existing poultry to selected interested villagers. The scheme was merged with All-India Poultry Development Scheme sponsored under the Second Five-year Plan, during the period under report and the number of poultry demonstration centres to be opened was raised from 3 to 9.

(b) *Poultry demonstration centres.*—On the inspection made of several sites three were selected in the following places:—

- (1) Tiruvarankulam in Tiruchirappalli district;
- (2) Kothengudi in Tanjore district; and
- (3) Bhuvanagiri in South Arcot district.

These centres were started with a production stock of 100 adult birds in each centre.

(c) *Distribution of birds at concessional rates.*—Six hundred and twenty birds of White Leghorn and Rhode Island Red birds were distributed in units of 3 in National Extension Service and Community Project. Blocks at a concessional rate of Rs. 2 per bird and at a concessional rate of Rs. 5 per bird in City of Madras.

(d) *Training farmers from National Extension Service and Community Project areas in poultry husbandry.*—Nine farmers selected from development works were given practical training at Poultry Research Station, Teynampet, for a period of six weeks with a stipend of Rs. 20 per mensem.

(iv) *District Poultry Farm, Cannanore, Malabar.*

62. (a) This poultry farm opened in the year 1948, is situated at a distance of 4½ miles from Cannanore and White Leghorn and Rhode Island Red breeds of poultry are maintained here.

(b) *Strength.*—There were 530 birds at the beginning of the period as against 382 in the last year. During the period there were 565 additions and 653 disposals during the year as furnished below:—

Additions.		Disposals.	
By hatch	559	By sale for breeding	402
By receipt from other stations	6	By culling and sale for table	136
		By deaths and destructions	115
	565		653

Thus there were 442 birds at the end of the period. The strength under each breed are furnished below:—

Breed.	Cocks.	Hens.	Chicks.	Total.
Rhode Island Red	2	37	121	160
White Leghorn	9	80	193	282
Total	11	117	314	442

(c) *Egg production.*—During the period 5,092 eggs were collected in the farm as against 13,016 eggs in the last year. The receipts and disposals of eggs during the year are detailed below:—

Receipts.		Disposals.	
Opening balance	190	Kept for hatching	1,337
Collected during the year.	5,092	Sold for hatching	1,520
		Transferred to other stations.	150
		Sold for table	984
		Fed to chicks	1,039
		Closing balance	202
Total	5,282	Total	5,282

(d) *Percentage of hatchability.*—Out of 1,337 eggs set during the period 559 were hatched out giving a percentage of 41.4 as against 28.8 in the last year.

(e) *Performance of birds.*—(i) Out of 124 laying hens during the period 5,092 eggs were collected with an average of 44.1 eggs per hen as against 67.1 of the previous year. The decline is due to close in breeding and a great of laying hens having passed their peak yield.

(f) *Incidence of diseases.*—There was no outbreak of contagious in the farm on account of the fact that prophylactic measures were taken promptly during the year.

(g) *Mortality.*—There were 109 deaths as against 285 in the same period of last year working out to 9.9 per cent for the period.

(v) *District Livestock Farm, Koila, South Kanara.*

63. (a) A poultry section was continued to be run in this Livestock Farm with the following breeds:—

(1) White Leghorn, (2) Rhode Island Red and (3) Rhode Island Red Desi Cross.

(b) *Strength*.—There was a total strength of 318 birds at the beginning of the period as against 723. There was 751 additions and 626 disposals during the year as detailed below :—

Additions.			Disposals.		
By hatch	..	751	By sale for breeding	..	350
			By culling and sale for table.	..	27
			By death and destruction	..	249
Total	..	751	Total	..	626

Thus at the end of the period there were 443 birds as against 318 in the previous year. The breedwar strengths are furnished below :—

Breed.	Cocks.	Hens.	Chicks.	Total.
White Leghorn ..	6	36	122	164
Rhode Island Red ..	10	57	198	265
Rhode Island Red Cross Desi.	..	14	..	14
Total	16	107	320	443

(c) *Egg production*.—During the period 5,778 eggs were collected as against 10,038 in the whole of the previous year. Receipts and disposals of eggs during the year are detailed below :—

Receipts.		Disposals.	
Opening balance ..	198	Kept for hatching ..	1,930
Collections in the year ..	6,980	Sold for hatching ..	177
		Transferred to other stations for hatching.	531
		Sold for table ..	4,080
		Fed to chicks ..	161
		Closing balance ..	249
Total	7,178	Total	7,178

(d) *Performance of birds*.—(i) There were a total average number of 81.7 laying hens inclusive Desi Cross birds in the whole units which yielded 6,980 eggs. The breedwar egg yield and average yield are furnished below :—

Breed.	Average number of laying hens.	Total yield of eggs.	Average yield per hen per month.
White Leghorn ..	23.6	2,161	12.9
Rhode Island Red ..	41.6	3,617	12.5
Rhode Island Red Cross.	18.2	1,202	10.3

(ii) The details on the number of pullets that completed their first year of laying are shown below :—

Breed.	Average number of pullets that completed their first year of laying.	Number of eggs laid in pullet year.	Average egg yield.
White Leghorn ..	2	334	167.0
Rhode Island Red ..	8	1,292	161.5

(e) *Percentage of hatchability*.—Out of total of 1,930 eggs set for hatching, 751 chicks were received thus giving a percentage of 38.9.

(f) *Incidence of diseases*.—(1)—*Avian Leucosis*.—There were 31 deaths only on account of this disease. Suitable preventive measures were adopted to arrest the further spread of the disease.

(2) *Coccidiosis*.—There were eleven deaths only on account of this disease, as treatment of chicks with Sulphamezathine was undertaken in time.

(g) *Mortality*.—There were 249 deaths during the period working out a percentage of 23.3 as against 16.8 in the last year. Thirty-six per cent of the deaths were due to the fire accident occurred during the period.

(vi) District Livestock Farm, Orathanad.

64. The poultry section was opened in this farm on 10th July 1955 with a unit of White Leghorn and Rhode Island Red breeds.

(a) *Strength*.—There was a stock of 174 birds at the beginning of the period as against 44 in the last year. There were 107 additions and 80 disposals as detailed below :—

Additions.			Disposals.		
By hatch	..	107	By sale for breeding	..	52
By receipts from other stations.	..	..	By culling and auction	..	12
			By deaths	..	16
Total	..	107	Total	..	80

Thus at the end of the period there were 201 birds as against 174 in the previous year as detailed below :—

Breed.	Cocks.	Hens.	Chicks.	Total
White Leghorn ..	4	10	121	135
Rhode Island Red ..	3	10	53	66
Total	7	20	174	201

(b) *Egg production*.—During the period 1,652, eggs were collected as against 2,190 in the whole of previous year. The receipt and disposal of eggs are detailed below :—

Receipts.		Disposals.	
Opening balance ..	11	Kept for hatching ..	265
By collection ..	1,652	Sold for hatching ..	537
By transfer from other stations.	99	Sold for table ..	241
		Fed to chicks ..	479
		Transfer to other stations	180
		Closing balance ..	60
Total	1,762	Total	1,762

(c) *Percentage of hatchability*.—The overall percentage of hatchability for 265 eggs set for hatching was 40.1 as against 33.7 in the previous year.

(d) *Performance of birds.*—There were an average of 24.9 laying hens of all breeds which yielded 1,652 eggs giving an overall average of 66.34 per hen. Breedwar performances are detailed below :—

Breed.	Average number of hens.	Total egg yield.	Average yield per hen.
White Leghorn	14.9	1,185	79.5
Rhode Island Red	10.0	467	46.7

(e) *Incidence of diseases.*—It will be gratifying to note that the farm was free from contagious diseases during the period under report. There were only 16 deaths due to other conditions like hatched weak.

(f) *Mortality.*—There were 16 deaths only as against 63 deaths in the previous year working out a percentage of 5.7 as against 202 in the last year.

(vii) *Poultry Development in districts.*

65. Poultry rearing a cheap source for an essential valuable human food was encouraged in both rural and urban areas by various means, namely :—

(i) supply of exotic pedigree birds and eggs at nominal cost from Government farms and demonstration units;

(ii) subsidizing the existing private farms;

(iii) through distribution of birds and eggs free of cost or at half cost in the areas under National Extension Service and Community Project;

(iv) opening of model units in Community Projects, National Extension Service areas; and

(v) rendering of free technical aid to the private poultry farms.

66. *Poultry Demonstration Units in Veterinary Institutions.*—There were 19 demonstration units attached to Veterinary institutions at beginning of the period.

During the period the unit at Veterinary Hospital, Ootacamund, was revised and eight more units were transferred from Community Projects Scheme to this department on the conversion of this scheme into National Extension Service pattern. Thus at the end of the period there were 28 units functioning. Consequent to the reorganization of States the two units in South Kanara and Malabar districts were transferred to respective States on 1st November 1956.

The breeds maintained, number of birds in stock, receipt and disposals of egg in each of these units are furnished in statement annexed to this report.

A total number of 476 exotic birds for breeding and 31 birds for table were sold as against 1,576 and 31 respectively in the whole of last year. A total number of 8,919 eggs on sale to public for hatch and 2,253 eggs for hatching in institutions were used during the period as against 16,990 eggs and 3,970 eggs respectively during the year. 50.71 per cent of the total eggs received from these units were utilised for hatching during the period.

67. (a) *North Arcot district.*—(1) The American Arcot Mission Farm was continued to be given the subsidy during the year for running the 12 model poultry units in this district and a sub-farm at Arni.

(i) The 12 model poultry units distributed 123 cockerels at the rate of Rs. 3 per cockerel to be concentrated within a radius of 25 miles from Katpadi in Madras State to grade up the local birds. The Central Farm was paid a subsidy of Rs. 3 for each cockerel sold. The details of work are given below :—

(1) Cocks distributed	123
(2) Eggs collected	13,965
(3) Eggs sold for table	..
(4) Eggs sold for hatching	10,515
(5) Eggs set for hatching	3,420
(6) Demonstrations arranged	8
(7) Exhibitions conducted	2

(ii) The sub-farm at Arni continued to function during the year with White Leghorn birds. The farm distributed 13 cockerels at the rate of Rs. 2 and it was paid a subsidy of Rs. 4 per bird. The details of work are given below :—

(1) Cocks distributed	13
(2) Eggs collected	1,291
(3) Eggs sold for table	..
(4) Eggs sold for hatching	905
(5) Eggs set for hatching	386
(6) Demonstrations arranged	7
(7) Exhibitions conducted	1

(2) *Pilot scheme for chick hatchery and poultry processing, subsidized by Indian Council of Agricultural Research at American Arcot Mission Farm, Katpadi.*—This scheme was sanctioned by Indian Council of Agricultural Research during the last year for incurring a sum of Rs. 2,31,320 and was in operation from 1st June 1955 within a radius of 10 miles from Katpadi.

The object of the scheme is to hatch out 20,000 chicks a year and to rear them for four months when they are to be sold at the rate of Rs. 1-8-0 per bird or in exchange for a Desi fowl. The Desi fowls so collected have to be slaughtered and kept in refrigeration for being sold to public through the Co-operative Egg Marketing Society together with the sale of table eggs. The Mission has to import 1,000 chicks from abroad to be reared for four months and then distributed among 20 to 25 farmers who will supply eggs for hatch.

During the period the following 14 units were functioning :—

Particulars.	Breed.	Number of birds.
Sholamur	White Leghorn ..	75
Shenguttai	Do. ..	48
Ullipuliur	Do. ..	90
Adukkamparai-I	Do. ..	78
Chellavur	Rhode Island Red.	50
Sathuvachari	White Leghorn ..	39
Narasimapuram	Rhode Island Red.	47

Particulars.	Breed.	Number of birds.
Adukkamparai-II	White Leghorn ..	48
Tiruvalam	Do. ..	50
Karugambathur	Do. ..	97
Salavanpet	Do. ..	48
Ramanaikanpalayam ..	Do. ..	43
Puttuthakku	Do. ..	50
Serkadu	Do. ..	90

There were 2,512 chicks at the beginning of the year. The hatchery section has collected 11,950 eggs and 11,941 eggs were set at the section and 5,250 chicks were hatched of which 2,183 were distributed, 1,819 died, 162 were destroyed and there was a stock of 3,598 chicks at the end of the period.

(3) *Scheme of subsidising private Poultry Farm under Second Five-Year Plan.*—The private poultry farm at Gudiyatham owned by Sri Parasuraman was recommended for the subsidy under this scheme. This farm has an opening stock of 102 birds during the period with a receipt of 628 birds by hatch and disposal of 318 by way of sale for breeding purposes. There was a total collection of 13,602 eggs in the farm during the period besides 170 eggs received from outside for hatching. Thirteen thousand six hundred and two eggs were sold out to public for hatching.

In the six blocks under National Extension Service Scheme, 35 units were functioning with strength of 216 birds. Nine hundred and sixty-one eggs were set for hatching in these units and 857 eggs were sold to the public for hatching. Besides these units 24 cockerels of exotic breed were distributed in rural parts for grading up local indigenous breed.

(b) *Tirunelveli district.*—In addition to the two Poultry Development Units attached to the Veterinary Institutions at Tirunelveli and Cheramahadevi, three more units were functioning in the National Extension Blocks at Sankarankoil, Kuruvikulam and Koilpatti. Three hundred and thirty-eight exotic birds were distributed in villages for raising backyard units.

(c) *Madurai district.*—(1) There were 12 private breeders at Bodinaickanoor, Madurai, Usilampatti, Thirumangalam, Uthampalayam and Panaipuram with exotic breeds like White Leghorn, Rhode Island Red, Plymouth Rock and Black Minorca. Besides the five Government Poultry Demonstration units in Block areas and Veterinary Institutions nine poultry units with private individuals were started during the period in the block areas.

(2) *Poultry Farm at Basic Agricultural Training Centre, T. Kallupatti.*—This farm is run with a units of Rhode Island Red birds with a view to impart practical training in poultry husbandry to the Gramasevak Trainees, trained out of this centre for work in National Extension Service Schemes. Birds and eggs were also sold for breeding to the public of the area.

At the beginning of the year there were 5 cocks, 32 hens and 35 chicks of Rhode Island Red breed and 9 Desi hens. During the year 1,543 eggs were collected of which 1,398 were sold to Public for hatching and Table purposes. Fifty-one birds were

sold to public for rearing. At the end of the year there were 5 cocks, 27 hens and 26 chicks of Rhode Island Red breed and 8 Desi hens.

Grading up the local indigenous poultry through distribution of exotic cocks was also undertaken in Block areas. One poultry demonstration unit with Black Minorca breed was opened in Bodinaickanoor block under National Extension Service Scheme.

(d) *Malabar district.*—In addition to the District Poultry Farm at Cannanore and Poultry Demonstration Units at Veterinary Hospital, Kozhikode, there were Government poultry units at the Androth Island and at Artificial Insemination Centre, Palghat, with Rhode Island Red breed.

In National Extension areas 13 backyard units were started and 20 exotic birds were distributed. One poultry co-operative society was also started during the period.

(e) *South Arcot district.*—Besides the two poultry demonstration units attached to the Veterinary Institutions at Cuddalore and Kallakurichi, there was a poultry sub-unit at Muttathur opened by the American Arcot Mission, Katpadi under the Poultry Subsidy Scheme. One hundred and seventy-one exotic birds were distributed in National Extension Service areas for raising backyard units in villages.

(f) *Salem district.*—There were two poultry farms subsidized by Government one at Melur and the other at Gandhi Ashram, Tiruchengode. There is a poultry farm in Livestock Research Station, Hosur. There were 20 more small poultry units raised in this district both in and out of National Extension Service areas. Two hundred and eighty-two exotic birds and 2,807 exotic eggs were distributed in National Extension Service areas for raising backyard poultry units.

(g) *Nilgiris district.*—One poultry demonstration unit which was closed in the previous year was started again this year under National Extension Service funds, 232 birds were distributed in villages for developing backyard poultry keeping.

(h) *Chingleput district.*—There were two poultry demonstration units in the veterinary institutions at Kancheepuram and Kaliyampoondi. There were 7 private poultry farms in the district in the areas outside the National Extension Service Scheme. In the National Extension Service areas 973 exotic birds and 3,186 eggs were distributed to raise backyard units in villages.

(i) *South Kanara district.*—In addition to the poultry demonstration unit at Mangalore, and the Poultry Section of District Livestock Farm at Koila, a poultry unit at Kinnigoli with a strength of 64 birds was functioning under Community Project Scheme. This was transferred to this department on 1st October 1956 consequent to the closure of the Community Project Scheme. Eighty-five birds and 172 eggs were sold for breeding purposes. Backyard poultry units were raised in National Extension Service areas through the distribution of 102 birds and 875 eggs for hatching.

(j) *Coimbatore district*.—Besides the poultry demonstration units attached to the veterinary institutions at Erode, Dharapuram, Tiruppur, Kavandapady, Malayampalayam, and Pollachi, one poultry extension centre at Palayamkottai was opened under All-India Poultry Development Scheme. There was a private poultry farm at Modachur in Gobichettipalayam taluk with about 8 breeds of exotic variety. This farm was taken under the scheme for subsidy to private poultry breeders and Associations of the State Government. Five hundred and sixty-seven exotic birds and 1,591 eggs were distributed in villages of National Extension Service blocks for raising backyard poultry units.

(k) *Tiruchirappalli district*.—There is a poultry demonstration unit at Veterinary Hospital, Pudukkottai. The Poultry Farm at Central Jail continued to function during the year with White Leghorn. The 34 poultry units organized in the last year under the guidance of the departmental staff continued to function during the period. Fifty-four units of exotic birds were organized in National Extension block areas, 1,826 exotic birds and 102 exotic eggs were also supplied in villages for raising backyard poultry units.

(l) *Ramanathapuram district*.—In addition to the poultry demonstration centre at Veterinary Dispensary, Devakottai, the poultry production centre at Malli in Rajapalayam block continued to function with a unit of White Leghorn birds with a view to grade up local Desi birds at the Centre itself on an intensive scale for distribution in all National Extension Service blocks of the district. During the period there were 10 exotic birds, 54 birds of Graded variety and 4 Desi hens. A total number of 2,057 exotic and cross-breed eggs were collected during the period. One hundred and sixty exotic birds and 970 exotic eggs were supplied in villages of National Extension Service areas for raising backyard units.

(m) *Tanjore district*.—There were 2 poultry demonstration units of this department at Veterinary Hospital, Tanjore and Nagapattinam and a poultry production centre at Saliangalam. In the poultry production centre at Saliangalam there were 49 White Leghorn birds and 53 birds of Desi and graded varieties, during the period. A total number of 1,513 eggs were collected of which 546 exotic eggs were sold for hatching. A poultry farm was opened at Kothangudy of Kumbakonam North Block under Second Five-Year Plan. Seventy-six exotic birds were distributed in National Extension Service areas.

4. HORSE BREEDING.

69. Horse breeding in this State is not up to the standard in the rural and urban areas of this State except among Race Horses in Madras City and Ootacamund, as mostly ponies only are maintained in other areas for transport purposes.

With a view to develop the local stock of ponies, stallions were maintained in veterinary institutions at Pollachi, Tiruppur and Erode in Coimbatore district and in Livestock Research Station, Hosur.

The number of services performed by the stallions at veterinary institutions are given below:—

	Place of location.	Number of services.
Pollachi		21
Erode		23
Tiruppur		27

In the Livestock Research Station, Hosur, 2 stallions, 2 mares, 1 filly and 1 filly foal were maintained during the period. One stallion issued from the farm to the Pattagar of Palayakottai during the last year was maintained for stud purposes during this year also.

5. PIG REARING.

69. Pig rearing with exotic breeds in the State was not common during the year except for a few people, who were interested in rearing exotic pigs, details of which are given below:—

Chingleput district.—A farm consisting of 50 pigs including Berkshire breed of pigs was maintained by Messrs. R. N. Buck at Pudupakkam village.

Tirunelveli district.—A small farm with 19 pigs of exotic breed, viz., African Yorkshire was maintained by Mr. Thanapandian at Mulakad near Tuticorin.

Tiruchirappalli district.—Berkshire breed of pigs were maintained in the district by private bodies and persons as detailed below:—

- (1) St. Joseph's College, Tiruchirappalli.
- (2) St. Paul Seminary, Tiruchirappalli.
- (3) Dr. Rajan's Farm, Vengimalai.
- (4) Sri Thangarajan, Amoor.

6. TRADE IN LIVESTOCK.

70. Trade in livestock is generally carried on, in the State through weekly cattle shandies and annual cattle fairs. There are a number of such weekly shandies and cattle fairs in almost all the districts. There is a daily cattle market at Tiruvottiur in Chingleput district managed by the Tiruvottiur Cattle-Breeding and Marketing Society.

The Tirunelveli district is noteworthy for having as many as 14 cattle fairs in a year from October to February, each of which has a duration of 15 days. In the Ramanathapuram district, sheep and goats were exported from the ports of Kilakarai and Tondi to Kats in Ceylon. Cattle were brought into the South Kanara district from the neighbouring districts of the Mysore and Bombay States through recognized routes and ghats, viz., Hosangady, Chowmady, Shirmady and Bisle. Cattle and ponies from Mysore and Andhra States were also brought into the shandi at Tiruvannamalai in North Arcot district.

The prices of work-bullocks, she-buffaloes and sheep prevailing at the important cattle market were reported to the Director of Statistics, Madras.

A statement showing the export and import of livestock and livestock products during the year as made available by the Assistant Collector of Customs, Madras, is furnished in Part II of this report.

71. The details of export and import of livestock from the Madras State and the average prices for the year for hides and skins in Madras City and Dindigul as furnished by the State Marketing Officer are given below :—

Statement showing the prices of hides and skins in Madras City for the period from 1st April to 31st October 1956.

Month.	Cow hides 5-5½ lb.			Buffaloes 12-13 lb.			Cow calf 1½ lb.			Goat prime.			Sheep prime superior.		
	(2)			(3)			(4)			(5)			(6)		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
April 1956 ..	2 3 6	to	2 6 0	1 8 6	to	1 9 0	3 6 0	to	3 10 0	4 14 0	to	5 4 0	6 4 0	to	8 0 0
May 1956 ..	2 3 0	to	2 5 0	1 8 0	to	1 9 0	3 2 0	to	3 6 0	4 14 0	to	5 4 0	6 14 0	to	8 0 0
June 1956 ..	2 2 0	to	2 4 0	1 8 0	to	1 9 0	3 2 0	to	3 6 0	5 2 0	to	5 14 0	6 12 0	to	7 14 0
July 1956 ..	2 2 0	to	2 4 0	1 8 0	to	1 9 0	3 2 0	to	3 6 0	4 12 0	to	5 2 0	6 12 0	to	7 14 0*
August 1956 ..	2 5 0	to	2 7 0	1 8 0	to	1 9 0	3 4 0	to	3 8 0	5 4 0	to	6 0 0	4 6 0	to	8 0 0
September 1956 ..	2 3 0	to	2 5 0	1 8 0	to	1 9 0	3 2 0	to	3 8 0	5 2 0	to	6 0 0	6 12 0	to	7 14 0
October 1956 ..	2 1 6	to	2 3 6	1 8 0	to	1 9 0	3 2 0	to	3 8 0	5 2 0	to	6 0 0	6 12 0	to	7 14 0
Imports.															
	Cattle.			Sheep and goats.			Others.								
From other States ..	3,413			1,248			77								
From Foreign Countries ..	..			..			3,336								
Exports.															
	Cattle.			Sheep and goats.			Others.								
To other States ..	..			..			3,043								
To Foreign Countries ..	..			..			16,478								
	..			..			3,063								
	..			..			1,403								

Statement showing the prices of hides and skins in Dindigul market for the period from 1st April to 31st October 1956.

Month. (1)	Cow hides.			Goat skins.		Sheep skins.	
	Superiors. (2)	Average. (3)	Inferior. (4)	A.Q. (5)	M.Q. (6)	Superior. (7)	Inferior. (8)
	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.	Price per lb. Rs. A. P.
April 1956 ..	0 10 9	0 9 3	0 8 6	1 3 6	0 14 6	1 1 0	0 13 0
May 1956 ..	0 10 3	0 8 9	0 8 3	3 6	0 14 6	1 1 9	0 13 0
June 1956 ..	0 10 3	0 8 9	0 8 3	1 3 6	0 14 6	1 1 9	0 13 0
July 1956 ..	0 10 3	0 8 9	0 8 3	1 3 6	0 14 6	1 1 9	0 13 0
August 1956 ..	0 10 9	0 9 3	0 8 9	1 4 6	1 14 6	1 3 0	0 15 6
September 1956 ..	0 10 3	0 8 9	0 8 3	1 3 6	0 14 6	1 4 3	0 15 9
October 1956 ..	NA.	NA.	NA.	NA.	NA.	NA.	NA.

NA. = Not available.

A.Q. = A quality.

M.Q. = Mean quality.

7. COLLECTORS DISCRETIONARY GRANT.

72. The grants available at the discretion of Collectors of districts were also availed of during the period towards the livestock development activities as detailed below :—

(a) *Madurai district.*—A sum of Rs. 200 was utilised towards the award of prizes in the Cattle-cum-Poultry Show conducted during the Second Five-Year Plan Publicity week.

(b) *South Arcot district.*—A sum of Rs. 200 was utilised towards " More Milk Day Celebrations " for the free distribution of milk to children.

(c) *Coimbatore district.*—A sum of Rs. 180 was sanctioned towards the Cattle Shows held at Tiruppur and Erode.

(d) *Tiruchirappalli.*—A sum of Rs. 550 was sanctioned as detailed below :—

	RS.
Towards one-day Cattle Shows	150
Award of cash prizes to ryots interested in Cattle Improvement	200
Award of cash prizes to ryots interested in Poultry Development	100
Award of cash prizes to ryots interested in Fodder Cultivation	100

8. RECEIPTS AND EXPENDITURE IN VARIOUS FARMS.

73. Total receipts and charges in the various farms of this department during the period are given below :—

Place.	Receipts in 1st April to 31st October 1956.		Expenditure in 1st April to 31st October 1956.	
	RS.	NP.	RS.	NP.
Livestock Research Station, Hosur.	50,806	00	1,65,178	46
District Livestock Farm, Orathanad.	22,428	17	81,560	31
District Livestock Farm, Pudukkottai.	12,825	44	56,452	14
Sheep Farm, Ootacamund ..	858	63	17,218	42

Place.	Receipts in 1st April to 31st October 1956.		Expenditure in 1st April to 31st October 1956.	
	RS.	NP.	RS.	NP.
Poultry Research Station, Teynampet.	4,970	77	20,196	45
District Poultry Farm, Cannanore.	1,967	08	29,748	77
District Livestock Farm, Tiruvazhamkannu.	14,308	59	73,534	23
District Livestock Farm, South Kanara.	26,470	02	64,481	97

The expenditure during the year as a whole was less than in the previous year in District Livestock Farm, Orathanad and Sheeping Farm, Ootacamund. The expenditure was slightly higher than last year in Poultry Research Station, Teynampet. The increase in expenditure in the case of the farms (viz.), Livestock Research Station, Hosur and District Livestock Farm, Pudukkottai, was due to the implementation of Second Five-Year Plan Schemes like Soil Conservation Scheme at Livestock Research Station, Hosur, etc.

There was considerable increase in receipts at Livestock Research Station, Hosur, District Livestock Farm, Pudukkottai and Poultry Research Station, Teynampet.

CHAPTER VI—VETERINARY HEALTH SERVICE.

74. The different kinds of diseases among livestock in the State were attended to by the departmental Veterinary Institutions opened at various centres depending upon the demand from the public and the need of the area concerned. These institutions in general are intended for the treatment of cases both surgical and medical, for the castration of scrub animals and to serve as infirmaries for the animals remanded under the Society for Prevention of Cruelty to Animals Act and to conduct post-mortem on dead bodies brought by both the public and the Police.

The patients that are taken to the institutions are given treatment free of cost provided the monthly income of their owners does not exceed Rs. 200 per month. Facilities for treatment of cases as in-patients are also provided in all the hospitals and important dispensaries.

Though these institutions were originally intended for attending to the clinical side in the past, about a score of years back, later on, the activities relating to the development aspect were also gradually introduced in most of the major institutions. Thus, in these institutions pedigree bulls, bucks and stallions of various breeds are maintained for breeding purposes through natural services and artificial insemination besides the establishment of demonstration poultry units. The details of these activities are given in the following chapters on "Livestock." Clinical laboratories were also added on to the important institutions for prompt diagnosis and treatment of disease both at hospitals and in the field.

75. *Veterinary Institutions.*—There were in all 104 veterinary hospitals and dispensaries at the beginning of the year. Fourteen veterinary dispensaries were transferred to this department from the Community Project and Community Development areas on their conversion into National Extension Service Pattern in the following districts:—

Districts.	Number of dispensaries handed over.
Chingleput	1
South Arcot	1
Coimbatore	4
South Kanara	3
Madurai	4
Tirunelveli	1

Thus at the end of the period there were 118 institutions (veterinary hospitals 35, veterinary dispensaries 83) excluding the four veterinary institutions in the Madras City maintained by Madras Corporation.

Fifty-seven institutions were located in Government buildings of which 25 buildings were electrified. Ten institutions were equipped with refrigerators and 30 institutions with microscopes. In all, the departmental institutions, a total number of 187,144 cases were treated and 31,141 castrations were done as against 251,568 cases treated and 43,134 castrations in the whole of last year. The number of cases treated and castrations done in some of the important institutions are given below:—

Institutions.	Number of cases treated.	Number of castrations done.
1. Veterinary Hospital, Madras Veterinary College.	8,913	35
2. Veterinary Hospital, Coimbatore.	4,880	154
3. Veterinary Hospital, Saidapet.	4,634	45
4. Veterinary Dispensary, Madurai City.	4,154	424
5. Veterinary Hospital, Salem.	3,886	84
6. Veterinary Hospital, Tiruchirappalli.	3,360	265

The districtwar details of veterinary institutions and progress are given below:—

(i) *Madras City.*—There were two veterinary hospitals, one at Saidapet and the other at the Madras Veterinary College, Vepery, in addition to the Veterinary Dispensary at Royapuram which was located in a rented building. The veterinary hospital at Saidapet was electrified and equipped with a refrigerator. In the veterinary institutions at Saidapet and Rayapuram 7,099 cases were treated and 48 castrations were performed during the period as against 12,078 cases and 74 castrations in the whole of the previous year. In the hospital attached to the Madras Veterinary

College 8,913 cases were treated and 35 animals were castrated. The other details are furnished in Chapter III.

There were, in addition, 4 veterinary dispensaries maintained by the Madras Corporation, where during the period under review, 16,298 cases were treated and 18 animals were castrated.

(ii) *Chingleput district*.—There were 7 veterinary institutions located as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Kancheepuram.
Veterinary dispensary	2 Kaliyampoondi.
	3 Tirukkalikundram.
	4 Tiruvallur.
	5 Madurantakam.
	6 Chingleput.
	7 Ponneri.

Government buildings were provided for the first three institutions and the rest were accommodated in rented buildings. The veterinary dispensary at Chingleput was equipped with a refrigerator for cold storage purposes. The veterinary dispensary at Chingleput was also equipped with a microscope.

During the period 9,345 cases were treated in these institutions and 1,464 castrations were done as against 15,842 cases and 2,937 castrations in the whole of last year.

(iii) *North Arcot district*.—There were seven institutions during the period, which were located in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Vellore.
	2 Thiruvannamalai.
	3 Ranipet.
Veterinary dispensary	4 Arkonam.
	5 Tiruppattur.
	6 Vaniyambadi.
	7 Kilpennathur.

The veterinary hospitals were located in Government buildings whereas all the veterinary dispensaries had to be located in rented buildings. A refrigerator was supplied to the Veterinary Hospital at Vellore.

In these institutions 10,713 cases were treated and 1,616 castrations were performed during the period as against 15,789 cases and 3,295 castrations in the whole of previous year.

(iv) *South Arcot district*.—There were six veterinary institutions inclusive of the veterinary dispensary at Pinnalur transferred from the Community Project area during the period. They were situated at the following centres :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Cuddalore.
	2 Kallakurichi.
Veterinary dispensary	3 Chidambaram.
	4 Tindivanam.
	5 Kattumannarkoil.
	6 Pinnalur.

Both the hospitals were located in Government buildings whereas all the veterinary dispensaries were located in rented buildings.

During the period 8,411 cases were treated and 1,371 castrations were done as against 13,216 cases and 2,262 castrations in the whole of previous year.

(v) *Salem district*.—There were five institutions in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Salem.
Veterinary dispensary	2 Krishnagiri.
	3 Namakkal.
	4 Tiruchengode.
	5 Mettur Dam.

All the above institutions were located in rented buildings except the veterinary hospital at Salem for which Government buildings existed. The veterinary hospital at Salem was also equipped with a refrigerator and a microscope.

In these institutions 8,733 cases were treated and 648 castrations were done during the period as against 15,325 cases and 1,066 castrations in the whole of the last year.

(vi) *Tirunelveli district*.—There were six veterinary institutions in the district including the Veterinary Dispensary at Cheranmahadevi which was handed over to us from the Community Projects area. These institutions were located as follows :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Tirunelveli.
Veterinary dispensary	2 Sivagiri.
	3 Cheranmahadevi.
	4 Tuticorin.
	5 Kadayannallur.
	6 Tenkasi.

The above institutions were located in rented buildings except the first three which were housed in Government buildings. The veterinary hospital, Tirunelveli, was equipped with a refrigerator for cold storage purposes and a microscope for examination of specimens.

In the above institutions 5,435 cases were treated and 1,948 castrations were done during the year as against 9,329 and 3,206 respectively in the whole of previous year.

(vii) *Madurai district*.—During the period this district was bifurcated as Madurai (South) and Madurai (North) under the control of separate District Veterinary Officers. The details of work in each are shown below separately. There were 10 veterinary institutions in Madurai district at the beginning of the period and consequent to the bifurcation of the district, 4 institutions were transferred to Madurai North.

(a) *Madurai South*.—There were 8 institutions in this district inclusive of the 2 institutions at Melur and Chatrapatty

which were transferred from Community Projects scheme as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Tallakulam.
	2 Periyakulam.
Veterinary dispensary	3 Madurai.
	4 Melur.
	5 Chatrapatty.
	6 Tirumangalam.
	7 Cumbum.
	8 Bodinaickanoor.

The first five institutions were located in Government buildings. The Veterinary Dispensary, Madurai, was also equipped with a microscope and a refrigerator. During the period 20,221 cases were treated and 4,582 castrations were done at these institutions as against 23,121 cases and 5,683 castrations in the whole of last year.

(b) *Madurai North*.—There were six institutions as shown below inclusive of the two institutions transferred from the Community Project area to this department.

Kind of institutions.	Place of location.
Veterinary hospital	1 Kodaikanal.
Veterinary dispensary	2 Dharmathupatty.
	3 Pallapatti.
	4 Dindigal.
	5 Palani.
	6 Sholavandan.

The first three institutions were located in Government buildings and the rest in rented buildings. During the period 12,918 cases were treated and 1,280 castrations were performed as against 12,385 cases and 1,134 castrations in the whole of previous year.

(viii) *Tanjore district*.—During the period this district was also bifurcated into Tanjore East and Tanjore West under the control of separate District Veterinary Officers.

(a) *Tanjore West*.—In Tanjore West there were 1 institutions at the beginning of the period and subsequent to bifurcation of this district, 9 institutions were transferred to Tanjore East. Thus at the end of the period there were 8 institutions as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Tanjore.
	2 Kumbakonam.
Veterinary dispensary	3 Arantangi.
	4 Pattukkottai.
	5 Orathanad.
	6 Papanasam.
	7 Thiruvaiyaru.
	8 Tiruppanandal.

The first three institutions were in Government buildings and the rest were in rented buildings. Microscopes were provided in institutions at Tanjore and Kumbakonam. A refrigerator was

provided in the veterinary hospital at Tanjore. During the period 11,806 cases were treated and 2,733 castrations were performed as against 22,267 cases and 5,374 castrations in the whole of previous year.

(b) *Tanjore East*.—There were 9 institutions in this zone as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Nagapattinam.
	2 Tiruvarur.
	3 Mannargudi.
Veterinary dispensary	4 Thiruthuraiipoondi.
	5 Mayuram.
	6 Konerirajapuram.
	7 Koradacheri.
	8 Sirkazhi.
	9 Nannilam.

The first five institutions were in Government buildings the next two were in rent free buildings and the last two were in rented buildings. Institutions at Tiruvarur, Nagapattinam and Mannargudi were equipped with microscopes. During the period 13,964 cases were treated and 4,225 castrations were performed in these institutions as against 18,218 cases and 5,353 castrations in the whole of last year.

(ix) *Tiruchirappalli district*.—During the period, this district was also bifurcated into Tiruchirappalli (South) and Tiruchirappalli (North) under the control of separate District Veterinary Officers. At the beginning of the period there were seven institutions and consequent to bifurcation 3 institutions were transferred to Tiruchirappalli North and 4 to Tiruchirappalli South.

(a) *Tiruchirappalli (South)*.—There were four institutions as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Tiruchirappalli.
	2 Pudukkottah.
Veterinary dispensary	3 Karur.
	4 Manapparai.

The first two institutions were located in Government buildings and the rest were in rented buildings. The institutions at Tiruchirappalli was provided with a refrigerator and a microscope and the veterinary hospital at Pudukkotta was provided with a microscope. In all these institutions 6,980 cases were treated and 840 castrations were performed as against 19,249 cases and 3,905 castrations in the whole of last year.

(b) *Tiruchirappalli (North)*.—There were three institutions as shown below :—

Kind of institutions.	Place of location.
Veterinary dispensary	1 Ariyalur.
	2 Lalgudi.
	3 Musiri.

The institution at Ariyalur was located in Government building and the rest were in rented buildings. In all these institutions 3,996 cases were treated and 1,234 castrations were performed during the period as against 7,477 cases and 2,666 castrations in the whole of last year.

(x) *Ramanathapuram district*.—There were seven veterinary institutions in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Rajapalayam. 2 Sivaganga.
Veterinary dispensaries	3 Devakkottai. 4 Ramanathapuram. 5 Virudhunagar. 6 Srivilliputhur. 7 Karaikudi.

The first four institutions were in Government Buildings and the rest in rented buildings. During the period 8,611 cases were treated and 2,374 castrations were performed as against 14,290 cases and 4,407 castrations in the whole of previous year.

(xi) *Coimbatore (West)*.—There were ten institutions in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Coimbatore. 2 Pollachi. 3 Vettaikaranpudur. 4 Udumalpet.
Veterinary dispensary	5 Ramachandrapuram. 6 Singanallur. 7 Valparai. 8 Annur. 9 Mettupalayam. 10 Malayandipatnam.

The first five institutions were located in Government buildings and the rest in rented buildings.

The institution at Coimbatore was equipped with a refrigerator. Microscopes were provided in the institutions at Pollachi and Coimbatore.

In all these institutions 21,314 cases were treated and 1,965 castrations were done as against 35,045 cases and 3,232 castrations in the whole of previous year.

The Nilgiris district which was included in this district was taken out and placed under the charge of a separate District Veterinary Officer during the period.

(xii) *Coimbatore (East)*.—There were 12 institutions in the district inclusive of the 4 veterinary dispensaries handed over by the Community Project Administrator on its conversion into the

National Extension Service Scheme. They were located as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Erode. 2 Tiruppur. 3 Dharapuram.
Veterinary dispensary	4 Nathakadai. 5 Gobichettipalayam. 6 Sathyamangalam. 7 Kollegal. 8 Bhavani. 9 Chennimalai. 10 Kavundapady. 11 Bangalapudur. 12 Malayampalayam.

Institutions Nos. 1 to 3 and 9 to 12 above, were in Government buildings, No. 4 in rent free buildings and the rest in rented buildings. Institutions Nos. 1 to 3, 10 and 12 above were equipped with microscopes.

During the period 17,022 ailing animals were treated at these institutions and 3,519 castrations were done as against 17,180 and 3,582 cases in the whole of last year.

(xiii) *Nilgiris district*.—There were three institutions in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Ootacamund. 2 Coonoor.
Veterinary dispensary	3 Gudalur.

The veterinary hospitals were located in Government buildings and the Veterinary dispensary in a rented building. The veterinary hospital at Ootacamund was equipped with a microscope and a refrigerator and Veterinary hospital, Coonoor; with a microscope.

In these institutions 2,340 cases were treated 77 castrations were done during the period, as against 6,471 cases and 216 castrations in the whole of previous year.

(xiv) *Malabar district*.—There were six institutions in the district as shown below :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Kozhikode. 2 Palghat.
Veterinary dispensary	3 Cannanore. 4 Tellichery. 5 Kalpetta. 6 Fort Cochin.

The institutions 1 and 2 above were in Government buildings and the rest in rented buildings. The veterinary hospital at Kozhikode was equipped with a refrigerator.

During the period 9,153 cases were treated and 745 castrations were done as against 15,447 cases and 1,232 castrations in the whole of the previous year.

(xv) *South Kanara district.*—There were eight institutions in the district as shown below inclusive of 3 institutions transferred from Community Project area during the period :—

Kind of institutions.	Place of location.
Veterinary hospital	1 Mangalore.
	2 Puthur.
Veterinary dispensary	3 Kanhangad.
	4 Belthangady.
	5 Karkala.
	6 Bajpe.
	7 Moodabidri.
	8 Hebri.

The institutions 1 and 2 above were in Government buildings and Nos. 4, 6 to 8 were in a rent free buildings, whereas 3 and 5 were in rented buildings.

During the period 6,247 cases were treated and 850 castrations were done in these institutions as against 7,967 cases and 1,367 castrations in the whole of previous year.

76. *Dispensaries maintained by the Corporation of Madras.*—During the period four dispensaries were continued to be maintained at the Cattle Depots of the Corporation of Madras. The details of work done at these institutions are given below :—

Place of location.	Number of cases treated.	Number of castrations done.
Vyasarpady	3,588	..
Pudupet	6,926	..
Mylapore	3,804	18
Thyagaroyanagar	1,980	..

77. *Clinical Laboratories.*—With a view, not only to investigate into diseases peculiar to particular areas but also to avoid the delay, in diagnosis and control of diseases both in hospital and field by the laboratory confirmation, caused in sending suspected materials to the Madras Veterinary College and the Veterinary Disease Investigation Officers, 14 regional clinical laboratories functioned during the period at the rate of one for each district as detailed below :—

Place of location.	Jurisdiction of the laboratories.
1 Madras Veterinary College ..	Madras City.
2 Veterinary Hospital, Tirunelveli.	Tirunelveli district.
3 Veterinary Hospital, Coimbatore.	Coimbatore district.
4 Veterinary Hospital, Salem ..	Salem district.
5 Veterinary Hospital, Vellore..	North Arcot district.
6 Veterinary Hospital, Cuddalore.	South Arcot district.
7 Veterinary Hospital, Kancheepuram.	Chingleput district.
8 Veterinary Hospital, Ramanathapuram.	Ramanathapuram district.
9 Veterinary Hospital, Tallakulam.	Madurai district.
10 Livestock Research Station, Hosur,	Hosur taluk and farm.

Place of location.	Jurisdiction of the laboratories.
11 District Livestock Farm, Orthanad.	Tanjore district.
12 District Livestock Farm, Pudukkottai.	Tiruchirappalli district.
13 Veterinary Hospital, Kozhikode.	Malabar district.
14 District Livestock Farm, Koila.	South Kanara district.

In all these laboratories, a total number of 5,538 specimens were received for examination of which 1,675 were found positive. The details of specimens examined are given below :—

Kind of specimen.	Number received.	Number examined.	Number Positive.	Number Negative.
(1)	(2)	(3)	(4)	(5)
Faeces	3,793	3,793	1,287	2,506
Blood smears	1,062	1,062	103	953
Pus smears	17	17	7	10
Scrapings	371	371	87	284
Nasal washing	259	259	179	80
Urine	5	5	..	5
Milk	8	8	2	6
Blood analysis	1	1	..	1
Other specimen	22	22	4	18
Total	5,538	5,538	1,675	3,863

78. *Criminal Poisoning.*—Material from suspected cases of poisoning were sent to the Chemical Examiner, Government of Madras. Thus 81 materials from 19 dead animals, suspected for criminal poisoning, were sent for examination of which 65 were examined. The details of examination are given below :—

Nature of material examined.	Number examined.	Number positive.	Kind of poison.
(1)	(2)	(3)	(4)
Viscera and contents	36	6	Arsenic (3). Zincphosphate (1). Oleander (2).
Excreta or stomach contents	24	6	Oleander (6).
Miscellaneous articles	5	4	Arsenic (2). Oleander (2).

79. *Post-mortem and wound certificates.*—The staff of the department examined and certified 159 cases of wounds and malicious injuries. They conducted post-mortem on 156 cases and issued certificates during the period.

80. *Society for the Prevention of Cruelty to Animals.*—Under the Act for prevention of cruelty to animals, this department through its Veterinary Assistant Surgeons and veterinary institutions provided for the examination and infirmaries for the remand and treatment of animals until trial and after trial if necessary. Thus during the period, 4,063 cases were convicted of which 2,128 were put in the infirmaries for treatment as inpatients.

81. *Glanders inspection.*—The Glanders Inspector and District Veterinary Officer, Madras, inspected 3 horses on landing at Madras Fort. Three horses of King Institute, Guindy, were malleined during the period.

The Veterinary Assistant Surgeon-in-charge of Glanders Inspection work, made periodical visits to cattle-sheds, jutka stands and

(ii) *North Arcot district*.—There were eight minor veterinary dispensaries and one touring billet in the following places :—

Kind of institutions.	Place of location.
Minor Veterinary dispensary ..	1 Cheyyur.
	2 Chengam.
	3 Arni.
	4 Polur.
	5 Gudiyatham.
	6 Ambur.
	7 Wallajah.
	8 Desur.
Touring billets	1 Panapakkam.

Four veterinary first-aid centres were also functioning during the period.

The minor veterinary dispensary at Arni was located in a Government building and those in other places were located in either rented or donated buildings.

During the period 6,368 cases were treated and 2,302 castrations were done as against 11,804 cases and 3,531 castrations in the whole of previous year.

(iii) *South Arcot district*.—There were five minor veterinary dispensaries and one touring billet in the following places of the district :—

Kind of institutions.	Place of location.
Minor Veterinary dispensary ..	1 Tirunavalur.
	2 Vriddhachalam.
	3 Villupuram.
	4 Gingee.
	5 Tirukkoyilur.
Touring billet	1 Cuddalore.

There were nine first aid centres functioning under National Extension Service Schemes.

During the period 1,317 cases were treated and 459 castrations were done in these institutions as against 7,202 cases and 1,562 castrations in the whole of last year.

(iv) *Salem district*.—There were seven minor veterinary dispensaries and two touring billets at the beginning of the period.

During the period one minor veterinary dispensary was opened at Sendrapatti. The eight minor veterinary dispensaries and two touring billets were located at the following places :—

Kind of institutions.	Place of location.
Minor Veterinary dispensary ..	1 Athur.
	2 Rasipuram.
	3 Dharmapuri.
	4 Omalur.
	5 Hosur.
	6 Denkanikota.
	7 Velur.
	8 Sendrapatti.
Touring billets	1 Salem.
	2 Hosur.

In addition to these dispensaries 16 veterinary first aid centres were also functioning during the period.

The touring staff of the district rendered treatment both on tour and at the above institutions to 10,514 ailing animals during the period as against 17,255 in the whole of last year. 1,989 scrub animals were castrated as against 3,257 in the whole of last year.

(v) *Tirunelveli district*.—Five minor veterinary dispensaries and one touring billet were in existence during the period as given below :—

- (a) Minor Veterinary dispensary—
- 1 Kovilpatti.
 - 2 Srivaikuntam.
 - 3 Valliyoor.
 - 4 Ambasamundram.
 - 5 Tiruchendur.
- (b) Touring billets—
- Sankarankoil.

The Panchayat Board, Tiruchendur, provided a rent-free building for the dispensary and the rents for the buildings of minor veterinary dispensaries at Kovilpatti and Valliyoor were borne by Sri A. Ramaswamy Doss, M.L.A., and Valliyoor Panchayat Board respectively.

Two veterinary first aid centres were also functioning during the period. Four thousand seven hundred and sixteen animals were treated and 3,108 castrations were done during the period both at these institutions and on tour as against 8,173 cases and 5,837 castrations in the whole of previous year.

(vi) *Madurai district*.—During the period this district was bifurcated into Madurai South and Madurai North.

Madurai South.—During the period there were four minor veterinary dispensaries and one touring billet as detailed below :—

- (a) Minor Veterinary dispensary—
- 1 Chinnamanur.
 - 2 Allinagaram.
 - 3 Usilampatty.
 - 4 Natham.
- (b) Touring billet—
- 1 Madurai.

There were 4 first-aid centres transferred from Community Project Scheme during the period.

Fourteen thousand, three hundred and twenty-four cases were treated and 2,047 castrations were performed.

Madurai North.—There were three minor veterinary dispensaries and one touring billet as detailed below :—

- (a) Minor Veterinary dispensary—
- 1 Oddanchatram.
 - 2 Nilakkottai.
 - 3 Pannaikkadu.
- (b) Touring billet—
- Vedasandur.

Five first-aid centres were transferred to this department from Community Project Scheme during the period.

Three thousand, two hundred and ninety-four cases were treated and 1,612 castrations were performed during the period.

(vii) *Ramanathapuram district*.—There were seven minor veterinary dispensaries and one touring billet at places detailed below during the period.

(a) Minor Veterinary dispensary—

- 1 Aruppukkottai.
- 2 Paramakudi.
- 3 Sivakasi.
- 4 Mudukulahur.
- 5 Tiruppattur.
- 6 Sathur.
- 7 Tiruvadanai.

(b) Touring billet—
Malli.

In addition to the above 12 veterinary first-aid centres were also functioning during the period.

Two thousand, three hundred and fifty-four cases were treated in these institutions and in villages on tour and 611 castrations were done during the period as against 10,959 cases and 2,732 castrations.

(viii) *Tanjore district*.—During the period the district was bifurcated to be under the control of separate District Veterinary Officers, into Tanjore West and Tanjore East.

Tanjore West.—There were three Minor Veterinary Dispensaries at Saliyamangalam, Peravurani and Aduthurai. During the period 2,403 cases were treated and 644 castrations were performed.

Tanjore East.—There were three Minor Veterinary Dispensaries at Kivalur, Mnthupet and Kodavasal and Touring billets at Needamangalam and Kuttalam. During the period 1,558 cases were treated and 923 castrations were performed.

(ix) *Tiruchirappalli district*.—During the period the district was bifurcated into Tiruchirappalli South and Tiruchirappalli North.

Tiruchirappalli South.—There were five minor veterinary dispensaries and one touring billet as detailed below:

(a) Minor Veterinary dispensary—

- 1 Srirangam.
- 2 Kulitalai.
- 3 Chinnadharapuram.
- 4 Keeranur.
- 5 Alangudy.

(b) Touring billet—
Thirumayam.

During the period 4,295 cases were treated and 613 castrations were performed.

Tiruchirappalli North.—During the period there were three minor veterinary dispensaries at Perumbalur. Jayakondam and Thuraiyur.

Four thousand, seven hundred and twenty-four cases were treated and 859 castrations were performed during the period.

(x) *Coimbatore (West)*.—The Nilgiris district which was in the jurisdiction of the District Veterinary Officer, Coimbatore West, was excluded from his control and placed under a separate District Veterinary Officer during the period. There were four minor veterinary dispensaries and one touring billet in the district as shown below:—

(a) Minor Veterinary Dispensary—

- 1 Perianaickenpalayam.
- 2 Avanashi.
- 3 Kurichikottai.
- 4 Negamam.

(b) Touring Billet—

- 1 Kinathukidavu.

Three veterinary first-aid centres were also run during the period.

Four thousand, two hundred and eighty-six cases were treated and 491 castrations were done at these centres and on tour by the staff during the period as against 10,891 cases and 1,931 castrations in the whole of last year.

(xi) *Coimbatore East*.—There were six minor veterinary dispensaries and one touring billet as shown below:—

(a) Minor Veterinary Dispensaries—

- 1 Andhiyur.
- 2 Punjaipuliampatti.
- 3 Kangayam.
- 4 Palladam.
- 5 Kodumudi.
- 6 Perundurai.

(b) Touring Billet—

- 1 Kollegal.

In addition to the above, there were 18 veterinary first-aid centres functioning in the district. A rent-free building was provided at Andhiyur by the local panchayat. The panchayats contributed towards the maintenance of institutions at Kodumudi, Perundurai, Palladam and Punjaipuliampatti.

Seven thousand and thirty-six cases were treated and 998 castrations were done during the period in these institutions and on tour as against 11,255 cases and 3,315 castrations in the whole of last year.

(xii) *Nilgiris district*.—There were one minor veterinary dispensary at Kotagiri and a touring billet at Ootacamund during the period. The entire district was covered by the National Extension Service Scheme and the Extension Officers for Animal Husbandry were doing most of the touring work of the department.

Three thousand four hundred and twelve cases were treated and 196 castrations were performed during the period.

(xiii) *Malabar district*.—There were six minor veterinary dispensaries and two touring billets in the district during the period as shown below :—

(a) Minor Veterinary Dispensary—

- 1 Manantoddy.
- 2 Chowghat.
- 3 Alathur.
- 4 Perintalamanna.
- 5 Manjeri.
- 6 Badagara.

(b) Touring Billets—

- 1 Tirur.
- 2 Kuthuparamba.

The Panchayat Board, Chowghat, contributed Rs. 600 per annum towards the running cost of local minor veterinary dispensary.

In these institutions, 6,640 cases were treated and 2,175 castrations were performed during the period as against 11,272 cases and 3,624 castrations in the whole of previous year.

(xiv) *South Kanara district*.—There were three minor veterinary dispensaries and two touring billets in the district during the period as shown below :—

(a) Minor Veterinary Dispensary—

- 1 Kasargod.
- 2 Coondapur.
- 3 Udipi.

(b) Touring billet—

- 1 Kota.
- 2 Uppinangadi.

In addition to the above, eight first aid centres were also run, during the period.

During the year 912 cases were treated and 996 castrations were done in all these institutions and on tour as against 4,152 cases and 1,327 castrations in the whole of previous year.

(ii) *Pilot Scheme for eradication of Rinderpest*.

86. This scheme was continued with 20 quarantine (Check posts) stations in the districts of Chingleput, North Arcot, Coimbatore, Salem and South Kanara, with a view to keep the State free from Rinderpest by warding off even the trickling of infection from the infected neighbouring States. The stations were located on the important cattle routes leading to this State as shown below :—

Station number and place of location.	District.
(1)	(2)
1 Thiruvethiyur	Chingleput.
2 Elavur	Do.
3 Varadhapalayam	Do.
4 Ramanjeri	Do.
5 Thiruvalam	North Arcot.
6 Modikhuppam	Do.

Station number and place of location.	District.
(1)	(2)
7 Pernampct	North Arcot.
8 Tiruppathur	Do.
9 Berigai	Salem.
10 Bagalur	Do.
11 Jeebi (Hosur)	Do.
12 Dinnur Cross Road	Do.
13 Sattegal	Coimbatore.
14 Tagarapuram	Do.
15 Hassanur	Do.
16 Subramanya	South Kanara.
17 Ujire	Do.
18 Someshwar	Do.
19 Sankaranarayana	Do.
20 Byndoor	Do.

Animals passing through these stations are protected with Freeze Dried Rinderpest vaccine and branded with a standard "O" mark. The animals in the neighbourhood of the stations are also protected so as to create an immune belt in the borders of the State. A total number of 192,280 animals were protected during the year through these quarantine stations.

87. *Veterinary Mobile Units*.—The efficiency in respect of prompt control of contagious diseases in rural parts was further enhanced by providing 2 veterinary mobile units for ensuring expediency in attendance of outbreak reports and covering a large number of villages under the mass campaign of advance preventive vaccinations in free areas. This was done as an experimental measure to start with, in 2 districts (viz.) Tanjore and Chingleput. The mobile vans were supplied to these areas at the end of the period.

CHAPTER VIII—DISEASE AMONG LIVESTOCK.

88. It is noteworthy to mention here that the incidence of various contagious diseases among livestock during the year under report was considerably low as could be seen from the fact that only 1,863 outbreak reports with the resultant mortality figures of 9,655 were recorded during the year as against 4,058 outbreaks with 20,418 deaths in the previous year. Incidence of contagious and infectious diseases among livestock in the rural parts of the State is recorded through reports received by the touring Veterinary Assistant Surgeons from the ryots either direct or through village officials, and detection of these diseases is also done by the staff while they are on routine tour in villages. On receipt of these reports, the staff visit the spot for confirmation of the disease either by clinical examination or from clinical history furnished by ryots, and then arrange for prophylactic measures.

The reporting on the outbreak of diseases by village officials showed slight improvement during the period though there is still scope for improvement. In case of discrepancies between the figures furnished by Revenue department and that of this department, reconciliation was done at Taluk offices by the departmental staff once in a month.

During the period under report, 985 outbreak reports were received, mostly of blackquarter, and hæmorrhagic septicæmia as against 4,058 outbreaks in the whole of previous year. With a view to avert further spread in affected areas and incidence of outbreaks in free areas, a mass scale production in the endemic areas was launched as a result of which 8,01,518 inoculations and vaccinations were conducted during the period under review by the staff both in affected and free areas among various species of livestock as against 1,980, 583 done in the whole of previous year. The details of outbreaks and inoculations done, are given in Tables I and II annexed to this report.

89. *Mortality*.—There was a total number of 5,516 deaths due to the various contagious diseases of all species of domesticated livestock as against 20,418 deaths in the whole of previous year. Most of the deaths were due to the common epidemic diseases like hæmorrhagic septicæmia, blackquarter, foot and mouth and anthrax which accounted for 3,825 animals as against 17,641 in the whole of previous year. The average mortality due to these diseases per outbreak was 4.53 as against 4.72 in the last year.

The diseasewar details of attacks and deaths are given below :—

Disease.	Number of attacks.	Number of deaths.
(1)	(2)	(3)
Blackquarter	1,636	1,567
Hæmorrhagic Septicæmia	1,804	1,730
Foot and mouth	2,615	39
Anthrax	492	489

90. *Cattle*.—(i) *Contagious and infectious diseases*.—(a) *Rinderpest*.—It is noteworthy that the State continued to be free from rinderpest during the period. This was due to the efficient prophylactic measures enforced during the period at the quarantine stations (check posts), creation of immune belt on the borders of the State and mass protection of animals in cattle fairs of the State. A total number of 214,974 animals were protected during the period, as detailed below, as against 466,043 in the previous year.

Method of inoculation.	Number of animals protected.
(1)	(2)
1 Serum alone	7,611
2 Freeze dried vaccine	207,333
	214,974

(b) *Hæmorrhagic septicæmia*.—This disease was prevalent during the period in all districts of the State except Salem. The incidence of this disease was low during the period with 357 outbreaks resulting with death of 1,730 animals as against 997 outbreaks

with a mortality of 4,952 animals in the whole of last year. The incidence was somewhat high in South Kanara, Malabar, South Arcot and Tanjore districts with 46, 46, 42 and 44 outbreaks respectively. Prompt action was taken to control the outbreaks by protecting 91,035 animals in the affected villages and to avert the spread and the incidence in endemic areas by doing preventive inoculations among 73,797 animals in disease-free areas also.

(c) *Blackquarter*.—The incidence of this disease was reported from all the districts of this State. A total number of 412 outbreaks reported were recorded with a mortality figure of 1,567 during the period as against 2,424 outbreaks and 11,154 deaths. During the period under review prevalence of this disease was fairly high in Tiruchirappalli district wherein 97 outbreak reports were received with 346 deaths and the disease was fairly high in North Arcot, Ramanathapuram, South Arcot and Salem districts. Preventive inoculations were done both in affected villages and disease-free areas and thus 96,851 animals were protected in affected areas and 1,06,912 animals were vaccinated in free areas.

(d) *Anthrax*.—This disease was recorded in all the districts of the State except Tiruchirappalli, Tanjore, Tirunelveli and Madurai. There were 30 outbreak reports during the period with 46 deaths as against 83 outbreaks with 352 deaths in the whole of previous year. The disease was high in South Arcot and North Arcot districts.

Preventive inoculations were carried out both in affected and free areas and thus 5,751 animals were protected in affected areas and 1,518 were vaccinated in free areas.

(e) *Foot and mouth disease*.—During the period there were 15 outbreak reports of this disease with 2,615 attacks and 39 deaths as against 196 reports with 35 deaths in the whole of previous year.

(f) *Surra*.—This disease was recorded in Chingleput, North Arcot, South Arcot, Madurai, Tirunelveli and Salem districts and a total number of 14 outbreak reports with 35 deaths were received as against 47 reports with 181 deaths in the whole of previous year.

(g) *Nasal Schistosomiasis*.—One thousand, one hundred and thirty-eight cases were treated during the period as against 732 in the whole of previous year.

(h) *Johne's disease*.—No case treated during the period as against four during last year.

(i) *Brucellosis*.—Sixteen cases were recorded during the period as against 43 in the whole of previous year.

(j) *Bovine Lymphangitis*.—Twenty cases were treated during the period as against 17 cases in the whole of previous year.

(k) *Strongylosis*.—One thousand and thirteen cases were treated during the period as against 1,873 in the last year.

(l) *Mange*.—Five hundred and eighty-five cases were treated during the period as against 78 in the whole of previous year.

(m) *Mastitis*.—One hundred and sixty-six cases were treated or this condition during the period as against 353 in the whole of previous year.

(n) *Coccidiosis*.—Three hundred and ninety were treated as against 601 in the last year.

(o) *Ephemeral fever*.—Six hundred and thirty-seven cases were treated as against 1,026 in the last year.

(p) *Piroplasmosis*.—One hundred and thirty-three cases were treated during the period as against 214 in the last year.

(q) *Theileriosis*.—Twenty-one cases were treated as against 27 in the last year.

(r) *Rabies*.—Two cases died of this disease. A total number of 211 bovines were given protection against this disease.

91. (ii) *Non-contagious diseases*—(a) *Rheumatic Arthritis*.—Three hundred and twenty-five cases were treated during the period as against 394 in the whole of previous year.

(b) *Urethral calculi*.—Eight cases were met with during the period as against six in the last year.

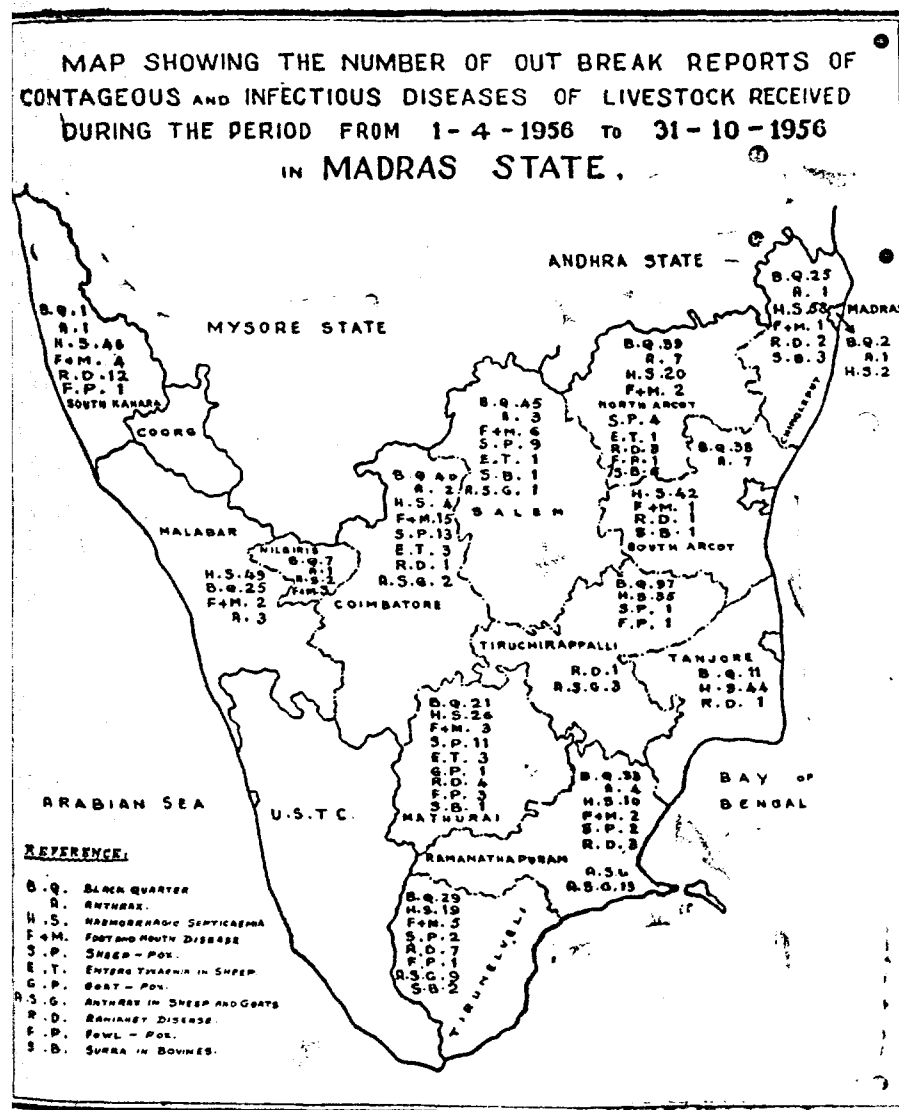
(c) *Hæmaturia*.—Seventy-nine cases were treated during the period as against 120 in the last year.

(d) *Sterility*.—One hundred and twenty-one cases were treated as against 159 cases in the last year.

(e) *Chronic luxation of patella*.—A total number of 2,509 cases were treated for this condition as against 3,684 in the whole of previous year.

92. *Diseases among sheep and goats*—*Contagious and infectious diseases*.—The following table gives the details of the outbreak reports received, number of animals protected against various disease among sheep and goats.

Name of disease.	Number of outbreak reports received.	Number of deaths.	Number protected in affected areas.	Number protected in free areas.
(1)	(2)	(3)	(4)	(5)
Anthrax	28	519	8,774	5,357
Sheep-pox	42	169	6,863	24,049
Enterotoxaemia	8	103	6,870	2,822
Goat-pox	1	10	950	..



93. *Disease among other animals—Contagious and infectious diseases—(i) Surra in equines.*—Nil.

(ii) *Rabies in canines.*—This disease broke out in Nilgiris district in an epidemic form endangering the human lives on account of the rabid jackals biting the stray dogs. The disease was brought under control by the timely and well co-ordinated efforts put forth by the department with the co-operation of Public Health Department and local municipalities. Mass inoculation of dogs against rabies, and destruction of stray dogs were enforced. Thus 2,655 dogs were protected and 1,665 dogs were destroyed during the period. Pamphlets in regional languages were printed and distributed for educating the public on the prevention and deadly nature of the disease.

A total number of 28 cases were confirmed for this disease and 443 dogs were protected during the period in the State excluding Nilgiris district.

(iii) *Ranikhet disease in fowls.*—There were 42 outbreaks with 632 deaths during the period. Twenty-one thousands, four hundred and seventy-nine birds were inoculated in affected areas and 152,502 in free areas.

(iv) *Fowl-pox.*—There were 6 outbreaks with 83 deaths during the period. Seven hundred and eighty-two birds in affected areas and 2,016 birds in free areas were protected during the period.

CHAPTER IX—INVESTIGATION AND RESEARCH.

94. The department was focussing on the welfare of the live-stock population of the State from three angles (viz), disease control, development and investigation and research.

Field investigation into disease problems of livestock was carried on, by a team of investigation staff and research work on prophylactic aspect was carried out at the Institute of Veterinary Preventive Medicine, Ranipet and on basic sciences like Anatomy, Animal Nutrition, Parasitology, Bacteriology, Pathology, etc., and on specific diseases at the Madras Veterinary College.

(i) *Madras Veterinary College.*

95. In addition to teaching of students of the B.V.Sc. degree, Stockmen and Flaying courses, supervising and guiding the post-graduate research students and attending to the hospital, diagnostic and animal husbandry work, inspection and advice with regard to the proper maintenance of the City Police horses and dogs, the several departments of the College engaged themselves in research work as shown hereunder :—

(i) *Chemistry department.*—Calculi from kidney, urinary bladder, etc., were analysed qualitatively and so also rumen and stomach contents. Estimation of male sex-hormones in the urine was done. Estimation of amino-acids from the hydrolysis of proteins present in hair was attempted by paper chromatography.

Routine estimation of calcium content in the blood serum of bullock was also done in connection with the investigation on Nasal Schistosomiasis of cattle.

(ii) *Biology department*.—Work on *Drosophila* was continued during the period.

(iii) *Anatomy department*.—Study on the anatomy of the foetal elephant was in progress.

(iv) *Bacteriology department*.—Studies on Mastitis, typing of a strain of *Mycobacterium tuberculosis* isolated from a dead giraffe and pathogenicity test on fungus isolated in the last year from chicks "dead in shell" were in progress.

(v) *Parasitology department*.—The survey of the parasitic fauna in domestic cats and ducks, studies in *Trypanosoma evansi* and intensive method of treatment of Nasal Schistosomiasis were in progress.

(vi) *Pathology department*.—Scheme for investigation into the etiological and genetical aspects of Avian Leucosis complex in poultry was started during the period in co-ordination with the Animal Genetics department. Work on "Features of Pullet disease" was in progress.

Cirrhosis in dogs.—Experimental work to elucidate the role of low protein diet in the etiology of hepatic cirrhosis was continued.

(vii) *Animal Nutrition Department*.—Research studies were continued on forage production and fodder preservation as silage besides determining the nutritive values.

Impomea Carnea, the latest popular green manure crop in the agriculture practices of this State was being investigated for its nutrient composition.

The dry seeds and pods of *Leuceana Glanca* were analysed for their nutrient composition.

(viii) *Animal Genetics department*.—The investigation into the etiology and genetical aspects of the Avian Leucosis complex in poultry was started and in progress during the period.

(ix) *Helminthology department*.—Studies on certain cestodes in dogs and cats were in progress.

(ii) *Institute of Veterinary Preventive Medicine.*

96. In addition to the manufacture and supply of various biological products to the field staff of this State and to other States on demand, research work was also carried on in the production of vaccines. The experimental and research work thus carried out are detailed below:—

(1) *Rinderpest*.—To determine the period of immunity conferred by Freeze dried Rinderpest goat tissue vaccine, a batch of calves have been immunised and kept under observation. Further study will be made by testing for immunising at intervals, in due course.

(2) *Blackquarter*.—(i) Comparative studies on the immunising value of the routine Blackquarter bacterin with that prepared by the addition of adjuvants like alum, oil and lenolin were taken up during the period.

(ii) A study was made to find out whether the re-adjustment of the pH of the medium in the production flasks containing cl. chauvoei and C1 septique culture after 48 hours would increase the number of bacterial cells in the medium. The results obtained show that such pH adjustment increase the cell contents in the vaccine to a slight extent.

(3) *Hæmorrhagic Septicæmia*.—Experiments conducted during the period go to show that the immunity conferred by Bain's oil adjuvant vaccine lasts for at least 10 months.

(4) *Sheep-pox*.—(i) The studies made on the titration of Freeze dried sheep-pox vaccine, revealed that a 1 in 100,000 dilution of the vaccine was capable of producing a reaction in susceptible sheep when injected intra-dermally.

(ii) The strain of sheep-pox virus received from Turkey was tested with the local strain and was found to be immunologically identical.

(5) *Ranikhet disease*.—The following are the observations made on the studies made in respect of viability of Freeze Dried Ranikhet disease vaccine:—

(i) This vaccine was viable at room temperature (85°F) even after 30 days' storage and after 15 days' storage in an incubator (99°F).

(ii) The reconstituted vaccine was found viable for 12 hours at room temperature (85° to 90°F) and a 10-6 dilution of the vaccine in normal saline solution was found viable after 8 hours storage at room temperature (85° to 90°F).

(6) *Anthrax spore vaccine*.—The minimum number of spores per dose of this vaccine for use safely among sheep was studied and found that vaccine containing 1 million spores per dose conferred immunity as against 2.5 millions per dose in that issue for field use.

(7) *Brucella Abortus vaccine and Antigens*.—Studies on the freeze drying of *Brucella Abortus* vaccine to improve its keeping quality were in progress.

97. *Indian Council of Agricultural Research Schemes*—(a) *Scheme for the improvement of Hæmorrhagic Septicæmia vaccine and manufacture of a combined vaccine for Hæmorrhagic Septicæmia and blackquarter*.—Studies were made to determine the increase in the growth of the *Pasteurella* organisms in nutrient broth enriched with 0.5 per cent of glucose, by making plate counts after fixed periods of incubation and comparing it with the growth obtained in nutrient broth under identical conditions. Results obtained shows that by the addition of glucose, the number of organisms in the medium increased by about three-fold.

The immunising value of vaccines prepared with organisms grown in nutrient and glucose broths was compared and it was found that the vaccine prepared from glucose broth containing more bacterial cells did not confer a better immunity than the one conferred by the broth bacterin manufactured under identical conditions.

Aeration.—Further studies on the effect of aeration of medium (nutrient broth), seeded with pasteurized culture were made to determine the extent of increase in the number of bacterial cells in the medium. It was found that bubbling of air in fine sprays through a Chamberland filter candle using positive pressure facilitated the growth of more number of organisms than when the air was bubbled through a jet. Further studies were made to find out the effect of protamine as an adjuvant when added to the routine broth bacterin.

(b) *Scheme for the improvement in the technique and methods used in the manufacture of virus vaccine.*—(i) The study on the sensitised sheep-pox vaccine was continued during the period.

(ii) *Studies on Sheep-pox vaccine treated with chemicals.*—The effect of acid carboloid on the local strain of sheep-pox vaccine in normal saline solution containing acid carboloid in concentrations of 0.1 per cent, 0.2 per cent, 0.3 per cent and 0.4 per cent and stored at atmospheric temperature for 24 hours and was studied.

Studies were also made on the effect of formulain on sheep-pox vaccine virus.

(iii) Studies to arrive at the optimum dilution for vaccinating sheep under field conditions were in progress.

(iv) Studies on the field strains of sheep-pox to determine the antigenic variations, if any, were made with the four strains received from field outbreaks.

(v) Studies on attenuation of Beaudette strain of fowl-pox virus by serial passage through hen's and duck's eggs were continued.

(vi) Studies on the use of mixed vaccine for fowl-pox and Ranikhet disease were continued.

(iii) Disease Investigation.

98. During the period under report Veterinary Disease Investigation Officers for cattle, sheep and poultry continued their investigation on various diseases both in field and at the laboratory.

Investigation into Disease of Cattle.—The Veterinary Disease Investigation Officer (Cattle) carried out investigations on the following diseases and conditions :—

(1) Anthrax; (2) Haemorrhagic Septicaemia; (3) Tuberculosis; (4) Johne's disease; (5) Bovine Lymphangitis; (6) Brucellosis; and (7) other obscure diseases :—

(1) *Anthrax.*—Field investigation on the incidence of this disease was conducted in four centres in North Arcot district.

(2) *Haemorrhagic Septicaemia.*—The use of Bain's oil adjuvant vaccine was continued in Tanjore and Chingleput districts, to study its efficacy in endemic areas.

(3) *Tuberculosis.*—Investigation into the incidence of this disease was carried out through Double Intradermal Test. Out of 124 Murrah buffaloes tested, one proved positive.

(4) *Johne's Disease.*—Out of 124 animals tested, none proved positive.

(5) *Foot and Mouth Disease.*—Investigation was done in two centres of Chingleput district.

(6) *Brucellosis.*—Investigation into the incidence of this disease was done in twelve centres of Coimbatore district, District Livestock Farm, Pudukkottah and Hindustan Livestock Agency. As a result of Agglutination tests conducted, one Kangayam cow at District Livestock Farm, Pudukkottah proved positive.

Under Brucella Eradication Scheme, 2,250 vaccinations were done among calves. Two hundred and ten samples of sera and 67 samples of Synovial Fluid were tested. Retesting of 531 vaccinated animals was done and all of them proved negative.

Examination of materials in the field and laboratory.—Nature of specimens examined at the laboratory and during field investigations are detailed below :—

Specimens examined.	Number examined		Number positive	
	In the field.	At the laboratory.	In the field.	At the laboratory.
(1)	(2)	(3)	(4)	(5)
Dung	80	87	..	25
Blood smears	117	108	..	10
Synovial fluid	..	2	..	..
Bowel washings	..	8	..	4
Sera tested	209	90	1	21
Pus smears	..	3	..	..
Nasal washings	..	9	..	7
Milk samples	..	..	..	..
Biological tests	..	30	..	3

(iv) Investigation into Disease of Sheep and Goats.

99. During the period the Veterinary Disease Investigation Officers (Sheep and Goat) investigated into the following diseases :—

(1) Anthrax; (2) Sheep Pox; (3) Goat Pox; (4) Enterotoxaemia; (5) Helminthiasis; (6) Obscure diseases.

(1) *Anthrax.*—The disease was reported from 13 centres by the field staff and was investigated in 4 centres. The incidence of the disease was in a per acute form, accounting for cent per cent mortality among the attacked animals. The incidence was high in Ramanathapuram district with outbreak reports of this disease. Studies made at the laboratory on the subcutaneous injection of goats under the tail with Anthrax Spore Vaccine proved satisfactory.

(2) *Sheep Pox.*—Investigation on this disease was done with special reference to mode of field vaccinations as the results of "Scarification method under the ear" was found to be unsatisfactory. The incidence was investigated in six centres besides the outbreak reports attended in eight centres by the field staff.

(3) *Goat Pox.*—The incidence of this disease was investigated in three centres of North Arcot district. The results of vaccination

with Goat Pox vaccine supplied by Indian Veterinary Research Institute, Mukteswar, were studied and found to be satisfactory. The experiments conducted at the laboratory proved that the Goat Pox vaccine was effective in live state only and inactive in carbolised or heated form.

(4) *Enterotoraemia*.—The disease was reported from nine centres in Coimbatore, Madurai, Tirunelveli, Tiruchirappalli and South Arcot districts.

(5) *Johne's disease*.—Investigation into the incidence of this disease was mainly done at the Sheep Breeding Farm, Ootacamund. Out of 89 bowel washings examined 56 proved positive for acid fast organisms indistinguishable from *Mycobacterium para tuberculosis*.

(6) *Helminthiasis among sheep*.—The incidence of this disease was investigated in five centres and eleven more reports were received from the field staff. Out of 606 samples of dung received from twenty-two centres, 351 proved positive for strongyle infestation.

(7) *Other obscure diseases*.—(i) A report on ten deaths among lambs and three among adults in Chapprayapalli village, Hosur taluk, Salem district, was investigated into and found that coccidiosis was prevalent in lambs and strongyle worms in adults.

(ii) A report of twenty deaths in kids in the course of fifteen days in Arunagirimangalam of Polur taluk, North Arcot district was investigated and found to be due to coccidiosis.

Examination of specimens.—One hundred and ninety specimens were examined during the period as detailed below :—

Kind of specimens.	Number examined.	Number positive.
(1)	(2)	(3)
Blood smears	59	..
Bowel washings	101	50
Heart blood swabs	1	..
Other materials	2	2
Biological tests	30	..

(v) Investigation into diseases of poultry.

100. The Veterinary Disease Investigation Officer, Poultry, investigated into the following diseases of poultry during the period for their diagnosis, treatment and control :—

(1) Ranikhet Disease; (2) Fowl-pox; (3) Contagious Coryza; (4) Coccidiosis; (5) Avian Leucosis complex; and (6) Parasitic infection.

(1) *Ranikhet Disease*.—(i) The incidence of the disease has been recorded in almost all the districts of Madras State affecting all ages and breeds of birds both indigenous and exotic and no seasonal variation has been noticed with reference to the incidence of the disease during the period under report.

Vaccinations against this disease were carried out in all the districts and the reactions observed are detailed below :—

Districts.	Number of exotic birds vaccinated.	Reaction noticed in exotic birds.					Reaction mild or severe.
		Drowsiness per cent.	Diarrhoea per cent.	Paralysis percent	Stoppage of egg production.	Mortality per cent.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coimbatore	51	..	..	..	..	..	Mild.
Madurai	2,038	7.0	1.0	0.2	1.7	..	..
Nilgiris	2,442	0.8	0.4	0.2	0.4	..	..
North Arcot	979	2.5	0.8	0.3	1.5	..	..
Ramanathapuram	783	..	..	..	..	..	..
Salem	1,238	3.0	0.4	1.4	19.0	..	..
South Arcot	346	..	..	..	4.0	..	..
Tanjore	784	3.5	..	..	5.0	..	..
Tiruchirappalli	753	1.7	..	..	..	..	..
Total	9,414	18.5	2.6	2.1	31.6	..	..
The average percentage of reaction observed.		2.0	0.3	0.2	3.2	..	..

Districts.	Number of indigenous birds vaccinated.	Reaction noticed in indigenous birds.					Reaction mild or severe.
		Drowsiness per cent.	Diarrhoea per cent.	Paralysis percent.	Stoppage of egg production.	Mortality percent.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coimbatore	521	0.5	..	0.5	..	..	Mild.
Madurai	3,754	6.0	2.3	0.2	..	..	..
Nilgiris	3,995	..	..	0.6	1.1	..	..
North Arcot	1,983	0.5	..	..	1.3	..	..
Ramanathapuram	..	..	..	..	..	..	..
Salem	897	2.4	0.3	..	12.8	..	..
South Arcot	230	..	..	..	..	..	..
Tanjore	1,453	2.6	..	..	2.5	..	..
Tiruchirappalli	1,120	..	..	..	..	..	..
Total	13,953	12.0	2.6	1.3	17.7	..	..
The average percentage of reaction observed.		1.5	0.3	0.2	2.2	..	..

(ii) The minimum age at which chicks can be protected safely with Ranikhet Disease vaccine was determined by trials and it was found that chicks of 4 week of age can be safely protected.

(iii) On similar trials as above with the mixed Ranikhet Disease and Fowl Pox vaccine it was found that birds of 10 week of age can safely be protected.

(2) *Fowl Pox*.—(i) Field trials were conducted for a comparative study of the Freeze dried Chick embryo Fowl pox vaccines purchased at Indian Veterinary Research Institute, Izatnagar and Institute of Veterinary Preventive Medicine, Ranipet. The results of the trials indicated that both are identical in respect to the type of reaction and both can be safely used for vaccinating birds of 6 weeks and above of age.

(ii) As a result of experiments conducted so far, the period of immunity conferred by Fowl-Pox vaccine from Beaudette Strain was found to be two years and nine months under farm conditions.

(iii) As a result of studies made the period of immunity conferred by chick embryo pigeon pox vaccine was found to be three months and that the chicks of two weeks old can be safely protected with this vaccine.

(3) *Contagious Coryza*.—The incidence was noticed in Poultry Research Station, Teynampet, affecting a good number of birds. Treatment with Dihydrostreptomycin Sulphate was found successful.

(4) *Coccidiosis*.—The efficacy of the patent drugs like Embazin, Sulphamezathine and Nefco by giving the affected birds, these drugs in diluted form as the only drink withholding water-supply for three consecutive days.

(5) *Avian Leucosis Complex*.—The incidence of the disease was noticed in Poultry Farm, Cannanore, Livestock Research Station, Hosur and Poultry Production Centre, Malli. Only the exotic birds were found to be affected and the visceral form of this disease was observed in birds of six to eight months of age.

The control measure recommended was to weigh birds and to examine the blood smears periodically for culling those which lose weight and show numerous Lymphoial cells.

(6) *Parasite infestation*.—With a view to maintain the parasitic infestation in poultry at the lowest level, the following measures were prescribed to be adopted in the poultry farms :—

(a) Burning the whole poultry yard or run with dried leaves or straw once in a fortnight so that the ova of round worms and the intermediary host of tape worms may be destroyed.

(b) Dosing of birds with vermifuges for both tape and round worms.

(c) External application of Sodium Flouride or Gammexane.

Specimens examined.—Four hundred and eighteen specimens were examined by the Veterinary Disease Investigation Officer both in the field and at the Laboratory as detailed below :—

Kind of specimens.	Number examined	Number positive.
Droppings samples	270	42
Blood smears	64	1
Histopathological, Biological tests, etc. ..	84	..

CHAPTER X—ANIMAL HUSBANDRY WORK IN COMMUNITY PROJECTS AND NATIONAL EXTENSION SERVICE SCHEME.

A. Community Projects Scheme.

101. On the completion of the Community Projects Scheme in Madurai, Coimbatore, Malabar and South Kanara districts during the period under report, the areas under this scheme were converted in National Extension Service Blocks for further continuance of development work. Therefore the progress of work in these areas

after this conversion are shown in the details under the head National Extension Service Scheme. The details of work in Community Project areas are detailed below :—

(i) *Madurai district*.—This scheme was in operation in Periyar Project area comprising Madurai, Melur and Nilakottai Blocks.

There were 26 Kangayam bulls, 10 Murrah buffalo bulls and 39 rams at stud distributed all over the area at the beginning of the period. Thirteen more rams were distributed during the period in Melur Block.

Poultry Demonstration Units were continued to be maintained at Melur, Chatrapatti, Vellalur and Varichur with a strength of 49 birds of exotic breed. Eggs and birds were sold for developing backyard units.

The 2 veterinary dispensaries and 4 first aid centres which existed already under this scheme continued to function. Fifteen thousand two hundred and eight morbid cases were treated and 1,737 animals were castrated in these institutions during the period. On conversion into National Extension Service Blocks, the veterinary institutions, poultry demonstration units were handed over to this Department.

(ii) *Coimbatore district*.—This scheme was in operation in Lower Bhavani Project area comprising Bhavani, Gobichettipalayam and Kodumudi Blocks.

In addition to the 53 breeding bulls and 31 rams in existence all over this area since last year, 31 Mecheri rams were distributed in Bhavani Block. There were 3 artificial insemination centres and 1 breeding unit-cum-Veterinary Dispensary.

The 2 poultry units at Kavundapady and Malayampalayam continued to function with a strength of 42 and 45 birds respectively. Eggs and birds were sold to the public from these units for raising backyard poultry units in rural parts.

There were 4 veterinary dispensaries and 6 first aid centres functioning in this area. Four thousand nine hundred and eighteen cases were treated, 1,169 castrations were done and 15,099 preventive inoculations were conducted.

(iii) *South Kanara district*.—This scheme was in operation in the area comprising Bajpe, Moodabidri and Hebri Blocks.

In addition to the 12 breeding bulls and 2 rams in existence in these areas since last year, Artificial insemination centre was opened at Mangalore with 5 breeding bulls.

A poultry farm at Kinigoli was functioning with Rhode Island Reds with a strength of 62 birds, 88 birds and 172 eggs were sold from this farm for raising backyard poultry units in rural parts. Besides this 223 exotic birds were also distributed in villages.

There were 3 veterinary dispensaries and 6 first aid centres functioning in this area. Five thousand four hundred and sixty cases were treated and 1,628 castrations were done at the institutions. Under preventive inoculation work 12,506 animals were protected against contagious diseases.

On the expiry of this scheme, the Veterinary Institutions, Artificial Insemination Centres, and Poultry Farm were handed over to this Department.

(iv) *Malabar district*.—This scheme extended over the whole of Palghat taluk comprising of Parli and Coyalmanna blocks.

There were 25 breeding bulls at stud distributed all over the area. An artificial insemination centre was functioning at Palghat. The Private Poultry Farm of Rhode Island Reds continued to function during the period. Backyard Poultry units were also started through distribution of exotic birds and eggs.

There were 6 veterinary institutions inclusive of first aid centres in these areas for the treatment of ailing animals and castration of scrub animals. Seven thousand four hundred and seventy-four cases were treated and 998 castrations were performed during the period.

B. National Extension Service Scheme (inclusive of Community Development Blocks).

102. In the National Extension Service areas, the Animal Husbandry Activities were tackled from all angles (viz.) breeding, feeding, management and disease control. The ryots of these areas were well advised either individually or collectively in meetings by the National Extension Service staff of this department for the betterment of their livestock. Location of breeding Male Stock opening of artificial insemination centres, veterinary institutions, poultry units, distribution of exotic birds, eggs and grasses for raising village level and protection of animals against contagious disease were also attended to on an intensive scale, the details of which are given below :—

The development of Dairy Husbandry at village level was also carried out through individual approach of the ryots by the staff for advising them on the modern economic methods of feeding and maintaining cows and buffaloes for milk purposes. But the economic benefits of this industry was brought home to the ryots in these areas mostly on collective basis by organizing co-operative societies for the sale of dairy products. As the entire working of these societies are under the purview of the Co-operative Department the details on progress in this line will be found either in the report of the Co-operative Department or that of National Extension Service Scheme.

(i) *Chingleput district*.—During the period there were 7 blocks at Kadambathur, Tiruvallur, Uthukkottai, Sriperumbudur, Thirukalikundram, Poonamalle, and Madurantakam.

There were 40 breeding bulls and 262 rams distributed all over these areas for stud purposes, 973 exotic birds and 3,186 eggs were distributed in villages to raise backyard poultry units in rural parts. There were poultry farms in these blocks. An artificial insemination centre was functioning in Tirukkalikundram which was handed over to this department on 1st October 1956 on the conversion of Community Projects area into National Extension Service Blocks.

There were two veterinary dispensaries, two minor veterinary dispensaries and 9 first aid centres in these block areas. Seven thousand six hundred and sixty-nine cases were treated and 2,755 castrations were done at these institutions and while on tour by the staff. Sixty-two thousand eight hundred and eighty-three inoculations were done to prevent the onset of contagious diseases of livestock. Thirteen thousand five hundred and sixty-six sheep were dewormed during the period.

(ii) *South Arcot district*.—There were 5 blocks during the period at Panruti, Chinna Salem, Kurinjipadi, Chidambaram and Valathi. There were 21 breeding bulls and 46 rams located in these areas for stud purposes. One hundred and seventy-one exotic birds were distributed for raising poultry units in rural parts. Two thousand nine hundred and twenty-three scrub male animals were castrated during the period.

The staff during the course of their tours in villages rendered treatment to morbid cases and thus 10,266 cases were treated during the period. Prophylactic vaccinations were carried out among livestock against epidemics and thus 16,267 animals were protected. There were 11 first aid veterinary centres located in these areas.

(iii) *North Arcot district*.—There were 6 blocks at Tiruvannamalai, Kalaspakam, Polur, K. V. Kuppam, Chetpet and Arcot, but no Extension Officer for Animal Husbandry was posted to the last two blocks opened this year.

In addition to the 23 breeding bulls and 37 rams located in these blocks in the previous year, 4 more breeding bulls and 42 rams were located during the year. There were 35 poultry units functioning with a strength of 32 cocks, 139 hens and 55 chicks of exotic birds. Eight hundred and fifty-seven exotic eggs and 24 exotic cockerels for grading up were distributed. One thousand eight hundred and thirty scrub male breeding stock were castrated at the first aid centres and while on tour by the staff.

There were four first aid centres in these areas located in villages in which 1,301 animals were rendered treatment. Besides this, the staff on tour rendered treatment to 741 animals, and protected 9,897 animals against contagious diseases.

(iv) *Salem district*.—There were 6 blocks at Krishnagiri, Athoor, Kaveripatnam, Peddanaickenpalayam, Kolathur and Bargur.

There were 48 breeding bulls and 106 rams for stud purposes, located all over these blocks. Two hundred and eighty-two exotic birds and 2,807 exotic eggs were distributed in villages for raising backyard poultry units. One thousand one hundred and three scrub animals were castrated by the staff while on tour.

During the year there were two minor Veterinary dispensaries and 7 first-aid centres. Three thousand five hundred and seventeen cases were treated at these institutions and while on tour by the staff. Inoculation against contagious diseases was undertaken both in outbreaks and free areas and thus 5,533 animals were protected. Five hundred and sixty-one sheep were dewormed.

(v) *Coimbatore district*.—There were 13 blocks during the period at Tiruppur, Palladam, Kangayam, Kundadam, Avanashi, Dharapuram, Sathyamangalam, Gobichettipalayam, Erode, Perundurai, Kodumudi, Modakkurichi and Bhavani.

There were 188 breeding bulls and 72 rams at stud distributed over the areas. Five hundred and sixty-seven exotic birds and 1,591 eggs were distributed in villages for raising back yard units of poultry. Two cattle shows and 2 exhibitions were conducted. There were 2 Poultry Development Units at Kavundapady and Malayampalayam.

Besides the veterinary hospitals and dispensaries located in these areas under this department, the staff working under this scheme treated cases, performed castrations and preventive inoculations. In all 14,611 cases were treated, 2,283 castrations were done. Thirty-seven thousand three hundred and twenty-four animals were protected against epidemics and 4,098 sheep were dewormed.

(vi) *Madurai district*.—There were 10 blocks during the period at Tirumangalam, T. Kallaupatti, Usilampatti, Melur, Madurai, Dindigul, Athoor, Vadipatti, Alanganallur and Bodinaickanur.

There were 61 breeding bulls and 189 rams were at stud during the period distributed in the block areas. The Sheep Breeding Association at Tirumangalam with Karuvai rams and the Goat Breeding Association at M. Podhanadhi with Tellicherry goats were continued to function well.

During the period 586 exotic birds and 2,179 eggs were distributed in villages for raising poultry units. The poultry unit at T. Kallupatti continued to function during the period with a stock of 79 Rhode Island Red birds and 48 graded birds.

There were 12 first-aid centres functioning during the period. Twenty-four thousand, eight hundred and forty-three animals were treated and 1,290 castrations were done by the staff in these institutions as well as during their tours in rural areas. Forty-three thousand nine hundred and fifty-nine animals were protected against epidemics and 8,578 sheep were dewormed.

(vii) *Tirunelveli district*.—There were 7 blocks at Sankaran Koil, Kuruvikulam, Koilpatti, Valliyoar, Cheranmahadevi, Tirunelveli and Radhapuram.

In addition to the existence of 9 breeding bulls and 21 rams for stud purposes in these areas since last year 5 more bulls were added to this list. Besides these bulls one artificial insemination centre with two sub-centres at Cheranmahadevi were functioning which were handed over to this department on 1st October 1956 on the conversion of this block from community development to National Extension Service type. Three poultry demonstration units were maintained in 3 blocks at Sankarankoil, Kuruvikulam and Kovilpatti. Three hundred and thirty-eight exotic birds were supplied in villages for raising backyard poultry units.

Treatment of ailing animals and castration of scrub animals were under taken at the veterinary dispensaries and first aid centres located in these blocks and also by the staff in villages during the course of their tours. Thus 4,852 morbid cases were treated and 2,163 castrations were done. Twenty-three thousand, five hundred and six animals were protected against epidemic diseases.

(viii) *South Kanara district*.—There were 4 blocks at Byndoor, Sullia, Manjneswar and Nileswar. On the completion of the Community Projects Scheme on 30th September 1956 the blocks (viz.), Bajpe, Moodabidri and Hebri under this scheme were converted into National Extension Blocks.

There were 24 breeding bulls distributed for stud purposes. Four hundred and sixty-four exotic birds were supplied in rural parts to raise backyard poultry units. Fourteen cattle breeders associations were functioning during the period.

First aid centres were also located in the blocks besides the staff treating cases while on tour 3,122 animals were treated and 1,570 castrations were done. Thirteen thousand, nine hundred and eighty-one animals were protected against epidemics by preventive vaccinations.

(ix) *Malabar district*.—There were 4 blocks at Tellicherry, Payyanur, Taliparamba and Kuthuparamba.

There were 8 breeding bulls and two bucks in these areas during the period. Twenty exotic birds were distributed for raising in villages. Thirteen backyard poultry units and one poultry co-operative society were started.

There is a minor veterinary dispensary at Taliparamba 7,474 cases were treated and 998 castrations were performed by the staff on tour and in the above institutions as well.

(x) *Tiruchirappalli district*.—There were seven blocks in the district at Vellianai, Alangudi, Karur, Musiri, Perambalur, Thottiam and Thirumanur.

There were 75 breeding bulls and 31 rams at stud located at various centres of these areas. Five poultry units of exotic breeds were maintained. Twenty-six exotic birds and 102 eggs were supplied in villages for raising backyard units.

In addition to the Veterinary Institutions of the department in these areas, 7 first-aid centres were also run in these blocks under the scheme. Two thousand nine hundred and sixty-five ailing animals were treated at these centres and as well as in villages visited by staff on tours. Prophylactic vaccinations against contagious diseases of animals were undertaken both in outbreaks and free areas and thus, 6,593 animals were protected against various diseases during the period.

(xi) *Tanjore district*.—There were nine blocks covering the whole of Tanjore district at Kumbakonam, Mayuram (east and west), Papanasam (south and north), Sirkazhi, Vedaranyam, Thiruthuraiipoondi and Pattukkottai.

There were 49 breeding bulls and 11 bucks located in these areas for stud purposes. There were two artificial insemination centres at Kumbakonam and Mayuram with 4 sub-centres each, which continued to function well. The livestock improvement centres started last year at Alathambady continued to function well with the Umbalacherry and Murrah buffalo bulls.

Two hundred and twenty-nine exotic birds and 846 eggs were distributed in villages for raising backyard units. A poultry farm at Kothangudy in Kumbakonam North block was opened during the period. The poultry production centre at Saliyamangalam situated in the block area was also serving the public in that area.

One thousand, eight hundred and thirty-seven ailing animals were treated and 153 castrations were performed in villages by the staff while on tour and in First-Aid Centres as well. Prophylactic vaccinations were undertaken and thus 2,752 animals were protected.

(xii) *Ramanathapuram district*.—There were 10 blocks in the district at Srivilliputhur, Rajapalayam, Sivakasi, Singampuneri, Devakkottai, Kamuthi, Kalayarkoil, Tiruvadanai, Kariapatti and Virudhunagar.

In addition to the 34 breeding bulls and 35 rams located in the last year, 3 breeding bulls were located during the period. One Artificial Insemination Centre was opened by the Department at Veterinary Dispensary, Virudhunagar. In addition to the maintenance of poultry production centre at Malli distribution of exotic birds and eggs in villages was undertaken and thus 60 birds and 970 eggs were supplied during the period.

There were 7 first-aid centres functioning in these areas under the scheme in addition to the departmental institutions. Seven thousand, five hundred and eighty-five cases were treated at these centres and while on tour also by the staff. Twenty-thousand, four hundred and seventy-one animals were protected against contagious diseases.

(xiii) *Nilgiris district*.—There were 2 blocks in the district at Ootacamund and Coonoor.

There were 20 breeding bulls and 6 rams at stud located all over these areas. Cross breeding Scheme was functioning at Ootacamund for improving the local cattle by introducing foreign blood through Artificial Insemination. There was one poultry unit in these areas. Two hundred and thirty-two exotic birds and 42 exotic eggs were supplied in rural areas for raising backyard units.

In addition to Departmental Institutions there were 4 First-Aid Centres. Five thousand eight hundred and fifty-nine cases were treated and 666 castrations were performed at these centres and by the staff while on tour. Prophylactic vaccinations were carried out and thus 8,989 animals were protected against contagious diseases during the period.

CHAPTER XI—VETERINARY PUBLIC HEALTH.

103. The public health activities on veterinary aspect were partly under the purview of this department which consisted of inspection of milking yards and milch animals belonging to public institutions, inspection of meat at abattoirs and inspection of lethal chambers maintained by municipalities. These activities were carried on through the Veterinary Assistant Surgeons of this department.

(a) *Inspection of milch animals*.—The general health of milch animals belonging to 56 co-operative milk supply unions and societies were examined by the staff during the period. The owners of these animals were also given advice on proper housing, judicious feeding and scientific breeding.

The milking yards in the Government human hospitals and the animals brought there for milking were also inspected for their maintenance in good conditions and general health. Thus 60 institutions were inspected during the year by the staff.

(b) *Inspection of meat*.—With a view to ensure the supply of good and hygienic meat for consumption, inspection of animals prior to slaughter and carcasses after slaughter, by the qualified veterinary personnel was insisted upon with the local boards and municipalities which maintain public abattoirs. Thus on a part-time basis 81 slaughter-houses maintained by panchayats and municipalities were under the supervision of Veterinary Assistant Surgeons.

The animals were examined ante-mortem for their fitness for slaughter. Thus 24,289 cattle, 295,155 sheep, 180,020 goats and 340 pigs were inspected ante-mortem and 1,156 cattle, 8,616 sheep and 17,605 goats were condemned as unfit for slaughter.

After the slaughter of animals the carcasses were examined before passing the same as fit for consumption. As a result of these examinations 16,774 carcasses either in whole or in parts were condemned as unfit for consumption during the period.

(c) *Lethal chambers*.—The various municipalities in the State maintain lethal chambers for the destruction of stray dogs, and thereby controlling the incidence of rabies in dogs and the risk of spread of this disease to human beings. This department through its staff provides for the technical advice, and inspection for the proper working and maintenance of these chambers. Thus during the period 44 lethal chambers in which 7,186 dogs were destroyed, were inspected and necessary advice and suggestions were given on the proper destruction of dogs and the upkeep of those lethal chambers.

CHAPTER XII—PROPAGANDA.

(i) *Propaganda Unit*.

104. Propaganda paves the way for progress and its importance is more so in this "Planning Era" of fixing targets and achieving progress in the plan period. The expansion of the department year after year in all angles was considerable and likewise much had been done on the side of educating the illiterate and conservative ryots of the rural parts to take up readily the modern methods in development, care and management of livestock. Besides attending to the various aspects like veterinary education, disease control and treatment, investigation and research, development of livestock, etc., attention was also focussed well upon the propaganda aspect with a view to impress upon the ryots on the advantages and the need for adopting scientific and modern methods in Animal Husbandry, in the interest of the prosperity of the nation.

This aspect of work was carried on (i) in almost all the villages of the State through mass contact with village meetings or personal contacts with distribution of printed leaflets in regional languages during the course of routine tours by the technical personnel in this department and in National Extension Service and Community

Projects schemes as well, (ii) through organising exhibitions on the eve of all departmental functions like Cattle Shows, Annual Day celebrations, various conferences and in the leading Swadeshi and Industrial exhibitions organized in different parts of the State, (iii) through audio-visual medium and (iv) through the conduct of Live-stock Shows and Calf Rallies.

For the purpose, a small propaganda unit consisting of a Veterinary Assistant Surgeon and two artists, with the equipment for photography and audio-visual education has been functioning during the period. The main functions of this unit were (1) to participate in leading exhibitions of the State, (ii) to prepare leaflets, charts, posters, maps, models, etc., for exhibitions and supply to district staff and (iii) to screen educational films on Animal Husbandry in various parts of the State.

During the period, the following leaflets, posters, maps and photographs were prepared :—

(a) *Leaflets*.—Translation of the “ Farm News Release ” issued by Indian Council of Agricultural Research was undertaken and the following were translated and distributed to the departmental officers :—

Farm News Release Nos. 44, 49, 52, 55, 58, 62, 65, 85, 88, 91 and 97.

(b) *Posters, charts and maps*.—The following posters and charts were prepared during the period :—

1 Milk Yield Curve—Kangayam, Sindhi and Murrah buffaloes	6
2 Maps of Cyclone affected areas	2
3 Plan of the Alamathi Forest Area	2
4 Control of Rinderpest in Madras State	2
5 Artificial Insemination in Cattle (Graphs)	2
6 Graph showing the yearwise mortality among the adult and young stock.	1
7 Organization of the department	4
8 Poultry graphs	8
9 Graph showing the Natural Services, insemination, calves born verified, etc.	15
10 Poultry Drawing	2
11 Folders	2
12 Posters regarding the First and Second Five-Year plans.. .. .	2
13 Posters on Rabies	1

Photographs.—During the period under report a number of photographs of breeds of cattle were taken and enlarged. The following events and working of the institutions were photographed :—

- (i) More Milk Day.
- (ii) Government Milk Factory.
- (iii) Quarantine Stations.

(ii) *Livestock shows*.

105. During the period under report two district cattle shows and 15 one day cattle shows were conducted. “ More Milk Day ” celebrations on the eve of Tamil Years Day all over the State, was another noteworthy annual festival-like feature of the department celebrated during the period.

(1) *One Day Cattle Shows*.—These shows are commonly arranged at either taluk or firka or village level in various places of the State and usually as a part of the programmes during the celebrations like “ More Milk Day ”, “ Gosamvardhan Week ”, “ Pongal Week ”, etc., or at the time of local fairs or festivals. Though termed as a “ Cattle Show ” all species of livestock, viz., cattle, sheep, goats, poultry, etc., were also included in the list of exhibits. Thus 16 cattle shows were held during the period of which 5 were conducted by agencies other than this department. These shows were organized with the enthusiastic co-operation and donations from the public, supplemented with the contribution to the tune of Rs. 100 to Rs. 200 from the Government. A total number of 1,315 animals belonging to various species of domesticated livestock participated in these shows. Two hundred and forty-eight prizes were awarded to the best and well-kept ones to a value of about Rs. 1,500.

(2) *District Cattle Shows*.—During the period under report the programme of conducting cattle shows at district level as envisaged in the Second Five-Year Plan of the department was carried out in the following districts :—

1. Coimbatore.
2. Ramanathapuram.

For these shows the Government were pleased to sanction a sum of Rs. 2,000 for each show. These shows were organized with the co-operation of the public and their donations. In these shows a total number of 857 animals participated out of which 208 were awarded prizes to the tune of about Rs. 2,600.

(3) *More Milk Day*.—Besides stepping up production through schemes under First and Second Five-Year Plans it was thought useful to quicken the effect of these, by rousing the “ milk consciousness ” among people in general, and those in rural parts in particular. For this purpose, festival-like features as “ More Milk Day ” on a State-wide scale which was considered fit to be organized every year on a fixed day and was inaugurated in the last year to stress on the importance of milk, as more or less a cheap whole some food and on the need for increased consumption, thereby providing a fillip to augment the production of milk, was celebrated during the period.

The day was celebrated in Madras City and in the rural and urban parts of districts through the active co-operation of Revenue, Hindu Religious Endowment Board and Co-operative departments, the various social organizations and the public.

The celebration was organized in various centres inclusive of Rajbhavan at Guindy in Madras City and thousands of poor folk and children were given milk free, by various organizations. Meetings at the Rajaji Hall and Cattle Show at South Indian Athletic Association grounds were organized in Madras City besides a Dairy Exhibition at Rajaji Hall.

Reprints of articles relating to “ Milk Production and Consumption ” both in Tamil and English which were issued for publication in magazines and journals last year and copies of “ Milk—A Symposium ” which was prepared last year to the benefit of the

public containing articles on milk written by various departmental officers were issued to the public.

The celebrations in districts were conducted by the respective Collectors with the active help from District Veterinary Officers. The functions were celebrated in almost all parts of the districts through organizing rallies of animals and children with placards on milk and its importance, free distribution of milk to children, cattle shows, calf rallies and milk yield competitions.

During this celebration a total quantity of 22,088 lb. of milk was distributed free to over 50,000 children and at the request of this department the Commissioner, Hindu Religious and Charitable Endowments made arrangements for distribution of milk to the poor people by the religious institutions under his administration resulting in the distribution of 3,952 Madras measures of milk to about 22,000 children. In all the districts, cattle shows, calf rallies and milk yield competitions were organized at 34 centres.

(iii) Exhibitions.

106. Holding of exhibitions was one of the media utilized during the year for propagating the ideas on Animal Husbandry on modern economic lines and the activities of the department, for which no function of the department was missed to be made use of, for this purpose at all levels, viz., village, taluk, district and State levels. Exhibitions with posters, photos, models, museum specimens, "One Day" "District" and "State Cattle Shows", "Calf Rallies", "Sheep Shows" and Gosamvardhana", "More Milk Day" and "Pongal Week" celebrations. In addition to the departmental functions, the fares and functions of public interest were also well utilized. Thus the departmental exhibitions were held at the following places:—

- (1) Chitra Exhibition, Madurai.
- (2) Tenth All-India Industrial Exhibition at Virudhunagar.
- (3) District Congress, Political Conference, Chingleput.
- (4) All-India Khadi Exhibition, Tiruppur.
- (5) Municipal Exhibition, Mayavaram.
- (6) All-India Khadi and Handloom Exhibition, Salem.
- (7) Village Leaders Seminar, Tellicherry.
- (8) Five-Year Plan Exhibition, Madras.
- (9) Agricultural Show and Exhibition, Katpadi.
- (10) Police Fete and Tattoo, Madras.
- (11) State Co-operative Societies Conference, Madras.

(iv) Film Shows

107. Audio-visual method of propaganda was also adopted during the period with the kind co-operation of United Information Service, Madras, who were kind enough to give on loan now and then, a cine-projector with films. These shows on Animal Husbandry matters were organized in almost all the exhibitions in several cattle shows and during annual departmental celebrations like

"Goshmvardhana Week", "More Milk Day", etc. Besides these, special shows were also arranged in rural parts exclusively for the benefit of ryots in the interior villages. Thus the following districts were covered during the period:—

South Arcot.	Tirunelveli.
Tanjore.	Madurai.
Coimbatore.	

CHAPTER XIII—STATISTICS.

108. During the year, the following are the major items of work done by the section.

Herd books.—The object of maintaining the head books is to provide useful information for the evaluation of livestock work in the livestock farms of the State, for the estimation of Sire Indices, for progeny testing and also for the collection of data for statistical analysis.

The monthly progress reports of the livestock farms containing the details of the pedigree particulars of all animals maintained at these farms are being received and entered in the respective herd books.

109. *Vital statistics.*—The vital statistics of this department giving information on the facts of the livestock population of this State, and depicting the activities both on the disease and livestock work of this department is also being collected every month. The talukwar particulars regarding the work turned out in each of the veterinary institutions of this State giving the details of the number of cases treated for contagious and non-contagious diseases, castrations performed, number of outbreaks received, incidence of mortality, number of inoculations done, number of animals slaughtered, number of cattle fairs and shows held, are classified and tabulated.

On the livestock development work the details of the breeding bulls distributed under various schemes with their progress of grading work turned out in each district are collected and compiled.

Statistical data pertaining to the incidence of scheduled diseases that affect the livestock of this State were collected, compiled and tabulated. A press bulletin embodying the data about the incidence of these diseases along with the forecast was also prepared every month.

In addition to the above work, all the developmental schemes including those under the Second Five-Year Plan were formulated and the progress of work evaluated.

110. The following items of statistical analysis were also undertaken during the year under report and the details of analysis and

the interpretation of results are furnished below under each item :—

(i) Study on the birth weight of calves of Sindhi and Kangayam breeds with particular reference to their variation from calving to calving.

(ii) Study on the gestation period of cows of Sindhi and Kangayam at Livestock Research Station, Hosur, and its variation with the order of lactation.

(iii) Correlational study on the relationship between the calving interval, and the milk yield of the succeeding lactation in respect of Sindhi and Kangayam breeds.

(iv) Study on the first lactation yields of cows born in different months of a year to find out the variation in milk yield.

(v) Study on the daily individual milk yield of Sindhi and Kangayam breeds and its variation from month to month from the date of calving.

(vi) Study on the fat percentage of milk with special reference to its variation from date of calving.

(vii) Correlational and regression studies on the association between the milk yield of first lactation months and that of total lactation yield in respect of Sindhi and Kangayam breeds and drawing of prediction curves on the basis of the regression equations obtained therein.

The details on the above for the year has been furnished in the corresponding chapter of Part I of this report.

CHAPTER XIV—FINANCE.

The details of expenditure are given in Table VIII annexed to this report.

111. The total receipts and expenditure of the departmental during 1st November 1956 to 31st March 1957 are given below :—

						RS.
Receipts	...	...	...	...	...	4,54,128-00
Expenditure	...	...	...	...	...	25,79,817-00

TABLE I.—*Statistics of mortality from contagious diseases and other causes among livestock in the Madras State during the period from 1st April to 31st October 1956.*

[illegible]

TABLE I.—Statistics of mortality from contagious diseases and other causes among livestock in the Madras State during the period from 1st April to 31st October 1956—cont.

	Goats.										Dogs.			
	Poultry.					Camels.					Rabies.		Other contagious diseases.	
	Anthrax.	Goat-pox.	Pleuro pneumonia.	Foot and mouth.	Scabies.	Other contagious and parasitic diseases.	Total.	Mange.	Pleuro pneumonia.	Other contagious and parasitic diseases.	Total.	Other causes.	Total.	Other causes.
	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
1st April to 31st October 1956—Attacks.	176	30	..	..	..	2	208	23	28	..	28	2	28	2
1st April to 31st October 1956—Deaths.	176	10	..	..	..	..	186	..	28	..	28	..	28	..
1955-56—Attacks	322	54	..	..	..	..	376	..	16	..	16	..	16	..
1955-56—Deaths	322	39	..	..	..	..	361	..	16	..	16	..	16	..
	All animals.										Total (contagious diseases).			
	Total (contagious diseases).					Total (contagious diseases).					Total (contagious diseases).			
	Total (contagious diseases).					Total (contagious diseases).					Total (contagious diseases).			
1st April to 31st October 1956—Attacks.	615	144	..	..	..	..	789	..	..	..	..	..	..	..
1st April to 31st October 1956—Deaths.	632	83	..	..	..	..	715	..	..	..	..	..	..	..
1955-56—Attacks	1,191	187	..	..	..	..	1,426	736	..	..	..	..	..	..

1st April to 31st October 1956.

Serial number and name of the disease against which inoculation was undertaken.	Method of inoculation.		Source of product.		Number of out breaks in which inoculations were undertaken.		Number of villages affected in these out breaks.		Population of the affected villages.		Number of animals which died un-inoculated in the course of outbreaks.		Number of animals inoculated.		Number of inoculated animals which died of the disease.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1 Rinderpest ..	..	Vaccine alone in free areas.	Institute of Veterinary Preventive Medicine, Rampet.	..	..	..	..	..	..	..	..	..	..	..	..	..
		Serum alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	..	..	..	..
		Serum simutheoneons in free areas.	Do.	..	..	..	..	..	..	..	..	..	..	..	..	..
			Total	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Haemorrhagic septicemia.		Vaccine alone in affected areas.	Institute of Veterinary Preventive Medicine, Rampet.	306	304	155,404	1,310	..	..	91,035	..	..	4	..	..	..
		Vaccine alone in free areas.	Do.	..	..	..	..	..	..	51,460	..	..	..	..	..	..
			Total	306	304	155,404	1,310	..	..	142,495	..	..	4	..	..	..

Goals.

	Goats.					Dogs.				
	Anthrax.	Goat-pox.	Pneumonia.	Foot and mouth.	Scabies.	Other contagious diseases.	Total.	Other contagious diseases.	Total.	Other causes.
1st April to 31st October 1956—Attacks.	176	30	..	..	..	2	208	23	28	2
1st April to 31st October 1956—Deaths.	176	10	..	..	..	..	186	..	28	2
1955-56—Attacks	322	54	..	..	..	..	376	..	16	..
1955-56—Deaths	322	39	..	..	..	..	361	..	16	..

	Poultry.					Camels.					All animals.				
	Ranikhet diseases.	Fowl-pox.	Spirochaetosis.	Coccidiosis.	Other contagious diseases.	Total.	Surra.	Mange.	Pneumonia.	Other contagious diseases.	Total.	Other causes.	Total (contagious diseases).	Total (other causes).	Grand total (contagious diseases and other causes).
1st April to 31st October 1956—Attacks.	615	144	..	..	..	789	..	..	..	..	..	..	8,711	143	8,854
1st April to 31st October 1956—Deaths.	632	83	..	..	..	715	..	..	..	..	..	..	5,067	57	5,124
1955-56—Attacks	1,191	187	..	..	42	1,420	736	..	..	..	..	..	28,975	9,794	33,768
1955-56—Deaths	1,171	108	..	..	42	1,321	736	..	..	..	..	..	20,418	4,759	25,177

TABLE II.—Summary of results of preventive inoculations in the Madras State during the period from 1st April to 31st October 1956.

Serial number and name of the disease against which inoculation was undertaken.	Method of inoculation.	Source of product.	(1)	(2)	(3)	Number of outbreaks in which inoculations were undertaken.			(5)	(6)	Number of animals which died unin- oculated in the course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.
						(4)	(7)	(8)			(9)	(10)	(11)	(12)	(13)	(14)	
1 Rinderpest ..	..	Vaccine alone in free areas.	..	..	Institute of Veterinary Preventive Medicine, Ranipet.	..	..	..	..	..	Bovines.	Hquines.	Others.	Bovines.	Hquines.	Others.	..
		Serum alone in free areas.	..	..	Do.	..	..	..	..	..	..	..	..	..	..	..	..
		Serum simutheneous in free areas.	..	..	Do.	..	..	..	..	..	..	..	..	..	..	..	..
		Total ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Haemorrhagic septicaemia.	Vaccine alone in affected areas.	Institute of Veterinary Preventive Medicine, Ranipet.	306	304	155,404	1,310	..	..	..	..	..	..	..	..	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total ..	..	306	304	155,404	1,310	..	..	..	..	..	..	..	..	..	..	..

TABLE II.—Summary of results of preventive inoculations in the Madras State during the period from 1st April to 31st October 1956—cont.

Serial number and name of the disease against which inoculation was undertaken.	Method of inoculation.	Source of product.	Number of outbreaks in which inoculations were undertaken.			Number of villages affected in these outbreaks.			Population of the affected villages.			Number of animals which died uninoculated in the course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)			
3 Black Quarter	Vaccine alone in affected areas.	Institute of Veterinary Medicine, Ranipet.	658	..	..	..	658	168,165	1,588	..	..	108,912	..	..	..	..	..	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total		658	..	..	..	658	168,165	1,588	..	..	203,763	..	..	..	..	..	..	..	..
4 Anthrax (Cattle)	Spore vaccine in affected areas.	Institute of Veterinary Medicine, Ranipet.	25	..	..	25	19,780	99	1	..	..	5,761	..	..	..	..	..	..	..	..
	Spore vaccine in free areas.	Do.	..	..	..	..	..	..	..	..	..	1,518	..	..	..	..	..	..	..	..
	Total		25	..	..	25	19,780	99	1	..	..	7,279	..	..	..	..	..	..	..	..
5 Anthrax (Sheep)	Vaccine alone in affected areas.	Institute of Veterinary Medicine, Ranipet.	28	..	..	28	11,629	..	..	..	451	..	..	..	..	..	..	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Total		28	..	..	28	11,629	..	..	..	451	..	..	..	..	..	..	..	..	..

6 Sheep pox..	Vaccine alone in affected areas.	Institute of Veterinary Medicine, Ranipet.	39	39	10,808	..	..	169	..	..	..	6,863	..	..	..	..	..	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	24,049	..	..	..	..	..	..	..	..
	Total		39	39	10,808	..	..	169	..	..	..	30,912	..	..	..	..	..	..	..	..
7 Enterotoxaemia	Cl. welchii anaculture in affected areas.	Institute of Veterinary Medicine, Ranipet.	17	17	9,362	..	..	110	..	..	..	6,870	..	..	..	..	..	..	..	..
	Cl. welchii anaculture in free areas.	Do.	..	..	..	..	..	..	..	..	..	2,822	..	..	..	..	..	..	..	..
	Total		17	17	9,362	..	..	110	..	..	..	9,692	..	..	..	..	..	..	..	..
8 Goat Pox	Vaccine alone in affected areas.	Institute of Veterinary Medicine, Ranipet.	1	1	..	..	..	10	..	..	..	950	..	..	..	..	..	..	..	..
	Total		1	1	..	..	..	10	..	..	..	950	..	..	..	..	..	..	..	..
9 Ranikhet Disease	Vaccine alone in affected areas.	Institute of Veterinary Medicine, Ranipet.	39	39	65,001	..	..	539	..	..	..	21,479	..	..	..	..	..	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	..	152,502	..	..	..	..	..	..	..	..
	Total		39	39	65,001	..	..	539	..	..	..	173,981	..	..	..	..	..	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Serial number and name of the disease against which inoculation was undertaken.	Method of inoculation.	Source of product.	Number of outbreaks in which inoculations were undertaken.	Number of villages affected in these out- breaks.	Population of the affected village.	Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	Bovines.	Equines.	Others.
10 Fowl-pox	Vaccine alone in affected areas.	Institute of Veterinary Preventive Medicine, Ranipet.	5	5	1,175	..	..	35	..	..	781	..	..	..
	Vaccine alone in free areas.	Do.	..	..	..	..	..	..	..	..	2,560	..	..	..
Total		..	5	5	1,175	..	..	35	..	..	3,341	..	..	..
Grand total for 1st April to 31st October 1956		..	1,120	1,118	441,324	2,997	1	1,305	568,511	..	233,007	4	..	6
Grand total for 1955-56		..	3,796	3,821	1,593,858	16,458	..	3,627	1,706,924	..	273,659	41	..	88

Years.	Number of veterinary institutions.			Number of Veterinary Assistants employed.			Number of in-patients treated.				Number of out-patients treated.				Castrations performed.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
1st April to 31st October 1936.																		
1955-56	103	105	105	4,372	76	308	4,756	177,518	3,639	74,135	255,292	260,048	1,030	35,127	52	10,882	46,061	
1954-55	94	101	101	5,050	141	2,230	7,421	166,053	3,550	74,544	244,147	251,568	1,646	32,111	40	10,983	43,134	

TABLE IV.—Statement showing the number of animals treated and castrated by the Touring Veterinary Assistant Surgeons during the period from 1st April to 31st October 1956.

Years.	Castrations performed.				Treated for contagious.				Treated for non-contagious.				Total number of castrations performed and cases treated.		
	Number of Veterinary Assistant Surgeons.	Number of villages visited by the Veterinary Assistant Surgeons.	Bovines.	Equines.	Others.	Total.	Bovines.	Equines.	Others.	Total.	Bovines.	Equines.		Others.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1st April to 31st October 1956.	72	4,807	15,384	9	2,164	17,557	2,760	..	190	2,959	62,306	562	11,091	73,959	94,466
1955-56	95	11,555	33,794	28	5,843	39,665	4,740	..	444	5,184	103,556	827	17,043	121,426	166,275
1954-55	92	13,223	32,268	3	5,030	37,301	13,959	1	931	14,891	98,424	710	24,227	123,361	175,555

TABLE V (a).—Statement showing the number of approved breeding bulls at stud in the State of Madras during the period from 1st April to 31st October 1956.

Districts.	Present on 1st April 1955.				Obtained during the period.				Average prices.				Casualties, transfers, removals, etc., during the period.			
	G		LB		G		LB		G		LB		G		LB	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)																
1 Madras ..	13	..	13	4	..	6	..	..	..	2	..	2	2	..	2	2
2 Chingleput ..	24	..	5	17	..	3	..	..	..	2	..	2	2	..	2	2
3 North Arcot ..	16	..	15	..	..	4	..	..	..	2	..	3	2	..	3	3
4 South Arcot ..	12	3	8	5	1	..	800	..	600	2	..	2	2	..	2	2
5 Tanjore ..	30	9	81	2	..	36	..	..	1,000	..	1	7	..	..	7	7
6 Tiruchirappalli ..	44	1	95	..	..	43	..	..	750	19	..	23	19	..	23	23
7 Madurai ..	49	3	78	12	..	5	..	..	..	15	..	5	15	..	5	5
8 Ramanathapuram *	23	..	16	..	..	7	..	..	..	1	..	..	1	..	..	..
9 Tirunelveli ..	24	4	18	2	..	8	..	..	..	3	..	4	3	..	4	4
10 Coimbatore ..	14	58	34	..	8	0	..	800	..	1	..	..	1	..	..	..
11 Nilgiris ..	10	1	14	..	..	5	..	..	..	3	..	..	3	..	4	4
12 Erode ..	34	101	125	23	37	27	..	..	..	14	29	22	14	29	22	22
13 Salem ..	17	16	74	..	..	19	..	..	..	..	..	4	..	..	4	4
14 South Kanara ..	25	..	35	1	..	5	800	..	..	2	..	1	2	..	1	1
15 Malabar ..	31	..	19	11	..	4	..	..	..	9	..	4	9	..	4	4
Total ..	336	196	630	77	46	158	..	..	..	75	30	83	75	30	83	83
1955-56 ..	311	194	460	152	70	282	..	..	..	97	68	112	97	68	112	112
1954-55 ..	232	210	383	183	59	237	..	..	..	85	75	169	85	75	169	169

TABLE V (a).—Statement showing the number of breeding bulls at stud in the State of Madras during the period from 1st April to 31st October 1956—cont.

Districts.	Number of approved bulls at stud.				RS. A. P.	(18)	(19)	Number of bulls			Number of cows covered during the period.
	Balance on hand as on 31st October 1956.							Required to be maintained.	Short of requirements.	(21)	
	G (14)	LB (15)	O (16)	Total. (17)							
1 Madras ..	15	..	17	32	11,225 14 1	..	13,093	131	114	1,026	
2 Chingleput ..	39	..	6	45	..	..	213,297	2,133	2,098	554	
3 North Arcot ..	14	..	16	30	4,033 0 0	..	255,173	2,552	2,552	1,220	
4 South Arcot ..	15	4	6	25	2,443 4 6	..	350,196	3,502	3,477	538	
5 Tanjore ..	32	8	110	150	8,517 8 0	..	320,900	3,200	3,050	7,516	
6 Tiruchirappalli ..	25	1	115	121	8,720 0 0	..	474,393	3,744	4,621	1,716	
7 Madurai ..	46	3	78	127	7,990 1 0	..	207,576	2,075	1,936	5,416	
8 Ramanathapuram ..	22	..	23	43	6,244 15 2	..	223,257	2,232	2,187	1,238	
9 Tirunelveli ..	23	4	22	49	2,997 6 0	..	141,501	1,367	1,431	1,835	
10 Coimbatore ..	13	65	34	113	..	..	42,628	426	318	5,481	
11 Nilgiris ..	7	1	15	23	..	..	50,000	500	477	596	
12 Erode ..	43	109	130	282	30,348 2 6	..	275,495	2,755	2,742	9,531	
13 Salem ..	17	16	89	122	10,209 11 0	..	731,932	7,320	7,198	4,226	
14 South Kanara ..	24	..	39	63	4,990 0 0	..	309,832	3,098	3,037	1,153	
15 Malabar ..	33	..	19	52	..	..	228,263	2,283	2,228	3,884	
Total ..	368	212	719	1,289	97,719 14 3	..	3,836,676	38,318	37,436	45,481	
1955-56 ..	366	196	630	1,192	1,51,214 12 9	..	3,760,614	39,603	38,417	56,787	
1954-55 ..	330	194	464	988	1,48,437 3 7	..	4,099,100	40,991	40,003	47,066	

NOTE.—G = Government. LB = Local bodies. O = Others.

NOTE.—G = Government. LB = Local bodies. O = Others.

TABLE V (b).—Statement showing the number of approved buffalo bulls at stud in the State of Madras during the period from 1st April to 1st October 1956.

Districts.	Present on 1st April 1956.				Obtained during the period.				Average price.				Casualties, transfers, removals, etc., during the period.		
	Number.				Number.				Average price.				Number.		
	G (2)	LB (3)	O (4)	Total (5)	G (6)	LB (7)	O (8)	Total (9)	G (10)	LB (11)	O (12)	Total (13)	G (14)	LB (15)	O (16)
1 Madras ..	3	..	2	5	..	2	..	2	..	..	..	..	..	..	..
2 Chingleput ..	6	..	2	8	6	..	..	6	..	..	..	..	..	..	..
3 North Arcot ..	6	..	3	9	..	1	..	1	..	..	..	..	..	..	..
4 South Arcot ..	7	..	4	11	..	..	800	800	600	..	..	..	..	..	..
5 Tanjore ..	1	..	23	24	..	5	..	5	100	..	..	..	..	..	..
6 Tiruchirappalli ..	12	..	45	57	..	18	..	18	1,000	..	..	..	..	..	..
7 Madurai ..	23	..	13	36	4	2	..	6	..	2	..	..	..	..	..
8 Ramanathapuram ..	6	..	4	10	..	2	..	2	..	..	..	..	..	..	..
9 Tirunelveli ..	13	..	7	20	1	4	..	5	..	3	..	..	..	..	..
10 Coimbatore ..	1	..	6	7	1	4	1,000	1,000	800	..	..	..	..	..	..
11 Nilgiris ..	1	..	..	1	3	..	..	3	..	3	..	..	..	..	..
12 Erode ..	6	..	5	11	7	..	..	7	..	..	..	..	..	..	..
13 Salem ..	5	..	7	12	..	3	..	3	..	..	..	..	..	..	..
14 South Kanara ..	10	..	12	22	..	1	900	900	500	..	..	..	..	..	..
15 Malabar ..	10	..	3	13	8	..	..	8	..	..	..	..	..	..	..
Total ..	110	..	136	246	30	42	..	72	..	17	..	20	..	..	..
1955-56 ..	66	..	118	184	55	41	..	96	..	11	..	22	..	..	..
1954-55 ..	45	..	66	111	42	64	..	106	..	17	..	14	..	..	..

TABLE V (b).—Statement showing the number of approved buffalo bulls at stud in the State of Madras during the period from 1st April to 1st October 1956—cont.

Districts.	Number of approved bulls at stud.			Net cost for issue and maintenance* of stud bulls.		Population of cows over three years according to census.		Number of bulls		Number of cows covered during the period.
	G. (14)	LB. (15)	O. (16)	Total (17)	RS. A. P. (18)	(19)	(20)	Required to be maintained.	Short of requirements.	
1 Madras ..	3	..	4	7	440 0 0	13,129	131	124	..	..
2 Chingleput ..	12	..	1	13	1,200 0 0	97,525	975	902	..	..
3 North Arcot ..	5	..	4	9	..	69,337	693	684	..	..
4 South Arcot ..	7	..	4	11	773 14 3	59,774	598	587	271	..
5 Tanjore ..	1	..	27	28	2,520 15 0	1,21,800	1,218	1,186	17	..
6 Tiruchirappalli ..	4	..	52	56	5,600 0 0	2,06,621	2,066	2,010	1,270	..
7 Madurai ..	25	..	12	37	2,684 13 0	76,630	766	728	1,469	..
8 Ramanathapuram ..	6	..	6	12	..	76,419	764	752	648	..
9 Tirunelveli ..	11	..	10	21	1,146 3 3	84,113	841	820	682	..
10 Coimbatore ..	2	..	10	12	..	29,618	296	284	..	..
11 Nilgiris ..	1	..	..	1	..	12,000	120	110	..	..
12 Erode ..	13	..	5	18	..	37,399	374	356	..	..
13 Salem ..	5	..	9	14	7,536 0 0	1,30,629	1,306	1,292	3,759	..
14 South Kanara ..	10	..	11	21	2,180 0 0	69,369	693	672	409	..
15 Malabar ..	18	..	3	21	..	1,50,682	1,507	1,486	..	..
Total ..	123	..	158	281	24,081 13 6	12,35,045	12,348	12,082	8,525	..
1955-56 ..	110	..	137	247	40,687 7 11	11,60,083	11,605	11,372	13,919	..
1954-55 ..	70	..	116	186	18,296 11 0	1,27,182	12,718	12,532	9,176	..

NOTE.—G = Government. LB = Local bodies. O = Others.

TABLE V (c).—Statement showing the number of horses and donkeys at stud in the State of Madras during period from 1st April to 31st October 1956.

District.	Present on			Obtained during the period.			Casualties transfers, Removal, etc.			Balance on 31st October 1956.			Population.			Number of animals covered.		
	G. (2)	LB. (3)	O. (4)	G. (5)	LB. (6)	O. (7)	G. (8)	LB. (9)	O. (10)	G. (11)	LB. (12)	O. (13)	G. (14)	LB. (15)	O. (16)	Total. (17)	Mare. (18)	Donkeys. (19)
1 Coimbatore ..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1 Nil.	20	(21)
2 Hosur Cattle Farm.	7	..	..	..	..	..	..	..	..	..	..	..	7	..	..	7 Nil.	11	..
3 Erode ..	3	..	..	..	..	..	..	..	..	..	..	..	3	..	..	3 Nil.	33	..
Total ..	11	..	..	..	..	..	..	..	..	..	..	..	11	..	..	11 * 21,301	64	..
1955-56 ..	6	..	..	2	..	..	..	..	..	..	..	..	6	..	..	6 * 21,361	156	..
1954-55 ..	5	..	..	2	..	..	..	..	..	1	..	..	6	..	..	6 * 21,331	196	..

NOTE.—G = Government.

LB = Local bodies.

O = Others.

* The Population of Mares in the State.

TABLE VI (a).—Livestock fairs in the Madras State during the period from 1st April to 31st October 1956.

Number of fairs held.		Total number of stock present.												Sale and sale price.																																						
														Bullocks.				Cows.				Buffaloes.																														
(1)	(2)	Bulls.	(3)	Bullocks.	(4)	Cows.	(5)	Young Stock.	(6)	Buffaloes.	(7)	Camels.	(8)	Horses.	(9)	Goats.	(10)	Sheep.	(11)	Others.	(12)	Number.	(13)	Average price.	(14)	Maximum price.	(15)	Minimum price.	(16)	Number.	(17)	Average price.	(18)	Maximum price.	(19)	Minimum price.	(20)	Number.	(21)	Average price.	(22)	Maximum price.	(23)	Minimum price.	(24)	Number.	(25)	Average price.	(26)	Maximum price.	(27)	Minimum price.
21	37,659	65,445	6,716	7,964	3,316	..	470	..	..	1,430	24,589	500	900	80	59,580	400	750	50	3,235	300	550	60	3,087	125	200	50																										

TABLE VI (b).—Statement showing the particulars of Livestock shows held during the period from 1st April to 31st October 1956 in the Madras State.

Number of shows held during the period.	Number of animals that completed.										From State fund.	From local sources.	From All-India Cattle Show Society.	From other sources.	Total amount provided.	Amount actually awarded.
	Cattle.	Buffaloes.	Horses.	Sheep.	Goats.	Poultry.										
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)				
17	1,649	152	37	48	89	249	RS. NP.	RS. NP.	RS. NP.	RS. NP.	RS. NP.	RS. NP.	RS. NP.	6,398 92	5,268 84	

TABLE VII.—Livestock slaughtered in recognized slaughter-houses in Madras State during the period from 1st April to 31st October 1956.

Year.	Number of recognized slaughter houses.										Number unlicensed slaughter houses.	Number of animals slaughtered.												
	Cattle.			Sheep and goats.			Pigs.			Others.		Cows.	Dulls and bullocks.	Calves.	He-bu-ta- loes.	She-bu-ta- loes.	Sheep	Goats.	Pigs.	Others.				
	G.	O.	(2)	G.	O.	(3)	G.	O.	(4)												G.	O.	(5)	G.
(1)	..	18	..	62	..	2	..	..	..	..	5,957	7,800	..	5,545	3,463	389,913	253,773	708	..					
Total for the period under report ..	..	41	..	110	..	4	..	..	..	..	24,631	45,023	28	10,698	9,404	1,188,076	632,986	1,436	415					
For last year (1955-56) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Slaughter fee per head.	(20)	Cattle.	(21)	Buffaloes.	(22)	Sheep and goats.	(23)	Pigs.	(24)	Others.	(25)	Total number of animals slaughtered.
Total for the period under report ..	..	RS. A. P.	From annas 4 to rupees 5	From annas 4 to rupees 1-4-0.	From anna 1 to annas 10	From annas 5 to annas 6.	From annas 5 to annas 6.	From annas 5 to annas 6.	From annas 5 to annas 6.	From annas 5 to annas 6.	From annas 5 to annas 6.	From annas 5 to annas 6.
For last year (1955-56)	..	0 4 0	0 4 0	0 4 0	0 1 0	0 5 0	0 6 0	0 6 0	0 6 0	0 6 0	0 6 0	1,912,702

G = Government.

N.B.—Above particulars are limited that number of local boards of the State which furnished the figures.

O = Others.

TABLE VIII.—Cost of Animal Husbandry Department in the State of Madras during the period from 1st April to 31st October 1956.

Major head. (1)	Expenditure from 1st April to 31st October 1956.		
	State. (2)	Local bodies. (3)	Total. (4)
	RS.		RS.
Director and District Administration ..	2,54,502	..	2,54,502
Subordinate Veterinary Establishment ..	2,69,355	..	2,69,355
Hospitals and Dispensaries ..	3,50,326	..	3,50,326
Veterinary Education and Research ..	3,93,175	..	3,93,175
Other Charges ..	1,30,649	..	1,30,649
Breeding Operations ..	11,50,171	..	11,50,171
Works ..	31,639	..	31,639
Total ..	25,79,817		25,79,817

TABLE IX.—Strength of staff and how distributed in the State of Madras during 1st April to 31st October 1956.

Description. (1)	Whether paid from State, Central or Local Funds. (2)	Gazetted Officers.		Subordinate staff.	
		Scale of pay. (3)	Number. (4)	Scale of pay. (5)	Number. (6)
		RS.			
Head of the Department ..	State ..	1,200—1,450.	1	..	..
Deputy Director of Animal Husbandry (Livestock).	Do. ..	800—1,000.	1	..	..
Deputy Director of Animal Husbandry (Veterinary).	Do. ..	Do.	1	..	..
Deputy Director of Animal Husbandry (Key Villages).	Partly by State and by Government of India.	Do.	1	..	..
Principal, Madras Veterinary College.	State ..	Do.	1	..	..
Regional Sterility Officer ..	Partly by State and by I.C.A.R.	Do.	1	..	..
Superintendent, Institute of Veterinary Preventive Medicine.	State ..	Do.	1	..	..
Superintendent, Livestock Research Station, Hosur Cattle Farm.	Do.	260—700.	1	..	..
Professor in Physiology ..	Do.	420—700.	1	..	..
Professor in Anatomy ..	Do.	Do.	1	..	..
Professor in Surgery ..	Do.	Do.	1	..	..
Professor in Pathology ..	Do.	Do.	1	..	..
Professor in Medicine ..	Do.	Do.	1	..	..
Professor in Pharmacology ..	Do.	Do.	1	..	..
Professor in Hygiene ..	Do.	Do.	1	..	..
Professor in Animal Genetics.	Do.	Do.	1	..	..
Professor in Animal Nutrition.	Do.	Do.	1	..	..
Professor in Biology ..	Do.	Do.	1	..	..
Lecturer in Chemistry ..	Do.	260—700.	1	..	..

TABLE IX.—Strength of staff and how distributed in the State of Madras during 1st April to 31st October 1956—cont.

Description. (1)	Whether paid from State, Central or Local Funds. (2)	Gazetted Officers.		Subordinate staff.	
		Scale of pay. (3)	Number. (4)	Scale of pay. (5)	Number. (6)
		RS.			
Lecturer in Animal Husbandry (Agricultural College, Coimbatore).	State.	260—700.	2	..	..
Research Officer, Madras, Helminthiasis Scheme, Madras Veterinary College.	Do.	Do.	1	..	..
Veterinary Disease Investigation Officer (Cattle), Ranipet.	Do.	Do.	1	..	..
Veterinary Disease Investigation Officer (Poultry), Ranipet.	Do.	Do.	1	..	..
Veterinary Disease Investigation Officer (Sheep and Goats), Ranipet.	Do.	Do.	1	..	..
Lecturer in Agriculture, Madras Veterinary College.	Do.	Do.	1	..	..
Lecturer in Flaying ..	Do.	Do.	1	..	..
Lecturer in Bacteriology ..	Do.	Do.	1	..	..
Lecturer in Parasitology ..	Do.	Do.	1	..	..
Lecturer in Stockmen Course.	Do.	Do.	4	..	..
Additional Lecturer for Physiology.	Do.	Do.	1	..	..
Additional Lecturer for Anatomy.	Do.	Do.	1	..	..
Additional Lecturer in Animal Husbandry, Madras Veterinary College.	Do.	Do.	1	..	..
District Veterinary Officers ..	Do.	Do.	19	..	..
Superintendent, Livestock Research Station, other than Hosur Cattle Farm.	Do.	Do.	5	..	..
Poultry Development Officer, Madras.	Do.	Do.	1	..	..
Animal Husbandry Statistician.	Do.	Do.	1	..	..
Special Officer for Freeze Dried Vaccine, Institute of Veterinary Preventive Medicine, Ranipet.	Do.	Do.	1	..	..
Inspector of Livestock, Coimbatore.	Do.	235—325.	1	..	..
Superintendent, Kangayam Cattle Improvement Scheme, Palayakkottai.	I.C.A.R.	260—700.	1	..	..
Special Officer, Artificial Insemination, Madras.	State ..	Do.	1	..	..
Research Officer, Institute of Veterinary Preventive Medicine, Ranipet.	Do.	Do.	1	..	..
Assistant Research Officer for Cross-Breeding Scheme.	Partly State and partly I.C.A.R.	Do.	1	..	..
Sheep and Goat Development Officer, Madras.	State ..	Do.	1	..	..

TABLE IX.—Strength of staff and how distributed in the State of Madras during 1st April to 31st October 1956—cont.

Description. (1)	Whether paid from State, Central or Local Funds. (2)	Gazetted Officers.		Subordinate staff.	
		Scale of pay.	Number.	Scale of pay.	Number.
		(3) RS.	(4)	(5) RS.	(6)
Research Officer, Virus Vaccine, Institute of Veterinary Preventive Medicine, Ranipet.	Partly State and partly I.C.A.R.	260 | 700.	1	..	..
Special Officer for Milk, Madras.	State	Do. ..	1	..	..
Inspector of Key Villages, Kangayam.	Partly State and partly Government of India.	Do. ..	1	..	..
Personal Assistant to Director of Animal Husbandry (Non-technical)	State	300—700.	1	..	..
Research Officer, Animal Nutrition, Madras Veterinary College.	Do.	260—700.	1	..	..
Research Officer, Mastitis, Madras Veterinary College.	Partly State and partly I.C.A.R.	Do.	1	..	..
Research Officer, Brucellosis, Institute of Veterinary Preventive Medicine, Ranipet.	Do.	Do.	1	..	..
Sheep Shearing Farm, Chinnasalem.	State	Do.	1	..	..
Sheep Breeding Officer, Ooty.	Partly State and partly I.C.A.R.	Do.	1	..	..
Accounts Officer, Animal Husbandry department.	State	200—400	1	..	..
Veterinary Assistant Surgeons in Veterinary Institutions.	Do.	..	..	120—5—200—10—250.	113
Veterinary Assistant Surgeons in Touring Billets and Minor Veterinary Dispensaries.	Do.	..	..	Do.	101
Veterinary Assistant Surgeons in Disease Investigation.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons in Institute of Preventive Medicine, Ranipet.	Do.	..	..	Do.	13
Veterinary Assistant Surgeons in Madras Veterinary College.	Do.	..	..	Do.	44
Veterinary Assistant Surgeons in Livestock Farms.	Do.	..	..	Do.	19
Veterinary Assistant Surgeons in Key Villages and Key Farm Centres, Veterinary Assistant Surgeons in Artificial Insemination Centres.	Partly by State and partly by Government of India.	..	..	Do.	33
Veterinary Assistant Surgeons, Sheep Development.	State	..	..	Do.	9
Veterinary Assistant Surgeons, Poultry Development.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons, Cross-breeding Scheme, Ootacamund.	Do.	..	..	Do.	1
Veterinary Assistant Surgeons, Clinical Laboratories.	Do.	..	..	Do.	13

TABLE IX.—Strength of staff and how distributed in the State of Madras during 1st April to 31st October 1956—cont.

Description. (1)	Whether paid from State, Central or Local Funds. (2)	Gazetted Officers.		Subordinate Staff.	
		Scale of pay.	Number.	Scale of pay.	Number.
		(3) RS.	(4)	(5) RS.	(6)
Veterinary Assistant Surgeon in Statistical Section.	State	..	..	120—5—200—11—250.	1
Veterinary Assistant Surgeon in Office of the Director of Animal Husbandry, Madras.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon in Propaganda Unit.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon, Glanders Inspector.	Do.	..	..	Do.	1
Veterinary Assistant Surgeons, Forest Department.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons, Agricultural department.	Do.	..	..	Do.	3
Veterinary Assistant Surgeons, King Institute, Guindy.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons, Community Projects and National Extension Service.	Do.	..	..	Do.	111
Veterinary Assistant Surgeons, Quarantine station.	Do.	..	..	Do.	5
Veterinary Assistant Surgeons, Mobile Unit.	Do.	..	..	Do.	2
Veterinary and Livestock Inspectors—District work	State	..	..	90—3—120—4—160.	..
Disease investigation	Do.	..	..	Do.	1
Livestock farms	Do.	..	..	Do.	6
Sheep Section	Do.	..	..	Do.	2
Artificial Insemination Centres.	Do.	..	..	Do.	13
Key Village and Key Farm centres.	Partly by State and partly by Government of India.	..	..	Do.	53
Cross-breeding Scheme	I.C.A.R.	..	..	Do.	5
Quarantine stations	Rinderpest Control Committee.	..	..	Do.	22
Community Projects and National Extension Service.	State and Central.	..	..	Do.	51
Madras Veterinary College.	State	..	..	..	2
Stockmen—District work	State	..	..	60—3—105	60
Disease investigation	Do.	..	..	Do.	..
Livestock farms	Do.	..	..	Do.	4
Sheep section	Do.	..	..	Do.	1
Artificial Insemination Centres.	Do.	..	..	Do.	14
Key Village and Key Farm centres.	Partly by State and partly by Central.	..	..	Do.	94
Cross-breeding Scheme	I.C.A.R.	..	..	Do.	4

TABLE IX.—*Strength of staff and how distributed in the State of Madras during 1st April to 31st October 1956—cont.*

Description. (1)	Whether paid from State, Central or Local Funds. (2)	Gazetted Officers.		Subordinate staff.	
		Scale of pay. (3)	Number. (4)	Scale of pay. (5) RS.	Number. (6)
<i>Stockmen—cont.</i>					
Community Projects and State and National Extension Central. Service.		..	..	60—3—105	31
<i>Compounders and Stockmen Compounders—</i>					
District work State		..	..	35—1—60	94
Livestock Farms Do.		..	..	Do.	8
Artificial Insemination Centres. Do.		..	..	Do.	1
Community Projects and State and National Extension Central. Service.		..	..	Do.	2
<i>Madras Ministerial Staff—</i>					
Senior Superintendent .. State		..	..	190—10—240.	1
Junior Superintendents .. Do.		..	..	140—5—190	6
Office Managers Do.		..	..	115—5—140	2
Accountants Do.		..	..	80—3—95—5—110.	9
Upper Division Clerks, I Grade. Do.		..	..	80—3—95—5—125.	20
Upper Division Clerks, II Grade. Do.		..	..	80—3—95—5—110.	23
Lower Division Clerks .. Do.		..	..	45—3—60—2—90.	66
Typists Do.		..	..	45—3—60—2—90 + Rs. 10 special pay.	33
Steno-typists Do.		..	..	45—3—60—2—90 + Rs. 10 special pay.	2
Clerk-cum-typist Do.		..	..	45—3—60—2—90.	1
Store-Keepers Do.		..	..	45—3—60—2—90.	7
<i>Government Milk Factory, Madras—</i>					
Manager State		..	..	175—5—190—10—250.	1
Supervisor Do.		..	..	100—5—150—10—200.	1
Assistant Supervisor .. Do.		..	..	60—4—100	1
Electrical Foreman .. Do.		..	..	150—10—240..	1
Electrician Do.		..	..	90—5—120	1
Wireman Do.		..	..	35—2—55—1—60.	1
Boilermen Do.		..	..	35—2—55—1—60.	1
Assistant Boilermen .. Do.		..	..	24—1—32—1—35.	1
Compressors Do.		..	..	35—2—55—1—60.	2
Tinker Do.		..	..	35—2—55—1—60.	1
Van drivers Do.		..	..	45—1—50	4
Van mechanic Do.		..	..	45—1—50	1
Van cleaner Do.		..	..	15—1—20	1
Van attenders Do.		..	..	24—1—35	4

TABLE X.—WORKING OF THE VETERINARY COLLEGE IN MADRAS STATE DURING THE PERIOD FROM 1ST APRIL TO 31ST OCTOBER 1956.

TABLE X.—Working of the Veterinary College in Madras State during the period from 1st April to 31st October 1956.

Details furnished in Part II of Table X.

TABLE X (a).—Training classes for stockmen and compounders during the period from 1st April to 31st October 1956.

Details furnished in Part II of Table X (a).

TABLE XI (a).—Statement showing the location and other particulars of livestock farms in the State of Madras during the period 31st October 1956.

Cattle and buffaloes.

Name and address of the farm.	Area of the farm.		Purpose of the farm and herd breeding experience, mental or dairy, etc..	Breed.	Strength of the herd.					Number of sires issued during the period.			Location average.					
	Total.	Under cultivation.			(2)	(3)	(4)	(5)	(6)	(7)	(8)	Period under report.	Last year.	Year before last.	Milk yield of the herd per lactation completed.	(12)	(13)	(14)
1 Livestock Research Station, Hosur Cattle Farm P.O.	1,646-41	1,187-07	To produce pedigree bulls for supply to the districts and to carry out livestock research.	Sindhi .. Kangayam .. Gir .. Cross-breed .. Hallikar .. Murrah buffaloes ..	.. .. .. .. .. ..	111 103 28 16 3	200 160 60 25 ..	91 71 19 12 ..	91 71 19 12 ..	7 1	51 33 16 9 2	86 56 7 5 3	4,193-3 1,747-2 1,747-2 4,668-9 4,604-8	304-4 242-3 242-3 331-0 341-0	123-7 136-7 136-7 113-0 122-0	.. .. .. .. ..	.. .. .. .. ..	.. .. .. .. ..
2 District Livestock Farm, Orathanad.	280-00	167-00	To improve the live-stock of the district, and to supply Umblachery bulls to public.	Umblachery .. Sindhi .. Murrah .. Kangayam ..	.. .. .. ..	2 7 2 14	33 17 43 ..	78 47 53 ..	78 47 53 ..	15 16 6 ..	.. .. .. ..	.. .. .. ..	588-7 4,245-3 4,519-2 ..	214-07 318-3 286-3 ..	144-8 80-8 74-8 ..	.. .. .. ..	.. .. .. ..	.. .. .. ..

3 District Livestock Farm, Pudukkottai.	9.26	5.98	To improve the live-stock of the district and to run a small scale dairy farm.	Sindhi .. Graded Sindhi .. Kangayam .. Murrah .. Gir ..	(5)	(4)	(3)	ACS.	ACS.	3	1	..	..	4,666.5 3,395.0 2,152.0 ..	422.0 339.0 349.0 ..	128.0 142.0 136.0 ..	..	..	..
4 District Livestock Farm, Malabar.	381.28	181.42	To produce pedigree bulls for supply to districts.	Sindhi .. Gir .. Murrah .. Dharwar ..	(5)	(4)	(3)	ACS.	ACS.	1	3	..	..	4,619.5 4,654.4 2,364.6 ..	353.0 322.0 304.0 ..	87.0 114.0 143.0 ..	..	..	..
5 District Livestock Farm, South Kanara.	760.0	550.00	To improve livestock of the district.	Murrah buffaloes .. Dharwar .. Sindhi .. Gir .. Local cows ..	(5)	(4)	(3)	ACS.	ACS.	..	..	..	..	3,997.4 1,856.4 3,320.9 4,011.6 494.9	317.0 273.0 323.0 328.0 269.0	115.0 142.0 139.0 153.0 141.0	..	..	..

TABLE XI (d).—Statement showing the location and other particulars of livestock farms in the State of Madras during the period from 1st April to 31st October 1956.

Poultry.

Name and address of the farm.	Area of the farm.		Purpose of the farm and flock.	Breed.	Number of birds in each breed.			Number of cockerels issued for breeding during the period.			Number of hatching eggs sold during the period.			Average yield per hen for the year.
	Total.	Under cultivation.			Cocks.	Hens.	Chicks.	Period under report.	Last year.	Year before last.	Period under report.	Last year.	Year before last.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1 Livestock Research Station, Hosur.	1,646.41	1,187.07	To supply hatching eggs and breeding stock of various exotic brood to the public, poultry demonstration units, National Extension Services and Community Projects, etc., and to carry out research on poultry husbandry.	White Leghorn. Rhode Island Red. Black Minorca.	6 9 1	91 105 13	461 938 97	6 9 1	10 13 5	12 8 5	357	162	1,149	86.1 103.2 92.3
2 Poultry Research Station, Madras.	9.88	20 (i) cents.	To do research work on poultry and to supply of birds and eggs to the public and all schemes in the State and (ii) to train out in Poultry Practical Husbandry.	White Leghorn. Rhode Island Red. Black Minorca. Light Sussex. Brown Leghorn. Indigenous.	31 21 1 2 .. 4	184 124 5 17 22 18	995 221 74 5 79 68	520	172	120	1,558	927	305	54.2 54.2 70.4 55.9 49.7 47.56
3 District Livestock Farm, South Kanara.	760.0	550.0	To supply eggs, birds, etc., and to do research on grading up of Desi with Rhode Island Red and problems relating to high rainfall areas.	Rhode Island Red. White Leghorn. Rhode Island Red. Desi cross.	10 6 ..	57 36 14	198 122 1	238 112 ..	366 121 5	518 261 5	763	1,033	838	84.7 91.7 72.8
4 District Poultry Farm, Cannanore.	28.33	1 1/2 acce.	To supply eggs, birds, etc., for improvement of poultry.	White Leghorn. Rhode Island Red.	9 2	80 27	193 121	353 44	294 55	327 40	11,520	5,123	6,731	44.1
5 District Livestock Farm, Orathanad.	278.50	170.00	To supply eggs, birds, etc., to National Extension Service and Community Project Scheme.	White Leghorn. Rhode Island Red.	10 9	39 36	125 46	16 14	..	2 1	619 417	446 273	652 455	..

TABLE XII (a)—Performance of she-buffaloes/cows at the District Livestock Farm, South Kanara, during the period from 1st April to 31st October 1956.

Particulars.	First lactation.				Second lactation.				Third lactation.			
	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Sindhi breed— Daughter of Bull No. 333.	1	1,865.0	304	103	244	..	..	..	..	..	..	..
Their dams	1	3,093.5	334	..	..	..	..	..	..	..	..	..
Cows purchased and of unknown parentage.	3	448.0	235	4.0	148	..	190.5	195	1.5	75	..	626.5
She-buffaloes purchased and of unknown parent- age.	..	..	..	..	..	..	..	..	..	..	..	..
Murrah she-buffaloes purchased and of unknown Sire.	3	2,830.8	277	12.7	64	7	2,090.0	260	17.3	76	..	..
Sindhi breed— Daughter of Bull No. 253.	..	..	..	..	..	..	..	..	..	..	..	..
Daughter of Bull No. 292.	..	..	..	..	..	..	..	..	..	..	..	..
Daughter of Bull No. 236.	..	..	..	..	..	..	..	..	..	..	..	..
Cows purchased and of unknown parentage.	..	..	..	..	..	..	..	..	..	..	..	..
She-buffaloes purchased and of unknown parentage.	..	..	..	..	..	..	..	..	..	..	..	..
Cows of unknown parentage.	..	..	..	..	..	..	..	..	..	..	..	..
She-buffaloes purchased and of unknown parentage.	..	..	..	..	..	..	..	..	..	..	..	..

Particulars.	Fourth lactation.				Fifth lactation.				Sixth lactation.				Seventh lactation.				Eighth lactation.			
	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP
	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Sindhi breed— Daughter of Bull No. 333.	1	3,011.5	276	17.5	301	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cows purchased and of unknown parentage.	..	270.0	225	3.0	157	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
She-buffaloes purchased and of unknown parent- age.	2	2,655.5	334	15.0	153	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murrah she-buffaloes purchased and of unknown Sire.	14	4,437.8	312	21.2	124	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sindhi breed— Daughter of Bull No. 253.	..	..	..	..	..	..	..	..	..	..	1	6,591.0	396	25.0	239	..	..	..	..	..
Daughter of Bull No. 232.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2,840.0	299	18.0	60
Daughter of Bull No. 236.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1,625.0	221	15.0	47
Cows purchased and of unknown parentage.	..	..	..	..	..	4	483.0	263	3.7	60	..	268.5	241	3.8	69	..	..	..	..	..
She-buffaloes purchased and of unknown parentage.	..	..	..	..	..	1	1,576.0	241	11.5	30	..	..	..	..	..	..	..	..	..	..
Cows of unknown parentage.	..	..	..	..	..	1	5,067.0	350	25.0	215	1	3,675.0	373	19.5	202	..	..	..	..	..
She-buffaloes purchased and of unknown parentage.	..	..	..	..	..	5	3,768.0	276	20.6	87	..	..	..	..	..	..	..	..	..	..

NOTE.—NRA = Number of records averaged.

ADM = Average days in milk.

AYM = Average yield of milk in lb.

APY = Average of peak yield in lb.
ASP = Average service period.

TABLE XII (d)—Performances of cows at the District Livestock Farm, Orathanad, as at the end of the period from 1st April to 31st October 1956 classified according to the sires.

Particulars (breeders)	First lactation.					Second lactation.					Third lactation.			
	NBA.	AYM.	ADM.	APY.	ASP.	NBA.	AYM.	ADM.	APY.	ASP.	NBA.	AYM.	ATM.	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
(1)														
Sire No. Sc. 102—	..	..	..	..	137.0	1	3,240.0	329.0	11.4	..	..	..	..	
Daughter	..	..	315.0	..	..	1	109.0	..	..	..	..	..	..	
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 255—	..	..	..	..	239.7	3	4,196.5	286.3	23.0	132.5	1	3,620.0	..	
Daughter	..	..	367.2	14.5	..	3	3,076.3	219.3	..	..	3	4,042.8	..	
Dam ..	..	..	309.0	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 102—	..	..	..	..	118.0	2	2,940.8	308.0	..	87.0	2	3,708.0	..	
Daughter	..	..	74.0	..	..	1	3,503.0	350.0	..	..	..	..	..	
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 282—	..	..	..	..	62.0	1	5,402.5	417.0	..	197.0	1	4,800.0	..	
Daughter	..	..	326.0	..	..	1	2,976.0	351.0	..	..	1	2,822.5	..	
Dam ..	..	..	191.0	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 341—	..	..	..	..	102.0	1	3,399.0	227.0	23.4	134.0	..	1,154.0	..	
Daughter	..	..	373.0	..	..	1	471.5	88.0	..	..	..	..	..	
Dam ..	..	..	128.0	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 481—	..	..	..	..	81.0	2	3,789.5	296.6	20.5	84.5	..	3	4,133.6	..
Daughter	..	..	409.0	..	..	3	3,901.8	354.0	..	..	3	4,133.6	..	
Dam ..	..	..	256.0	..	..	..	..	..	..	..	..	..	..	
Sire No. Sc. 420—	..	..	..	..	141.0	..	..	..	..	104.0	1	3,710.0	..	
Daughter	..	..	430.0	19.2	..	..	3,333.0	329.0	..	..	..	..	..	
Dam ..	..	..	306.0	17.9	..	..	..	..	..	..	..	..	..	

ADMINISTRATION REPORT OF THE

Particulars (breeders)	Third lactation—cont.					Fourth lactation.					Fifth lactation.				
	ADM.		AYM.		ASP.	NRA.		AYM.		ADM.	NRA.		AYM.		ASP.
	(14)	(15)	(16)	(17)		(18)	(19)	(20)	(21)		(22)	(23)	(24)	(25)	
Sire No. Sc. 102—	..	..	..	..	..	..	..	..	..	..	1	4,012.0	300	20.8	..
Daughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 255—	306	17.0	96	1	5,248.5	355	18.0	111	..	..	..	..	..	..	..
Daughter	259	..	..	3	3,608.0	265.3	..	..	..	..	..	..	..	..	..
Dam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 102—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughter	278	..	147	1	5,337.0	332	18.6	148	..	..	..	..	..	..	..
Dam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 282—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughter	306	18.7	..	..	..	..	..	..	..	..	..	..	..	..	..
Dam	296	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 341—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughter	168	..	..	1	198.0	48	..	..	..	..	1	809.8	166	..	..
Dam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 481—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dam	249	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 420—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dam	225	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE—NRA. = Number of records averaged.
AYM. = Average yield in milk.
ADM. = Average days in milk.

TABLE XII (e)—Statement showing the performances of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of period ending 31st October 1956.

Particulars have been furnished in Table II of Part II for the whole year 1956-57.

Statement showing the receipts and disposals of birds in poultry demonstration units in veterinary institutions for the period from 1st April to 31st October 1956.

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ADMINISTRATION REPORT OF THE

Location of unit.	Breed.	Stock on 1st April 1956.	Received by hatch.	Received from outside.	Sold for breeding.	Sold for table.	Transfers to other units.	Loss through deaths, destructions, etc.	Stock on 31st October 1956.	Receipts.	Expenditure.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Kancheepuram	R.I.R.	17	7	3	3	..	..	9	15	80 50	103 00
2 Kaliyampoondi	R.I.R.	23	3	..	2	..	..	22	7	48 81	100 35
3 Thirukalikundram	R.I.R.	17	..	..	..	..	..	..	17	4 03	8 81
4 Cuddalore	W.L.H.	18	..	..	..	..	..	..	18	..	..
5 Kallakuruchi	W.L.H.	38	16	2	6	13	..	7	30	120 53	175 84
6 Tiruvannamalai	B.M.	23	10	2	..	7	2	8	20	125 50	152 14
7 Pallapatty	W.L.H.	17	19	..	1	..	..	10	25	34 44	101 30
8 Kodaikanal	R.I.R.	84	..	..	15	..	6	39	24	92 00	372 12
9 Athoor	R.I.R.	44	..	30	..	..	36	16	22	..	..
10 Thirumalaivan-puram.	B.M.	12	..	..	..	..	..	7	6	73 25	177 39
11 Alanganallur	R.I.R.	27	6	2	18	..	..	2	20	..	..
12 Talakulam	W.L.H.	22	..	..	..	..	..	1	21	..	..
13 Periakulam	B.M.	8	26	..	..	..	..	3	31	..	..
14 Erode	W.L.H.	32	..	6	2	..	5	6	25	..	..
15 Dharpuram	W.L.H.	51	3	..	11	..	..	10	38	322 37	490 11
16 Thiruppur	B.M.	85	137	..	92	..	..	68	62	565 12	437 50
17 Malayampalayam	W.L.H.	38	156	3	70	..	37	14	86	285 62	467 23
18 Kavandapady	W.L.H.	111	138	10	129	..	10	4	125	643 00	545 92
19 Pollachi	R.I.R.	42	50	3	31	..	3	..	61	177 50	461 94
20 Ootacamund	W.L.H.	42	17	20	5	..	19	13	42	169 62	553 78
21 Padukkottai	R.I.R.	35	10	3	..	..	2	22	24	95 37	316 50
22 Nagapattinam	R.I.R.	42	20	..	23	..	..	3	36	251 37	350 61
23 Tanjore	B.M.	..	..	7	..	..	..	1	6	..	29 12
24 Tirunelveli	R.I.R.	7	..	..	..	..	..	..	..	..	..
25 Cheranmahadevi	R.I.R.	8	..	..	..	..	..	..	..	..	..
26 Devakottah	W.L.H.	45	110	..	57	..	27	6	65	615 28	386 48
27 Kozhikode	R.I.R.	58	24	4	..	11	..	38	307	..	..
28 Mangalore	R.I.R.	16	32	..	2	..	..	8	38	..	..
	W.L.H.	18	49	..	4	..	..	5	56	..	..
	R.I.R.	10	..	..	..	..	..	1	9	141 00	134 25
	R.I.R.	17	6	..	6	..	..	4	13	..	..
	R.I.R.	41	10	..	13	..	..	4	34	194 12	242 94
Total ..		1,058	854	95	476	31	135	331	1,028	..	..

N.B.—Details on desi birds maintained in a few of the above units for natural incubation have not been shown.

MADRAS ANIMAL HUSBANDRY DEPARTMENT FOR 1956-57

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Location of unit.	Breed of poultry.	Balance of eggs on 1st April 1956.	Number of eggs					Balance of eggs on 31st October 1956.
			Received from outside.	Collected.	Sold for hatching.	Sold for table.	Set for hatching.	Transferred.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Kancheepuram ..	R.I.R. ..	19	..	405	119	247	18	39
2 Kalampongudi ..	R.I.R. ..	..	..	244	71	140	21	4
3 Thirukalikundram ..	R.I.R. ..	2	..	23	15	2	..	1
4 Cuddalore ..	W.L.H. ..	11	..	448	264	115	35	26
5 Kelakkuruchi ..	B.M. ..	27	..	870	166	376	29	106
6 Tiruvannamalai ..	W.L.H. ..	..	..	376	27	166	22	41
7 Pallapatty ..	R.I.R. ..	1	..	494	334	127	..	..
..	W.L.H. ..	3	..	61	39	18	..	..
..	B.M. ..	1	..	71	64	..	..	..
8 Kodaikanal ..	R.I.R. ..	5	..	965	471	404	35	17
9 Athoor ..	W.L.H. ..	..	..	476	161	275	..	4
10 Thirumalaireyanpuram ..	B.M. ..	..	..	364	119	139	48	49
11 Alanganallur ..	W.L.H. ..	18	..	512	375	98	26	10
12 Tallakulam ..	W.L.H. ..	22	..	1,407	810	395	48	5
13 Periakulam ..	B.M. ..	..	..	2,199	836	839	267	241
14 Erode ..	W.L.H. ..	24	214	1,248	450	485	435	90
15 Dharpuram ..	W.L.H. ..	58	..	1,363	222	506	357	99
16 Tiruppur ..	R.I.R. ..	13	..	1,221	191	786	221	24
17 Malayampalayam ..	W.L.H. ..	44	..	1,346	101	1,045	33	154
18 Kavundapady ..	R.I.R. ..	3	..	716	305	143	79	141
19 Pollachi ..	R.I.R. ..	12	..	944	736	55	97	22
20 Ootacamund* ..	W.L.H. ..	..	..	..	..	..	..	..
21 Pudukkottai ..	W.L.H. ..	15	..	277	36	208	32	9
22 Nagapattinam ..	R.I.R. ..	2	..	25	13	14	..	..

23 Tanjore ..	B.M. ..	4	..	1,420	895	395	53	70	..	11
24 Tirunelveli ..	R.I.R. ..	7	..	837	586	99	122	34	..	3
25 Cheranmahadevi ..	R.I.R. ..	1	50	393	83	117	116	49	75	4
..	W.L.H. ..	1	50	287	72	103	121	14	25	3
26 Devakottai ..	R.I.R. ..	14	..	660	461	213	..	..	..	..
27 Kozhikode ..	R.I.R. ..	1	..	270	212	3	20	36	..	..
28 Mangalore ..	R.I.R. ..	41	..	1,435	685	592	18	163	..	16
Total ..		349	314	21,366	8,919	8,311	2,253	1,450	703	393

* Started on 2nd October 1956.

D. PATTABHIRAMAN,
Director of Animal Husbandry.

ADMINISTRATION REPORT OF THE MADRAS ANIMAL HUSBANDRY DEPARTMENT FOR THE YEAR 1956-57.

PART II.

(From 1st November 1956 to 31st March 1957.)

CHAPTER I—GENERAL.

1. In pursuance of the policy of providing protection to the present population of Livestock of the State and production of pedigreed and better livestock for the future prosperity, the Animal Husbandry Department of Madras State as usual put forth its efforts during the period under report, from all angles of Animal Husbandry in implementing its programme at all levels (viz.) village, district and State.

To cope up with the increased requirements in respect of Technical Personnel and pedigreed livestock consequent on the implementation of schemes drawn by the department under the Second Five-Year Plan, the department made a beginning towards the goal of attaining self-sufficiency in all aspects though faced with paucity of technical personnel and pedigreed stock. The department in its uphill task of development of livestock in this State, did not fail to harness the enriched experience and enthusiasm of Practical Animal Husbandry men from rural parts which could be seen from the existence of a State Livestock Improvement Board at State level and a number of Cattle Improvement Associations in each of the Key Village Centres wherein the above are also members.

The progress in the various sections of this department has been elaborated in the following chapters while the salient features in the various branches of the department during the whole of this year, are dealt with in this chapter.

2. *Administration.*—On account of the growing activities of the department due to the Five-Year Plan Community Projects and National Extension Service Schemes, the technical and administrative work at district level of certain districts grew beyond one's capacity to discharge, as a District Officer, in an efficient manner. So, to make good this hardship and in accordance with the principle that planned efforts in a concentrated way in a compact area bring forth better progress, the three Revenue districts of Tanjore, Tiruchirappalli and Madurai were bifurcated and placed under separate District Veterinary Officers. The District of Nilgiris which was till then under the control of the District Veterinary Officer, Coimbatore West, was separated and placed under a separate District Veterinary Officer.

The growing activities of this department with the resultant increased strength in subordinate offices and expenditure through them on various schemes were canalized with strict economy and efficiency on financial aspect by the opening of a separate audit section under this department with a full complement of staff under the charge of an Accounts Officer.

3. *Veterinary Education.*—To overcome the paucity of technical personnel in the department and to cope up with the increased demand in respect of staff under the Second Five-Year Plan, the student strength of the B.V.Sc. Course was increased from 100 to 120 and that of stockmen course from 100 to 200 in the Madras Veterinary College during the year. In addition to the Stockmen course at the Hosur Cattle Farm, 2 more centres, one at Pudukkottai and another at Orathanad were opened in the District Livestock Farms located in these places.

The Post-Graduate Diploma Course in Veterinary Parasitology which was commenced last year to train veterinarians for the survey and control of parasitic diseases among livestock in various States of India was continued during the year under report.

The Post-Graduate facilities afforded in the college were fully availed of by both students and staff. Six members of staff took up items of research leading to M.Sc., and 2 for Ph.D. degrees of the Madras University. One member of the staff was awarded the M.Sc. degree during the year.

Two of the departmental Veterinary Assistant Surgeons were awarded the Government of India scholarships for post-graduate research work in Animal Nutrition and Pharmacology respectively.

Animal Nutrition department of the college was strengthened with additional staff headed by a Research Officer to carry out research work exclusively on Nutritional problems.

The standard of education imparted in the college was usually high and 68 Veterinary graduates and 99 stockmen qualified successfully during the year.

The programme of constructing additional multi-storeyed block in the Madras Veterinary College and another block in the Hostel at an estimated cost of about Rs. 9.07 lakhs and 6.67 lakhs respectively, was started during the year to meet the increased demand for teaching aids and students residential facilities in this fast growing institution.

The tempo of extra-curricular activities of the students of the college as usual, was of high order. They, for the first time in the annals of the College won the May and Baker shield in the Inter-Collegiate knock out football tournament besides being runners up in the Inter-college league Football tournament during the year. The Inter-collegiate oratorical contests, inter-collegiate tournaments and Inter-University Athletics including boxing were also well represented by the students of this college.

The college through the enthusiastic co-operation of the staff and students took a keen part in the centenary celebrations of Madras University. Variety entertainment programmes, were

organized and an exhibition stall on Veterinary Education and Research was also got up on a grand scale with the co-operation of the department in appreciation of which a Shield was awarded by the Centenary Committee.

4. *Institute of Veterinary Preventive Medicine.*—The production of various biological products at this institute had almost reached the stage of self-sufficiency both in respect of quantity and number of products in this State which could be seen from the fact that only two products (viz.) Johnin, and Mallien in little quantities were purchased from outside for supply to the staff. The supply of various products to other States was continued as usual and bulk supply of Freeze Dried Rinderpest vaccine to Andhra State was also undertaken under the Pilot Scheme for eradication of rinderpest sponsored by Government of India.

Research work was also of growing importance in this institute. Improvement in the technique and methods used in the manufacture of virus vaccines, manufacture of a combined vaccine against Haemorrhagic Septicaemia and Blackquarter, improvement of Haemorrhagic Septicaemia vaccine are some of the noteworthy items that were in progress during the year.

5. *Livestock development.*—Striking feature of this year was the speedy progress in the implementation of various schemes covering all aspects of livestock development which could be well judged from the following items of work carried out during the year :—

- (1) Opening of livestock farm at Ramanathapuram.
- (2) Opening of a Sheep Breeding and Research Station at Chinnasalem.
- (3) Opening of five supplementary Extension centres in Madurai, Chingleput, Salem and North Arcot districts with a view to utilize the breeding bulls available in the Key Village areas.
- (4) Extension of Key Village Scheme in 4 more centres in addition to the existing 9 centres.
- (5) Intensive development of sheep in key village areas.
- (6) Opening of 3 sheep demonstration units.
- (7) Expansion of District Livestock Farm at Orathanad.
- (8) Acquisition of land to the extent of about 600 acres near Pudukkottai.
- (9) Establishment of a cattle colony in the vicinity of Madras City on the lines of Aarey Milk Colony Scheme of Bombay State to solve the problems of milk supply in Madras City.
- (10) Establishment of 6 poultry demonstration centres in rural parts with a strength of 100 birds each.
- (11) Encouragement to private poultry breeders through payment of annual subsidy subject to a maximum of Rs. 850 each for 10 breeders in the year.
- (12) Short practical training course in Poultry Husbandry for selected ryots from National Extension areas in batches of 12.
- (13) Relief to poultry rearing ryots or associations through the supply of Poultry equipment like wire-netting, etc., at subsidized rates.

(14) Intensive poultry development in key village areas through distribution of exotic cockerels for Desi ones in exchange.

(15) Conduct of State Cattle Show and shows at district level in each of the districts.

The existing livestock farms were functioning satisfactorily both in respect of dairy performance and stock of young breeding bulls. Though 2 district livestock farms and one poultry farm were transferred to Karnataka and Kerala States subsequent to reorganization of States during the year, opening of one District Livestock Farm, Sheep Breeding and Research Station, 3 sheep demonstration units and 6 poultry demonstration centres were also implemented.

There were, 1,707 breeding bulls at the end of the year inclusive of buffalo bulls for stud purposes located all over the State under various schemes of the department excluding those at artificial insemination centres and under key village schemes as against 1,439 in the previous year. These bulls have performed 90,384 services during the year. Seven artificial insemination centres were transferred to this department for further maintenance from the Community Projects Scheme on its changing over to National Extension Service pattern of which one was transferred to Kerala State consequent to reorganization of States. During the year 4 more key village centres were opened and 2 more villages were added to each of the 9 Key Village Centres which were already in existence.

The strength of poultry demonstration units in veterinary institution was increased from 19 to 30. The Unit at Veterinary Hospital, Ootacamund, was revived and 12 units were transferred to this department from Community Project Schemes on its conversion into National Extension Service pattern. Two units were transferred to Kerala and Karnataka States on the reorganization of States. These units and poultry farms were maintained satisfactorily and a total number of 4,182 exotic birds and 26,989 eggs were issued to public for rearing and hatching respectively.

6. *Veterinary Health Service and Itinerant Staff.*—The strength of veterinary institutions was further increased consequent on the transfer of 14 institutions for further maintenance from the Community Projects Administration. On account of reorganization of States 15 institutions were transferred to Kerala and Karnataka States while 5 institutions were taken over by this State on the integration of Kanyakumari district. These institutions continued to function very well wherein a total number of 322,380 sick animals were treated and 55,367 animals were castrated during the year as a whole, as against 260,048 cases and 46,061 castrations in the previous year.

The purchase of 12 microscopes for supply to veterinary institutions was sanctioned during the year as an essential aid for the quick confirmation of clinical diagnosis.

The growing popularity and importance of these institutions as felt by the public, was reflected in the good number of appeals, memorials and representations received from all parts of the State for opening more and more of veterinary dispensaries.

Though the strength of the team of touring staff of the department continued to be the same, their utility and efficiency was on the increase for which the statistics on disease position for the year will stand as testimony. There were 1,863 outbreaks of various diseases among livestock, resulting in 9,665 deaths during the year as a whole as against 4,058 outbreaks resulting in 20,418 deaths in the previous year. The speedy attendance of outbreak reports from rural parts and the prompt prophylactic measures adopted in affected areas and well in advance in free areas were the salient aspects of the service rendered by these staff in bringing down the incidence of contagious diseases. To fulfil the expectation of rural public in respect of the expediency and efficiency on that part of itinerant staff in curtailing down the loss of livestock, to the minimum 2 mobile Veterinary Units (van) have been introduced in Tanjore and Chingleput districts as an experimental measure to start with. The experience gained so far is well in favour of providing one for each of the districts. During the whole year under report, 1,330,993 animals and birds have been protected against various contagious diseases of livestock, 136,838 cases treated and 31,271 castrations performed as against 126,610 cases and 35,665 castrations in the previous year by the touring staff during the course of their tours and at their headquarters.

7. *Disease position in the State.*—The State maintained an enviable position in the matter of livestock diseases, when compared with previous years. It will be gratifying to note that the State was continued to be kept free from rinderpest during the year under review. The possibility of spread from neighbouring States was also kept under control by the continuance of the quarantine check posts on all important cattle routes.

It is noteworthy to mention here that the incidence of various contagious diseases among livestock during the year under report was considerably low as could be seen from the fact that only 1,863 outbreak reports with the resultant mortality figure of 9,655 were recorded during the year as against 4,058 outbreaks with 20,418 deaths in the previous year, not only the incidence was low but the severity was also less. This was possible on account of the campaign of advance preventive inoculations organized by the departmental staff periodically in endemic areas, well in advance of the season. The 2 mobile units sanctioned in 2 districts during the period were of immense help and if the same elementary but vital aid is made available in all districts as per all districts, the loss of livestock which affects these main occupation of the rural public (viz.) Agriculture, can be reduced still further to a considerable extent.

It is worthy of mention that during the year under report, the incidence of rabies in the Nilgiris district in a flaring up form, endangering the lives of the entire human population of this hilly region was brought under control effectively and efficiently in time by the departmental staff with the full support of the Collector and co-operation of the Public Health and Municipal staff.

8. *Investigation and Research.*—This branch of the department was further strengthened by the addition of Research staff in the Animal Nutrition Section of The Madras Veterinary College, for

laboratory cum Field study, for solving the problems on Animal Nutrition in respect of this State. Separate schemes for investigation into the incidence and control of Mastitis and Prucellosis in Madras State were submitted to Government and got sanctioned.

The following are the few noteworthy items of research and investigation carried out during the year under review:—

- (1) The safe method of vaccination against Anthrax, specially in sheep.
- (2) Effective method of vaccination against sheep-pox.
- (3) Preparation and study on the combined single vaccine against Ranikhet and Fowl-pox diseases.
- (4) The investigation into the incidence of Brucellosis (abortion) in the State.
- (5) The effect of calfhoo vaccination in eradicating Brucellosis.
- (6) Treatment of early cases of Hæmorrhagic Septicaemia with Sulphamesathine.
- (7) Investigation into the mortality of calves in the urban and rural areas.
- (8) Investigation into the etiological and genetical aspect of Avian Leucosis complex.
- (9) Nutritional factor as a cause of low hatchability in poultry.
- (10) The experimental work on Cirrhosis among dogs in relation to protein diet.

9. *Veterinary Public Health.*—The department plays its vital role not only in the control, cure and protection in respect of diseases of livestock but also in safeguarding the health of the human population of the State. This is done by the effective control of livestock diseases like Anthrax, Rabies, etc., which are also communicable to human beings endangering their lives and by the technical supervision to ensure the release of wholesome milk and meat on sale to the public on hygienic lines.

Preventive vaccination both in affected and free areas against contagious diseases, common to both human beings and livestock, safe burial of carcasses of animals died of these diseases and the destruction of affected animals like rabid dogs were the salient measures adopted towards the safeguard of human lives.

Consumption of wholesome milk by the public was ensured by the inspection of cows and milking yards of co-operative societies and human hospitals.

Wholesome meat was made available to the public by the inspection of slaughter houses maintained by local boards in the State and by the examination of the animals both, before and after slaughter.

10. *Statistics.*—The statistical section continued to do useful work in the collection, compilation and statistical analysis of all problems related to this department. All the schemes formulated for livestock development disease control in this State, were planned with statistical scrutiny. The application of statistical principles for animal husbandry is being fully utilized by this section in analysing the breeding data available in the livestock farms of this State.

Besides the routine items of statistical work arising in the day to-day administration a beginning had also been made for the collection of vital statistics pertaining to Animal Husbandry of this State.

11. *Propaganda.*—Though handicapped for want of a full fledged propaganda section with modern amenities both at State and district levels, much progress had been made in this line, keeping in view the importance of the year under report being the first year of Second Five-Year Plan which aims at the raising of income of individual and Nation as a whole. Besides the usual items of preparation of charts, maps, graphs, models, photographs, leaflets, etc., the translation in regional language of "Farm News Releases" issued from Indian Council of Agricultural Research in respect of Animal Husbandry was undertaken during the year.

Holding of exhibition formed one of the activities of the department and such exhibitions were organized in conjunction with the More Milk Day celebrations, Gosamwardhana Week and Pongal Week, etc. In the centenary exhibitions organized by the Madras University a shield was awarded to the Madras Veterinary College in appreciation of its efforts in putting up a stall in the exhibition.

During the year, 77 livestock shows in rural parts and at district headquarters in each of the districts and 18 calfrallies-cum-cattle shows in key village areas were organized. At State level in Madras City a cattle show was organized during the year for the first time in the annals of the department and incidentally it added credit to our State being the first one to start this as an annual programme for public participation to their benefit. The Second State Poultry Show was also conducted during the period in addition to the above.

CHAPTER II—ADMINISTRATION.

12. The administration control and technical supervision of the activities of the department was vested with the Director of Animal Husbandry, who was assisted by 3 Deputy Directors of Animal Husbandry at State level who were in immediate charge separately of Veterinary, Livestock and Key Village inclusive of Artificial Insemination sections of the department.

(a) *Director of Animal Husbandry.*—Dr. D. Pattabhiraman, G.M.V.C., A.I.D.I., continued to be the Director of Animal Husbandry Department Madras, during the period.

During the period he attended the following meetings:—

Particulars.	Place.	Date of meeting.
(1) Meeting of Advisory Board of Indian Agricultural Research.	New Delhi.	22nd to 26th November 1956.
(2) Meeting on Community Development programme for higher Agricultural production.	Do.	Do.
(3) Regional Conference of Animal Nutrition Department.	Bangalore.	9th to 10th February 1957.

He had also accompanied the Chinese Agricultural Science Study Mission to Chunnampet.

During the course of his tours in the State he had inspected various institutions and offices of subordinate officers of this department like livestock farms, research institution, veterinary institutions, offices of the District Veterinary Officers. As the Chairman of the Madras State-Cattle Show Committee, the conduct of the first State Cattle Show at Madras was well organized by him for the first time at State level.

(b) *Deputy Director of Animal Husbandry Department (Veterinary).*—Dr. I. D. Mantramurthi, G.M.V.C. B.V.S.C., continued to hold the post of Deputy Director of Animal Husbandry (Veterinary) during the period, under report.

The offices of District Veterinary Officers, and Veterinary Disease Investigation Officers, veterinary institutions, touring billets, slaughter houses, quarantine stations and the work of Extension Officers (Animal Husbandry) in National Extension Service and Community Projects areas were inspected by him during the period. During the course of his tours in rural parts, the efficiency of preventive measures taken by staff were checked and in the National Extension Service and Community Project areas, various activities and problems on this departmental work were discussed with the respective Block Development Officers and Project Officers.

He had also accompanied the Chinese Agricultural Science Study Mission during their tours in Nilgiris and Coimbatore districts. He discussed on Veterinary problems with Mr. Reid, F.A.O. Expert at Madras. He took keen interest in the organization of the First Cattle Show at Madras during March 1957.

(c) *Deputy Director of Animal Husbandry (Livestock).*—Dr. T. Anandapadmanabhan, G.M.V.C., continued to be the Deputy Director of Animal Husbandry Department (Livestock) till 25th February 1957 when he left for United Kingdom for training. The Deputy Director of Animal Husbandry Department (Key Village) was in full additional charge of the post from 26th February 1957 to the end of the period.

He had attended the Second Regional Seminar of Collectors and Heads of Departments held at Haridhwar and the Seminar on Agricultural information workshop during the period under report.

Periodically, the work carried out in Livestock Farms, Livestock Research Station, Poultry Farms and the progress under various livestock development schemes other than Key Village scheme were inspected.

The conduct of First State Cattle Show and the second State Poultry Show at Madras on a grand scale were well organized by him during the period.

(d) *Deputy Director of Animal Husbandry Department (Key Villages).*—Dr. C. K. Subbu Singh, G.M.V.C., P.G. (Bead), continued to be the Deputy Director of Animal Husbandry Department (Key Village) during the period. From 26th February 1957 he was in full additional charge of the post of Deputy Director of Animal Husbandry (Livestock).

The artificial insemination centres, key village centres and the key villages were periodically inspected and the extension programme of this scheme for other areas was also attended to.

The Conduct First State Cattle Show and the Second State Poultry Show at Madras on a grand scale were well organized during the period.

The details of staff both gazetted and non-gazetted of the department who were working in various branches of this department are furnished in Table IX annexed. The staff of this department as a whole evinced keen interest in their respective spheres of work and give their best in an efficient manner in all aspects (viz.) development of livestock, disease control, disease investigation, education and research.

13. *Gazetted staff.*—At the beginning of the period 4 posts were transferred to Kerala and Karnataka States consequent to reorganization of States and the following two posts were sanctioned during the periods :—

- (1) Special Officer, Cattle Colonization Schemes, Madras.
- (2) Field Officer, Milk Costing Scheme, Madras.

Thus at the end of the period the strength of Gazetted rank of the department stood at 77.

14. *Non-gazetted staff.*—The sanctioned strength of the Veterinary Assistant Surgeons in the department at the end of the period was 455 as against 482 in the end of last period. The decrease in strength was due to the transfer of staff in Malabar and South Kanara districts and Kollegal taluk of Coimbatore district to Kerala and Karnataka States consequent to reorganization of States.

The sanctioned strength of other categories of staff are given below :—

Veterinary Livestock Inspector	...	...	144
Stockmen	...	...	199
Stockmen Compounders	...	...	98
Ministerial staff	...	...	150

The Government Milk Factory, Madras, which was functioning under this department had a staff strength of 21 in the technical, Engineering and Distribution sections.

The distribution of staff in the department has been detailed in Table IX annexed.

15. *Deputation on training.*—Staff of this department were deputed abroad for advanced training and for post graduate courses.

(1) Dr. P. Satyendra Rao, G.M.V.C., B.V.S.C., who was deputed to Newzealand in the previous year continued to be on training during the period.

(2) Dr. T. Anandhapadmanabhan, G.M.V.C., was deputed to United Kingdom under Colombo Plan for training in veterinary work including animal breeding and livestock development.

CHAPTER III—EDUCATION.

16. The veterinary and animal husbandry education is also under the purview of the Animal Husbandry Department, which maintains a college at Madras for the benefit of this State as well as other States with a view to train out qualified personnel for being absorbed in various sections of the department.

(i) *B.V.Sc. Degree Course.*—(a) There were 391 students on the roll at the end of the period.

(b) *Examinations.*—Only the B.V.Sc. degree (final) Supplementary examinations was held during this period and the results are given below :—

	Number appeared.		Number passed.	
	Whole.	By parts.	Whole.	By parts.
B.V. So. Final	4	37	2	34

(c) *Tours.*—The students of the fourth year class visited the King Institute at Guindy and the Institute of Veterinary Preventive Medicine at Ranipet.

(ii) *Course for Stockmen.*—In addition to the centres at Hosur Cattle Farm and Pudukkottai, one more centre was opened during the period in the District Livestock Farm at Orathanad. Fifty students were admitted to this course in July 1956.

(iii) *Flying Course.*—The second and third batch of students were trained out both at Madras and auxiliary centres at Tuticorin, Pattukkottai and Karur. In all, 69 candidates consisting of both amateurs and butchers were trained out during the period.

(iv) *Post-Graduate Diploma Course in Veterinary Parasitology.*—The five candidates from different States who were admitted to this course at the beginning of the year appeared for examination in March 1957 and all of them finished the course successfully.

Post Graduate Research.—(a) *Staff.*—In addition to those mentioned in Part I of this report, one Assistant Lecturer and a Veterinary Assistant Surgeon of the department were awarded Research scholarships to the value of Rs. 200 each per month by the Government of India to carry on research work in Animal Nutrition and Pharmacology respectively.

(b) *Students.*—Of the three Veterinary Graduates who were pursuing research work in the college for post graduate degrees, one submitted his thesis to the Madras University and another had completed his work during the period. The third one continued his research work during the period.

17. *Extra-curricular activities.*—(a) *Athletics and Games.*—In the field of Inter-collegiate competitions in games, the college had the unique honour of winning the May and Baker Shield for the first time in the history of the college and it also reached the last four in the B. V. Narayanaswamy Naidu Foot-ball Tournament. The college achieved the distinction of being runners up in the Inter-zonal Foot-ball league tournament.

The annual Sports of the college was held in March 1957 under the presidency of Sri C. Subramaniam, Minister for Finance and Education. During the function the foundation stone was also laid by the Minister for the education for the construction of the three storeyed building for housing the laboratories of the college sanctioned by Government of Madras with the aid given by Government of India.

The Physical Director of the college underwent the coaching in Hockey at Lucknow having been deputed under the scheme of Government of India.

(b) *Association.*—The Madras Veterinary College Medical Association arranged for the screening of films of professional interest through the kind co-operation of British and United States Information Services. In addition to participating in the centenary celebrations of the Madras University the association arranged for variety entertainments in the open air theatre of the Centenary Exhibitions.

(c) *Social Service League.*—The Madras Veterinary College Students' Social Service League was affiliated to the Madras Students' Social Service League continued its activities during this period also, in the amelioration of people in slums and distribution of milk powder, etc., to poor children in the vicinity of the college.

18. *Library.*—A library with the collections of technical and general books was maintained which was strengthened by the purchase of 197 books more and subscription for 13 more journals during the year. The library had 3,959 books and 1,479 bound volumes of various periodicals. Two thousand two hundred and sixty-one books were in circulation during the period among staff and students.

19. *Hostels.*—Two hostels were continued to be run during the year, one at Madras and the other at Hosur Cattle Farm and one more was started at Pudukkottai.

The hostel at Madras was overcrowded as usual with 222 students inclusive of students of foreign nationality. With a view to relieve the overcrowding, in the land adjacent to the existing hostel which was acquired during the last year, the construction of additional blocks at a cost of 9.8 lakhs of rupees, was started during the period.

During the period the hostel for students of the Stockmen Course at Orathanad was started first in private buildings and later on moved into the Government Buildings constructed for this purpose. Forty-nine students were accommodated in the hostel.

20. *Hospital.*—(a) A well-equipped hospital is attached to the college consisting of three wards with both out-patient and in-patient facilities for cattle, horses and small animals respectively. A pharmacy, a radiology department, a shoeing forge and a clinical laboratory have also been attached to the hospital section with a view to impart practical and clinical knowledge to the students.

The work turned out during the period is detailed below :—

(i) *Cases treated.*

1st November 1956 to 31st March 1957.							
In-patients—							
Bovines	..	..	..	..	..	..	82
Equines	..	..	..	..	..	..	35
Canines and others	..	..	..	..	..	..	201
Out-patients—							
Bovines	..	..	..	..	..	..	2,626
Equines	..	..	..	..	..	..	38
Canines and others	..	..	..	..	..	..	3,999
Total							6,981
Daily average attendance							147.5

(ii) *Operations.*

1st November 1956 to 31st March 1957.					
	Major.	Minor.			
Bovines	..	..	100	54	
Equines	..	..	1	4	
Canines and others	..	..	12	69	
Total			113	127	

(iii) *Castrations.*

1st November 1956 to 31st March 1957.					
Bovines	..	..	..	..	9
Equines	..	..	..	..	4
Canines and others	..	..	..	..	11
Total					24

The details of medical and surgical cases treated during the year are detailed below :—

	Bovines.	Equines.	Canines and others.	Total.
<i>Medical cases.</i>				
Contagious diseases and infections diseases.	131	..	837	968
Diseases of respiratory system	..	3	33	128
Do. digestive system	860	9	1,483	2,357
Do. circulatory system	..	..	29	29
Do. urinary system	9	1	13	23
Do. nervous system	12	..	164	176
Do. generative system	392	2	31	425
Do. locomotor system	89	1	43	133
Do. skin (parasitic)	13	..	75	88
Do. skin (non parasitic)	17	2	327	346
General diseases	102	10	199	311
Diseases (unknown origin)	38	1	85	124
Anti-rabic treatment	29	..	153	182
Total				5,290

	Bovines.	Equines.	Canines and others.	Total.
<i>Surgical and other cases.</i>				
Abscess, wounds, etc.	246	11	263	520
Tumours, cyst, etc.	50	..	34	84
Hernia, prolapse, etc.	53	..	15	68
Diseases of bones	36	2	68	106
Do. horns	84	..	..	84
Do. articulations	7	6	15	28
Do. muscles, tendons, etc.	..	6	24	30
Do. vessels and nerves	..	1	4	5
Do. glands	181	..	31	212
Diseases of foot	42	4	58	104
Do. eye, ear, nose and throat	66	3	95	164
Do. urinary and genital systems	116	5	38	159
Docking	..	..	19	19
Castrations	9	..	..	9
<i>Other cases.</i>				
Test for pregnancy	72	..	..	72
Received for destruction	..	3	44	47
Carcasses received for post-mortem	12	2	15	29
General	..	1	..	1
Total				1,741

(b) *Small animal clinic.*—During the year 4,200 cases were treated against 4,209 in the corresponding period of last year.

(i) *Rabies.*—Of the 159 dogs admitted for observation for rabies, 141 proved positive. Necessary prophylactic measure were taken and thus 153 dogs were protected against rabies free of cost during the period as against 275 in the whole of previous year.

(ii) *Rnikhet diseases.*—Two hundred and seventy-five birds were protected against this disease as a prophylactic measure.

(c) *Cattle Ward.*—Two thousand seven hundred and eight were treated during the year as against 2,235 in the corresponding period of the last year.

(i) *Foot-and-mouth disease.*—This disease broke out in the City in November 1956 and 26 cases were treated. To avoid further spread, the service of bulls was temporarily suspended for about two months and the entry of affected animals into the premises of the college was averted by an examination of all animals at the entrance.

(ii) *Rabies.*—Five cases were admitted with symptoms of rabies of which four were confirmed. Twenty-nine animals were given prophylactic treatment.

(iii) *Mastitis.*—One hundred and eighty-one cases were brought for various conditions associated with mammary glands like injuries to the teat, occlusion, structure, etc.

(iv) *Sterility.*—During the period under report 602 cases consisting of 361 gynaecological and 241 obstetrical cases were dealt fully with sulphamezathine.

Gynaecological cases—

1 Vaginitis	..	..	..	24
2 Cervicitis	..	..	..	8
3 Endometritis, first degree	..	..	..	8
4 Do. second degree	..	..	..	13

Gynaecological cases—cont.

5 Pyometra	4
6 Salpingitis	1
7 Bursitis	2
8 Hypoplastic genitalia	41
9 Fibrous ovaries	12
10 Cystic ovary	15
11 Persistent corpus luteum	85
12 Anestrus	44
13 Subestrus	22
14 Abortion	4
15 Miscellaneous abalanitis	7
16 Positive cases of pregnancy	71

Obstetrical cases—

1 Dystokia (maternal)	3
2 Do. (foetal)	15
3 Prolapse vagina ante-partum	19
4 Do. postpartum	7
5 Prolapse uterus	5
6 Retained placenta	68
7 Post-partum dyspepsia	11
8 Check up for heat	103
9 Other species (Dystokia-7, retained placenta-3).	10

Total .. 602

(v) *Protozoan diseases*.—One hundred cases met with during the period were treated on usual lines.

(vi) *Theileriosis*.—Three cases met with were treated successfully with 1 per cent acriflavine intravenously and alum boric acid by mouth.

(vii) *Piroplamosis*.—Thirteen cases due to *B. bigeminum* was met with and treated with Babesin.

(viii) *Trypanosomiasis*.—Four cases of surra due to *T. evansi* were treated either with Antimoni Tartaratum.

(ix) *Nasal Granuloma*.—Thirteen cases were treated successfully with Bayer's Antimosan.

(x) *Oocidiosis*.—Seventy-five cases were treated successfully with sulphamezathine.

(xi) *Skin diseases*.—Fifty-seven specimens of skin scrapings were subject to microscopical examination.

(d) *Horse Ward*.—Seventy-three cases were treated as against 90 in the corresponding period of the previous year. The fall in the admission is due to depletion in equine population. Four stallions were castrated.

(e) *Pharmacy*.—A total number of 14,805 prescriptions were dispensed in the pharmacy with a daily average of 98.05 as against 13,759 in the previous year. Of this total number, 60 were from private cases, 495 from horse ward, 5,415 from cattle ward and 8,835 from dog ward.

(f) *Radiology Department*.—Construction of X-ray block was sanctioned and commenced during the period. Fifty-seven cases had radiographic examination of which 3 were from cattle ward and 54 from dog ward. Twenty-seven cases were charged for the examination and 30 were for diagnostic and demonstration purposes.

(g) *Shoeing forge*.—Two hundred and thirty horses were shod in the year as against 567 in the last year. The forge serves mainly as a demonstration centre for training students in the art of shoeing on scientific lines.

(h) *Fees*.—The owners of animals whose income is over Rs. 200 per month are charged for certain operations and general treatment. The details of amount realized thus are shown below :—

Years.	Number of cases treated.	Amount realized.
		RS.
1954-55	13,783	5,839-14
1955-56	15,422	16,188-77
1956-57 (1st November 1956 to 31st March 1957).	6,981	8,290-39

21. *Laboratories*.—(a) Examination of specimens from the hospital and from field staff in and outside the States were undertaken in the laboratories of department of Bacteriology, Pathology and Parasitology and the Clinical Laboratory.

Thus, during the period 4,525 specimens of various kinds from various places were examined as against 12,656 in the whole of the previous year as detailed below :—

Specimens received from—	Number received.
1 From the staff of the department in the field	627
2 From the wards and laboratories of the Madras Veterinary College	3,367
3 Livestock Research Station and other farms of the department	198
4 Veterinary Investigation Officers, Ranipet	114
5 Corporation of Madras	6
6 Agricultural department	5
7 Forest department	36
8 Co-operative department	27
9 Private bodies and other States including Andhra	118
10 King Institute, Guindy	1
11 Community Projects and National Extension Service Blocks.	28
12 Institute of Veterinary Preventive Medicine	1
Total ..	4,525

Details of examination of specimen—

1 Anaemic changes	4
2 Avian leucosis complex	9
3 Anthrax	2
4 Babesia bigemina	24
5 Babesia canis	13
6 Blackquarter	3
7 Bovine lymphangitis	19
8 Bronche pneumonia	7
9 Brucellosis (agglutination tests)	2
10 Choropsis bovis	1
11 Chemidocoptes mutans	9
12 Cysts and growths	3
13 Demodex	29
14 Ectoparasites	25

Details of examination of specimen—cont.

15 Entamoeba histolytica	1
16 Fatty changes—Liver	2
17 Fibroma	1
18 Fibro liomyo adenomatosum	1
19 Fibro sarcoma	1
20 Foot and Mouth	1
21 Haemorrhagic Septicaemia	9
22 Helminthic lesions	2
23 Helminths	9
24 Hepatozoon canis	1
25 Hyaline changes—Spleen	4
26 Inflammatory tissues	14
27 Jhones' disease	33
28 Lympho sarcoma	1
29 Mastitis in cow	1
30 Melanoma	1
31 Microfilaria	24
32 Nasal polypi	3
33 Notoedres sp.	3
34 Oocystis of Coccidia (Eimeria)	97
35 Oocystis of Isospora	14
36 Otodectes cynotis	2
37 Oxyuris equi	1
38 Ova of amphistomes	57
39 Ova of Ancylostomes sp.	523
40 Ova of Ascaris	164
41 Ova of Ascaridis	19
42 Ova of Capillaria sp.	34
43 Ova of Cotugnia sp.	26
44 Ova of D. Caninum	10
45 Ova of D. Latum	2
46 Ova of Fasciolasp.	9
47 Heterakis gallinae	10
48 Ova of Moniesia sp.	5
49 Ova of S. Nasalis	25
50 Ova of S. Spindalis	5
51 Ova of Spirocerca lupi	58
52 Ova of Spirurids (fowls)	1
53 Ova of Strongyle sp.	259
54 Ova of Strongyle ides sp.	27
55 Taenia sp.	6
56 Ova of Toxascara	29
57 Ova of Texoscanis leonia	3
58 Ova of Trematodes	70
59 Ova of Trichuris sp.	26
60 Papiloma	3
61 Papillary carcinoma	2
62 Psoroptis sp.	3
63 Rabies	49
64 Retinoblastoma eye	2
65 Rainey's corpuscles	1
66 Rhinosporidiosis	1
67 Round cell carcinoma	2
68 Sarcopes	29
69 Squamous cell carcinoma	11
70 Theileria mutans	10
71 Trichophyton spl	6
72 Tuberculosis	1
73 Trypanosoma evansi bovine	6
74 Trypanosoma evansi canine	2
75 Miscellaneous	23
Total	1,912
Negatives	2,123
Materials of insignificant nature	433
Materials unfit for examination	32
Pending communication of results	25
Grand total	4,525

(b) *Bacteriology Laboratory*.—Five hundred and thirty-four specimens were received for diagnostic examination as against 1976 in the whole of previous year. The kinds of specimens are detailed below :—

(i) Microscopical examination—

(a) Smears consisting of blood, pus and tissues.	199
(b) Bowel washings and rectal pinch smears.	66
Total ..	265

(ii) Cultural examination—

(a) Blood swab	29
(b) Ear swab	9
(c) Pus swab	32
(d) Tissue swab	11
(e) Uterine and vaginal swabs	51
(f) Blood	3
(g) Milk	57
(h) Urine	1
(i) Tissues	26
(j) Stomach and Intestinal contents	8
Total ..	227

(iii) Biological test—

(a) Blood swabs, tissue swabs and tissue fluid.	5
(b) Tissues	22
(c) Goat hair, bone sinews, etc., for issue of Anthrax-free certificates.	4
(d) Milk	..
Total ..	31

(iv) Serological tests—

Sera, synovial fluid and amnoitic fluid ..	11
Total ..	534

(v) The results of examination of the materials received are given below :—

Diseases suspected.	Positive.	Negative.	Total.
(1)	(2)	(3)	(4)
1 Anthrax	2	32	34
2 Hæmorrhagic septicæmia	9	35	44
3 Blackquarter	3	19	22
4 Bovine lymphangitis	19	9	28
5 Johnes' disease	29	38	67
6 Tuberculosis	..	5	5
7 Brucellosis	2	11	13
8 Actinomycosis	..	10	10
9 Foot and mouth	1	..	1
10 Materials not coming under the above diseases	..	..	306
11 Materials under examination	..	..	4
	Total ..		534

Biological tests.—Biological tests were conducted with the materials suspected for Anthrax, Blackquarter, etc., with the following results :—

Diseases.	Positive.	Negative.	Total.
(1)	(2)	(3)	(4)
1 Anthrax	1	18	19
2 Hæmorrhagic septicæmia	1	4	5
3 Blackquarter	2	6	8
4 Fowlpox	1	1	2
5 Experimental	..	..	2
6 Under examination	..	..	2
	Total ..		38

(vi) *Auto vaccine.*—One course of auto-vaccine was under preparation during the period.

(vii) *Mastitis.*—Fifty-seven samples from clinically suspected cases were examined both microscopically and culturally. The causal organisms detected are as shown below :—

Staphylococci	13
Streptococci	5
Coli aerogenous group	12
Diphtheroids	2
Micrococci	3
Pseudomonas aeruginosa	1
Contaminants	7
No growth on incubation	14
	Total .. 67

(c) *Pathology Laboratory.*—During the year 285 autopsies were performed for diagnostic purposes as against 435 in the whole of previous year, details of which are given below :—

Dogs	47
Cattle	16
Horses	4
Goats	4
Poultry	214
Total ..	285

The following are the interesting conditions met with in the conduct of autopsies :—

- (1) Pyelo nephritis and pyæmia in a dog.
- (2) Myxoma-Nasal cavity—Cow.
- (3) Rupture of spirocerca aneurysm of aorta and interpal hæmorrhage in two dogs.
- (4) Co-operiasis in a buffalo calf.
- (5) Chronic nephritis in three dogs.
- (6) Pyometra in a bitch.
- (7) Cirrhosis of the liver in two dogs.
- (8) Adeno-carcinoma of udder with metastasis in lungs and liver bitch.

(d) *Parasitology Laboratory.*—As many as 1,208 clinical materials consisted of blood smears, fæcal samples, skin scrapings, nasal washings, urine, ecto and endo parasites, etc., were received for examinations during the period under report as against 4,185 in whole of the previous year.

(1) *Schistosema spindalis.*—Four bullocks and one dog revealed ova of this blood fluke in the fæces. No ova could be detected in the fæces of the dog a few days afterwards.

(2) *Amphistomiasis.*—Immature amphistomes resembling Cotylophoron were recovered from deadenum of an ewe from the Andhra State.

(3) *Strongyloides avium.*—Ova of this nematode were detected in the droppings of two fowls.

(4) *Syngamus trachea.*—Were recovered from a fowl.

(5) *Cooperia sp.*—The intestinal nodules of a buffalo calf revealed these helminths.

(6) *Capillaria annulata.*—Ova of this were seen in six birds and worms were recovered from the Oesophagus of a dead chick.

(7) *Microfilaria (Unsheathed).*—There were seen from the smears made from the cutaneous bleeding nodules of four elephants.

(8) *Parafilaria Sp.*—Portion of an adult worm were recovered from the skin nodules of an elephant.

(9) *Otodectes cynotis.*—This mite was identified in ear wax of a pup. Lypomosis slivisis, a feather mite of fowls was recognised as the cause of depilum in the poultry unit.

(10) *Chorioptis Bovis*.—The skin scrapings of a calf revealed this mange mite.

(11) *Entamoeba histolytica*.—Was identified in the dysenteric stools of a dog.

(12) *Rainey's corpuscles*.—Were seen in the heard blood smears of a bullocks.

(e) *Physiology Laboratory*.—The total number of clinical materials received for Biochemical examination during the year under report was 802 as against 958 in whole of the previous year as detailed below :—

Nature of specimens. (1)	Canines. (2)	Bovines. (3)	Equines. (4)	Total. (5)
1 Urine	202	40	7	249
2 Blood for total cell count	144	11	4	159
3 Blood for Haemoglobin estimation	110	4	1	115
4 Blood smears for differential count.	145	22	9	176
5 Serum for calcium estimation	2	39	2	43
6 Serum for magnesium estimation	..	29	..	29
7 Serum for phosphorous	..	12	..	12
8 Blood for glucose estimation	..	5	..	5
9 Blood for urea estimation	8	..	..	8
10 Milk for the presence of acetone	..	2	..	2
11 Serum for vandenbery test	2	..	..	2
12 Serum for icteric index	2	..	..	2
Total	615	104	23	802

(f) *Animal Husbandry Section*.—Breeding bulls and a poultry unit were maintained under this section.

There were 12 bulls at stud most of which were utilised for artificial insemination work. The bull intended for natural services performed 43 natural services and the rest of the bulls were used for artificial insemination at the centre in the college 1958 inseminations were done from the collections of semen made from these bulls.

A poultry unit of Rhode Island Red was also maintained for experimental and teaching purposes. At the beginning of the period there were 130 hens and 42 cocks. During the year 18 and 15 cocks were added and 57 hens and 42 cocks were sold leaving a balance of 91 hens and 15 cocks at the end of the period.

Seven thousand four hundred and nine eggs were collected during the period of which 712 were set for hatching and 2,518 sold to public for hatching. There were some noteworthy performances as note below :—

- (i) Most of the hens laid more than 200 eggs an year; and
- (ii) fertility rate of the unit was about 80 per cent.

During the period 531 chicks were hatched out and added to the stock of chicks present of which 195 chicks were sold to the public, 185 transferred and 127 died leaving a balance of 344 chicks at the end of the year.

(g) *Animal Nutrition Laboratory*.—To impart practical knowledge in fodder cultivation to the students and to serve as demonstration centre to the public of the Madras City, a small area to the

extent of 6,466 square feet within the premises of College compound was made use of for growing exotic grasses and legumes during the period.

During the period 4,100 lb. of greed fodder consisting Buffalo grass, Napier grass, guinea grass Rhodes grass, Cholam, Lucerne, Ceylong spinach and Sweet Potato wines were issued to the breeding bulls and Laboratory animals of the college.

The nutrient composition of Buffalo grass grown in the Demonstration plots of the college was worked out by analysis. Further studies on the same are in progress.

The sample of Dicalcium Phosphate received from a firm in Delhi was analysed and was not recommended as a Livestock feed supplement on account of its low content of Phosphorus.

Analysis of the patent animals food "Bovine" manufactured by a firm in Tiruchirappalli was in progress for its nutritive values.

The three different strains of European Kale, grown at sheep farm, Ooty was analysed for its nutritive values.

22. *General*.—(a) The members of the staff contributed the following papers of professional interest during the period :—

Anatomy Department—

- (1) Melanomata in buffaloes.
- (2) Some variations in the collateral branches of the Brachial and Median arteries.
- (3) Supernumerary Thoracic Vertebra and two floating ribs in a buffalo calf.

Pathology Department—

- (1) Some uncommon diseases of the kidney in domestic animals.
- (2) Canine spirocercosis with special reference to incidence and pathology.
- (3) Oestrogens and their role in causation of neoplastic diseases.

Parasitology Department—

- (1) Schistosomiasis in West Bengal.

Animal Nutrition Department—

- (1) Garden forage crops.
- (2) Animal nutrition—Our immediate problem.
- (3) Losses in ensilage and composition of Napier.
- (4) Leg disorder in cockrels.
- (5) Losses in Napier grass molassed salt silage.
- (6) Colostrum—Calves' first vital food
- (7) Antibiotics in calves' nutrition.
- (8) Straw converted to concentrate.
- (9) Role of salt in silage.
- (10) Animal nutrition in respect of forage problem.
- (11) Hay making.
- (12) The use of Air craft for grass land improvement.

Flaying Department—

- (1) Chrome tanning as cottage industry.
- (2) Leather trade and Animal Husbandry.
- (3) Flaying, its present position and some suggestions for its improvement.

(b) The staff of the college attended the following seminars and conferences during the period details of which were given below :—

Name of conference.	Place.	Designation of staff attended.
Seminar in Anatomy at Rajasthan College of-Veterinary Science.	Bikanir	.. Professor of Anatomy and Assistant Lecturer in Anatomy.
Symposium of Leather at Central Leather Research Institute, Guindy.	Guindy	.. Principal, Lecturer in Parasitology lecturer in flaying and Meat Inspection and Professor of Pathology.

(c) *Exhibitions.*—The college participated in the Centenary celebrations of the Madras University in January 1957 and also in the Centenary exhibitions representing the Animal Husbandry Department. Students of the college took keen interest in the celebrations by serving as volunteers, enacting such plays and organizing variety entertainments. The college was awarded a Shield by the Centenary Committee in appreciation of its stall in the exhibition.

The college took part also in the exhibition arranged in connection with the First Madras State Cattle Show at Madras.

In the First State Cattle Show, for the first time in the annals of the college, students' judging competition in teams was held among the Final Year students and Rolling Shields were awarded for both winners and runners up teams.

(d) The college had the distinction of receiving the following visitors during the period :—

(i) Dr. Balph, R. Shaw as the head of Indian Council of Agricultural Research Library Survey Team.

(ii) Dr. E. J. Long of The Tennessee University.

(e) *Board of honorary visitors.*—With a view to give opportunities to non-official members to be in touch with the hospital attached to the college, a board of honorary visitors was reconstituted during the year with six members for which Sri P. T. Rajan was the president. The Board met once during the period and give valuable suggestions for improvement after their visit to the hospital.

(f) *Endowments.*—Two endowments, one by Dr. F. D. Wilson, G.M.V.C., B.V.Sc., for Rs. 2,000 and another for Rs. 2,500 by Dr. V. D. Rathnam, G.M.V.C., were instituted during the period for award of prizes in the subjects of Meat Inspection and Medicine, respectively.

23. *Animal husbandry in Agricultural College, Coimbatore.*—To impart training in Animal Husbandry subjects which are included in the curriculam of studies for the B.Sc. (Ag.) Degree Course one lecturer in Animal Husbandry and two Veterinary Assistant

Surgeons are working in Agricultural College, Coimbatore. One more additional lecturer and one Veterinary Assistant Surgeon were sanctioned owing to the increased strength in the admission to this college. There is a veterinary hospital and also a Sub-centre for Artificial Insemination with Kangayam, Sindhi and Murrah Buffalo bulls.

During the year 3,540 cases were treated and 675 castrations were performed at the veterinary hospital.

CHAPTER IV—INSTITUTE OF PREVENTIVE MEDICINE.

24. (a) *Staff.*—The institute continued to be in charge of a Superintendent assisted by one Special Officer for Freeze Dried vaccines, one Research Officer (Virus vaccines) and 13 Veterinary Assistant Surgeons.

(b) *Accommodation and equipment.*—Improvement to 45 'J' type quarters was carried out during the period.

(c) *Water-supply.*—As the water-supply to the institute hitherto was effected through Messrs. Parry & Co., at the rate of Re. 0-11-0 per thousand gallons, a bore-well was sunk last year at the institute. The yield of water from the well was not sufficient for a day and hence the water-supply from Parry & Co., had to be continued during the period as before.

(d) *Livestock and fodder.*—The animals required during the period for the production of sera and vaccines and biological tests were obtained as detailed below :—

Species of animals.	Number of animals required during the period.	Source.
1 He-buffaloes	..	Purchased on contract basis.
2 Buffalo calves	145	
3 Bull and heifer calves	32	
4 Goats	901	
5 Sheep	53	
6 Guinea pigs	..	Bred at the institute.
7 Mico	..	
8 Poultry	..	A small poultry unit is maintained at the institute for a regular supply of eggs and chicks for manufacture of poultry vaccines and tests.

After the preparation of biological products 56 buffalo calves, 6 bull and heifer calves, 21 sheep and 25 goats were sold to the contractors and in the process of manufacture of biological products 42 buffalo calves, 4 bull and heifer calves, 859 goats and 56 sheep died during the period.

The fodder and feed for cattle were purchased on contract basis. The grains (ragi) required for poultry was received from the Livestock Research Station, Hosur, and the raw feed like onion, greens, etc., required for small animals and poultry were purchased locally.

(e) *Cultivation of fodder crops, fruit trees, etc.*—Cholam crop was raised on about two acres of land which yielded 20 lb. of cholam grains and 4,639 lb. of cholam straw. Glyrichidia seeds and cuttings from the plants available at the institute were supplied to the officers of the Agricultural Department for distribution to ryots.

(f) *Production of biological products.*—All the vaccines and sera required for the protection of various species of livestock in this State were manufactured at the institute during the year except for a few products, viz., Johnin and Mallein, which were obtained from Indian Veterinary Research Institute, Mukteswar.

Freeze Dried Rinderpest vaccine was supplied in large quantities to Andhra State and in addition, to other States also, viz., Kutch, Sourashtra and Bhavanagar; and Ranikhet vaccine was supplied to Andhra, Coorg, Travancore, Cochin and Hyderabad. The following vaccines were manufactured in the freeze dried form during the period:—

Rinderpest Goat Tissue vaccine, Ranikhet Disease vaccine, Pigeon-pox vaccine, Sheep-pox vaccine, Rinderpest Goat Tissue extract vaccine (Experimental).

(i) *Anti-Rinderpest serum.*—At the beginning of the period there was a stock of 21,965 doses of 5 c.c. each. Serum was not prepared during the period. Fifteen thousand and thirty-two doses of serum was issued for field use.

(ii) *Rinderpest Bull Virus.*—Thirty-one buffalo calves were used for the production and maintenance of this virus at the institute. The quantity of Rinderpest bull virus manufactured during the period was 1,950 c.c. as against 4,965 c.c. during the whole of previous year. As in previous years, the Rinderpest bull virus strain was maintained for Anti-Rinderpest serum production and for testing Rinderpest Freeze Dried vaccine.

(iii) *Rinderpest Goat Virus.*—Two hundred and thirty-five c.c. of goat blood virus was manufactured by using 7 goats during the period as against 36,495 c.c. from 133 goats in the whole of previous year. Of these, 60 c.c. were issued for use in the field during the period as against 33,245 c.c. in the whole of previous year. The fall in demand and issue was due to the use of Freeze Dried Goat Tissue vaccine.

(iv) *Freeze Dried Rinderpest vaccine.*—There was heavy demand for this product during the period and large quantities of this product were supplied to the Andhra State for protecting animals both in infected and free areas and for use in the Rinderpest Eradication Campaign. This product was also supplied for use in the various quarantine stations in this State for protecting the animals that are brought into the State from outside. In addition, this product was supplied to other States, viz., Kutch, Sourashtra and Bhavanagar.

Thirty-seven batches of Freeze Dried Rinderpest vaccine were manufactured during the period under report. Thirty-one batches from these and 3 from last years' batches of vaccine were tested during the period. In addition to the stock of 190,450 doses of the vaccine available at the beginning of the period 1,070,750 doses of the vaccine were manufactured during the period under report as against 1,535,850 doses in the whole of previous year.

Six hundred and sixty thousand, three hundred and fifty doses were issued as against 1,714,450 doses in the whole of previous year, for use in field including the staff of Andhra State. Every batch of vaccine produced was tested for safety, potency and purity and the exact titre of virus in each batch was ascertained before issue.

(v) *Hæmorrhagic Septicæmia vaccine.*—There was a stock of 17,542 doses of 5 c.c. each of this vaccine at the beginning of the period. During the period under report, 778,740 doses of 5 c.c. each of the vaccine as against 2,244,780 doses in the whole of previous year. Of these 705,391 doses were supplied to the field staff during the period as against 2,173,136 doses in the whole of previous year.

(vi) *Blackquarter vaccine.*—The stock of Blackquarter vaccine at the beginning of the year was 66,370 doses of 5 c.c. each. Nine brews of the vaccine consisting of 502,080 doses of 5 c.c. each were manufactured during the period as against 2,636,250 doses in the whole of previous year. Each brew of the vaccine was tested for the sterility, safety and potency before issue to the field.

(vii) *Anti-Anthrax serum.*—The stock of the product on hand at the beginning of the year was 18,100 doses of 15 c.c. each and during the period under review no Anti-Anthrax serum was manufactured. Three hundred and eighty doses of the serum were supplied to the staff for use in the field as against 4,700 doses in the whole of previous year. The stock of serum at the end of the year was 8,720 doses of 15 c.c. each.

(viii) *Anti-Anthrax Spore vaccine.*—The product manufactured at the institute was supplied to the Veterinary Disease Investigation Officer (Cattle), Veterinary Disease Investigation Officer (Sheep and Goats) and field staff and it was found to be safe and efficient product for protecting cattle, sheep and goats against Anthrax. During the period 42,043 doses of the vaccine were manufactured and tested as against 26,640 doses manufactured in the whole of previous year. Thirty-nine thousand nine hundred and forty-four doses of the vaccine were issued for field use as against 48,530 doses issued during the previous year.

(ix) *Bovine Lymphangitis vaccine.*—Vaccine sufficient for 99 animals was in stock at the commencement of the period. Three hundred and forty-five courses were manufactured during the period as against 400 courses in the whole of previous year. The number of courses of vaccine issued to the field staff was 255 as against 391 in the whole of previous year.

(x) *Sheep-pox vaccine.*—There was a stock of 86,175 doses of the vaccine on hand at the beginning of the year. One batch of sheep-pox vaccine in freeze dried form yielding 27,400 doses were manufactured and 46,700 doses were issued to the field staff during the period as against 111,300 doses manufactured and 186,220 doses issued to the staff during the previous year. Thirty-one sheep were utilized for the manufacture of this product and for the various experiments connected with it.

(xi) *Brucella Abortus vaccine.*—During the period 175 c.c. of the plate antigen and 4,200 c.c. of tube antigen were manufactured; 150 c.c. of tube antigen and 100 c.c. plate antigen to Veterinary Disease Investigation Officer (Cattle). 50 c.c. to the Principal,

Madras Veterinary College, Madras, and 25 c.c. plate antigen to the District Livestock Farm, Pudukkottai, were supplied.

(xii) *Bacterin for Enterotoxaemia in sheep*.—During the period 37,800 doses *Cl. welchii* anaculture using types B and D were manufactured as against 39,720 doses in the last year. Thirty-four thousand nine hundred thirty doses were issued for use in the field as against 35,484 doses issued during the previous year. The results of vaccination are reported to be quite satisfactory and in many places the outbreaks are reported to have subsided after vaccination.

(xiii) *Fowl Cholera vaccine*.—There was an opening balance of 1,410 doses of the vaccine. Five hundred and twenty doses were manufactured during the period under report as against 1,925 doses of the previous year. Eight fowls were used for testing the brews of the vaccine. Four hundred and twenty-one doses of the vaccine were issued to the field staff during the period as against 1,090 doses in the last year.

(xiv) *Ranikhet Disease vaccine*.—The manufacture and supply of this product in freeze dried form was continued during the period under report. The stock of the product on hand at the beginning of the period was 419,800. During the period under report, 10 brews of the vaccine consisting of 4,485 ampoules of 200 doses each, i.e., 897,000 doses were manufactured as against 2,308,000 doses during the previous year and 939,660 doses each (2,378,000) were issued to the staff in Madras and Andhra States, as against 2,398,000 doses issued during the previous year. One hundred and sixty-four chicks were used for testing the vaccine and for various experiments in the section.

(xv) *Fowl-pox vaccine*.—The vaccine was prepared using the American strain of Fowl-pox virus growing the virus on the Chorio Allantoic membrane of developing chicks and freeze dried. The period opened with a balance of 13,400 doses of the vaccine and 19,385 doses of these were issued to the Veterinary Disease Investigation Officer (Poultry) and field staff. One brew of the vaccine yielding 230 ampoules (23,000) doses was manufactured.

(xvi) *Pigeon-pox vaccine*.—The vaccine is prepared in a freeze dried form by growing the virus on the Chorio Allantoic membrane of developing chicks and freeze drying the harvested membranes, the stock of the product on hand at the commencement of the period was 17,900 doses. Five brews of this vaccine yielding 1,102 ampoules of 50 doses each; 55,100 doses were manufactured during the year as against 61,750 doses of the previous year; and 53,000 doses of the vaccine were issued to the field staff for protecting chicks against Fowl-pox as against 89,050 doses of the previous year. Fifty-four chicks were used for testing the vaccine and for experiments in the section.

(xvii) *Other products*.—Other products supplied to the staff during the year are furnished below. They were purchased from the Indian Veterinary Research Institute, Mukteswar.

Johnin doses	..	..	..	..	..	500
Tuberculin	..	..	..	..	..	300

(g) *Laboratory*.—During the period under report 448 specimens were examined as detailed below :—

Blood smears	..	..	..	..	..	318
Liver impression smears	..	..	..	..	..	44
Spleen smears	..	..	..	..	..	28
Faeces	..	..	..	..	..	10
Pus smears	..	..	..	..	..	2
Muscle smears	..	..	..	..	..	32
Culture smears	..	..	..	..	..	14

The positive findings during the year are detailed below :—

B. Anthracis	..	..	..	..	..	14
Clostridia	..	..	..	..	..	92
Pasteurella	..	..	..	..	..	46
Coccidia	..	..	..	..	..	2
Acid fast organism	..	..	..	..	..	1

During the period, post-mortem examination was conducted on 859 animals.

(h) *Sale of Biological products*.—During the period a sum of Rs. 32,278-19 was realized by the sale of biological products to other State Governments excluding the value of products supplied to Andhra State. Details of supply of vaccines to other States are furnished below in a statement.

Statement showing the particulars of Biological products sold to the outsiders from the Institute of Veterinary Preventive Medicine for the period from 1st November 1956 to 31st March 1957.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Name of parties.	Goat Virus.	Blue Virus.	Rinderpest freeze dried vaccine.	Remiklin disease vaccine.	Pz op-tox vaccine.	Powl Cholera vaccine.	Im-morthagla vaccine.	Black Quarter vaccine.	Shee pox vaccine.	Bovine lymphan-R. virus vaccine.	Anthrax Spore vaccine.	Anti-Anthrax serum.	Cl. Welch antitox vaccine.	Fowl-pox vaccine.
Director Civil Veterinary Department, Hyderabad.	:	:	:	:	:	:	:	:	700	:	:	:	:	:
Animal Husbandry Officer, Andul, Calcutta State.	:	:	2,000	:	:	:	:	:	:	:	:	:	:	:
District Veterinary Officer, Jammigudi, Sourashtra.	:	:	2,400	:	:	:	3,500	:	:	:	:	:	:	:
Chief Veterinary Officer, Coorg.	:	:	:	6,400	:	:	2,200	:	:	:	:	:	:	:
Veterinary Officer, Pondicherry.	:	:	:	3,100	350	:	2,400	360	:	:	:	:	:	:
Block Development Officer, Villanur (Tondicherry).	:	:	:	1,000	200	:	:	2,100	:	:	:	:	:	:
Superintendent, Mysore Serum Institute, Hebbal, Bangalore.	39	15	:	:	:	:	:	:	:	:	:	:	:	:
Sri Venkateswara Goddala, Tirupathi.	:	:	:	:	:	:	:	240	:	:	:	:	:	:
Miscellaneous parties.	:	:	:	6,200	550	225	:	:	:	:	:	:	:	:
Anthra Pradesh	:	:	342,500	491,500	26,000	190	3,06,120	1,48,240	18,900	113	12,450	20	5,460	1,000

(i) *Miscellaneous.*—(i) The institute participated in the Madras University Centenary Exhibition, Guindy, in February 1957 also in the State Cattle Show exhibition at Madras in March 1957.

(ii) The human dispensary attached to the Junior Certified School, Ranipet, was ordered to cater to the medical needs of the staff of this institute also, as per G.O. Ms. No. 3728, Home, dated 29th December 1955. The research experimental work carried out at the institute during the year have been detailed out in Chapter IX on "Investigation and Research".

CHAPTER V—LIVESTOCK.

25. One of the main activities of the department was to open farms for various species of livestock at suitable centres of the State with a view to produce pedigree stock for supply to the public, for upgrading the local stock and to serve as demonstration centres to the public for practical study of Animal Husbandry on scientific lines.

Thus during the period there were four livestock farms, one livestock research station, one sheep farm, one poultry research station, and 30 poultry demonstration centres attached to the veterinary institutions in the State during the period of which 4 livestock farms and one sheep farm were opened during the First Five-Year Plan period. The details on location, species and breed of livestock maintained in these farms, etc., are given in Tables XI (a), (b), (c) and (d) annexed to this report. One sheep breeding and research station at Chinnasalem and District Livestock Farm in Ramanathapuram district were opened during the period.

1. CATTLE.

26. Cattle development was carried out by scientific breeding in all the three Livestock Farms at Hosur (Salem), Pudukkottai, (Tiruchirappalli) and Orathanad (Tanjore) which are intended chiefly for the supply of pedigree stock of bulls of various breeds suited to the tracts with a view to upgrade the local stock of cattle besides serving as demonstration centres on cattle rearing and fodder production on scientific and economic lines. A dairy was also run in all these farms. One more District Livestock Farm was opened during the period at Ramanathapuram district.

In general the breeding policy in all the farms is more or less the same (viz.), selective breeding with a view to keep up pedigree of various breeds and at the same time to improve the milk yielding capacity along with other qualities of the breeds for which they are noteworthy.

In the dairies attached to these farms rational system of maintaining averages and systematized milk recording were adopted.

The progress in each of the farms are given in detail in the following pages:—

(i) Livestock Research Station, Hosur Cattle Farm P.O., Salem district.

27. (a) This is mainly a cattle breeding station with a dairy attached along with a sheep-breeding unit and a poultry farm.

This is one of the biggest farms in East which was an army remount depot for nearly 96 years till 1st September 1934 when it was handed over to the Agriculture Department of our State from whom it was transferred to the Animal Husbandry Department, on 1st April 1938. This farm has now grown to be a centre of advanced scientific activities in breeding, feeding and management of all classes of livestock.

(b) Various breeds of cattle, sheep and poultry are maintained here as detailed below :—

(i) Cattle.	(ii) Sheep.	(iii) Poultry.
Kangayam.	Bellary.	White Leghorn.
Scindhi.	Bikanir.	Rhode Island Red.
Hallikar.	Mandya.	Black Minorca.
Gir.		

(c) The chief object of the farm is to raise a pure stock of pedigreed stud bulls for distribution in this State, for upgrading the local stock besides being a practical field of advanced animal husbandry activities for both the public and to the students and workers in this science.

(d) During the year under report, this farm had the distinction of receiving the following distinguished persons of both of our own and foreign countries :—

(1) Members of Grass Land Survey team.

(2) Members of the Chinese Agricultural and scientific Study Mission.

(3) Major T. Murari, Director of Animal Husbandry, Andhra.

This research station provided for practical training in various sections for the students of the B.V.S.C. course of Madras University and of Stockmen course of this department during this year. Further this station formed one of the centres of the educational tours for the students and officers of the following institutions :—

- (1) Basic Agricultural Training School, Aduthurai.
- (2) Basic Agricultural Training School, Bavanisagar.
- (3) Grama Sevak Training Centre, T. Kallupatti.
- (4) Basic Agricultural Training School, Arni.
- (5) Agricultural College, Coimbatore.
- (6) Veterinary College, Hyderabad.
- (7) Veterinary College, Trichur.

(e) *Cattle population in the Farm.*—(i) The total strength of cattle including buffaloes and horses were 985 at the beginning of the period as against 1,110 in the last year. During the period 119 were added and 115 were disposed of as detailed below :—

Additions—				Disposals—			
By births	92	By deaths	14				
.. purchases	13	.. sale for breeding	109				
.. receipt from other farms.	14	.. auction	2				
	<u>119</u>		<u>115</u>				

(ii) Thus the total strength of the cattle at the close of the period stood at 989 as against 989 in the previous year. The class-war strength on 31st March 1957 is detailed below :—

Breed.	Breeding bulls.	Young bulls.	Cows.	Heifers.
(1)	(2)	(3)	(4)	(5)
Scindhi	5	69	127	87
Kangayam	5	74	106	65
Gir	4	26	35	28
Cross breed	..	9	16	9
Hallikar	3	..	..	..
Tharparkar	..	..	..	..
Sahiwal	..	14	..	..
Murrah buffaloes	1	5	..	..
Horses	2 stallions.	..	2 mares.	2 fillies.
Total	<u>20</u>	<u>197</u>	<u>286</u>	<u>191</u>

Breed.	Young stock.		Work cattle.	Total.
	Bull calves.	Heifer calves.		
(6)	(7)	(8)	(9)	
Scindhi	54	52	13	407
Kangayam	38	34	35	357
Gir	13	11	3	120
Cross breed	7	9	10	60
Hallikar	..	..	11	14
Tharparkar	..	..	4	4
Sahiwal	..	..	..	14
Murrah buffaloes	..	..	..	6
Horses	..	1 filly foal	..	7
Total	<u>112</u>	<u>107</u>	<u>76</u>	<u>989</u>

There was no appreciable change in the strength during the period when compared with that of last year.

(f) *Dairy.*—The general improvement achieved during last year in this Section was continued to be maintained by way of increase in the total milk yield and average milk yield for the total herd of cows as could be seen from the details below :—

	1955-56.	1956-57.
	(1st November 1955 to 31st March 1956.)	(1st November 1956 to 31st March 1957.)
Total average herd of cows	267.7	245.1
Cows remained in milk	172.7	163.5
	LB.	LB.
Total yield of milk	3,12,875.0	2,96,112.5
Daily individual average over the cows in milk.	11.9	12.0
Daily individual average over the whole herd.	7.7	8.0

The milk yields under various herds were also continued to be maintained in the same level as in the corresponding period of last year.

Breed.	Average number of cows in the herd.	Average number of cows in milk.	Total milk yield during the period, in lb.	Daily average yield per cow during 1956-57 in lb.		Daily average yield per cow during 1955-56 in lb.	
				For the cows in milk.	For the cows in the herd.	For the cows in milk.	For the cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Scindhi	108.7	74.1	1,57,99.5	14.1	9.6	14.2	9.3
Kangayam	90.1	53.9	58,329.0	6.9	4.3	7.1	4.4
Cross breed	16.0	14.4	36,252.0	16.8	15.0	14.6	8.7
Gir	30.2	19.2	44,292.0	15.4	9.8	15.4	12.2

Details of good performance in various herds have been furnished below :—

Serial number and breed.	Cow number	Milk yield, lb.	Number of days in milk.	Daily average for lactation.
1 Scindhi	791	5,324.0	321	16.6
2 Do.	310	5,047.0	315	16.0
3 Do.	639	6,601.0	372	17.7
4 Do.	299	6,887.5	356	19.3
5 Do.	304	8,436.5	415	20.3
6 Kangayam	32	2,602.5	300	8.7
7 Do.	7.9	2,704.0	276	9.8
8 Do.	838	4,019.5	334	12.0
9 Do.	734	2,849.0	305	9.3
10 Gir	38	9,387.1	389	24.1
11 Do.	21	10,608.5	366	28.7

(g) *Incidence of diseases in the farm.*—(1) *Contagious and infectious diseases.*—The farm was free from most of the common contagious diseases and the loss due to other diseases was also low, total mortality being 4 during the period under report as against 43 in the last year.

(i) *Rinderpest*—Nil.

(ii) *Blackquarter*—Nil.

(iii) *Hæmorrhagic Septicaemia*—Nil.

(iv) *Anthrax*—Nil.

(v) *Foot and Mouth*—Nil.

(vi) *Contagious Abortion*—Nil.

(vii) *Johne's disease.*—There were three attacks during the period under report of which one proved fatal. The disease in all cases were confirmed both on post-mortem examination and by Principal, Madras Veterinary College, on the examination of bowel washings sent.

(viii) *Mastitis.*—All the cows in milk were periodically tested for Mastitis with Mastitis Detection Carts. As a result of this routine examination 8 cows were found affected with this disease. All of them were treated successfully with antibiotics.

(ix) *Coccidiosis.*—There were 6 attacks among young calves only. All of them were successfully with Sulphamezathine.

(x) *Ring Worm.*—Twenty-six young calves in the Dairy between the ages of 1 to 4 months were affected with this disease. However all of them were treated successfully on routine lines of treatment.

(xi) *Mange.*—There were 2 cases during the period. All of them were confirmed to be demodetic mange and was treated successfully.

(xii) *Navel ill.*—There were 3 animals only affected by this disease and all of them were treated successfully.

(xiii) *Helminthiasis.*—Thirty-one animals were infected with worms mostly of strongyle species and all of them were treated successfully.

(xiv) *Piroplasmosis.*—Nil.

(xv) *Theileriasis.*—Nil.

(xvi) *Ephemeral fever.*—Four animals were affected during the period of which more now proved fatal.

(2) *Other diseases.*—(i) *Abortion.*—There were 7 cases of abortion and all of them were negative for Brucellosis.

(ii) *Retention of Placenta.*—There were 3 cases during the period and all of them were treated successfully with no secondary complications.

(b) *Mortality.*—There were 4 deaths during the period as against 43 in the previous year. The percentage of mortality was 0.4 during the period as against 3.1 in the previous year.

(i) *Veterinary Hospital.*—During the period under report, the livestock attached to this farm registered a total of 459 cases under admission of treatment as against 459 in the corresponding period of last year. No castrations were done during the period as against 3 in the previous year. The daily average attendance was 46.12 as against 48.01 in the previous year.

(j) *Laboratory work.*—(i) From the farm, 140 specimens were sent for examination to the Principal, Madras Veterinary College and Veterinary Disease Investigation Officers at Ranipet, besides the 1,218 specimens dealt with at the Clinical Laboratory attached to the farm.

(ii) *Clinical laboratory.*—In order to overcome the delay in diagnosis, treatment and control of diseases for want of laboratory facilities at hand, a clinical laboratory was opened in this farm at the end of last year, which was sanctioned in G.O. No. 1035, Agriculture, dated 3rd April 1954, which continued during this year for exclusive use of the farm and Hosur taluk.

During the period under report, 1,676 specimens were dealt with at this laboratory as against 1,284 in the previous year.

Serial number and nature of clinical materials examined.	Number of specimens received or collected.	Number of specimens examined.	Result of examination	
			Positive.	Negative.
1 Faeces or dung	456	456	174	282
2 Blood smears	725	723	138	585
3 Pus smears	5	5	..	5
4 Scrappings	49	49	19	30
5 Nasal washings	6	6	6	1
6 Urine	5	5	2	3
7 Milk	10	10	1	9
8 Worms or insects	2	2	1	1
9 Blood analysis	..	..	..	..
10 Other specimens	420	420	57	363
Total	1,676	1,676	397	1,279

(iii) *Biological tests*.—Biological test was undertaken by inoculating the emulsion of stomach contents and liver of abortus foetus in six guinea-pigs. No one proved positive for Brucellosis.

(iv) *Johnin test*.—Johnin test was conducted on 241 animals of which one cow was found positive. Eight cows and one bull were suspected, materials (bowel washings and rectal washings) from which were declared negative for organisms of John's disease.

(k) *Work on sterility in the farm*.—The work on diagnosis and treatment of sterility was continued this year also on the lines suggested by the Food and Agriculture Organization Expert. The cows manifesting the following conditions were examined:—

(1) Cows which have been served are examined for pregnancy.

(2) Cows which have prolonged anoestrous period, if they do not come to heat within three months after calving, are examined.

(3) Heifers which are over 2½ years and which have not taken the bull are also examined.

The results of the above examinations are detailed below:—

Sindhi herd.

1 Persistent Corpus Luteum	..	..	25
2 Anoestrous cases	..	..	4
3 Follicles	..	..	1
4 Vaginitis	..	..	..

Kangayam herd.

1 Persistent Corpus Luteum	..	..	12
2 Anoestrous cases	..	..	3
3 Follicles	..	..	..
4 Vaginitis	..	..	5
5 Cystic ovaries	..	..	1

Gir herd.

1 Persistent Corpus Luteum	..	..	13
2 Anoestrous cases	..	..	1
3 Follicles	..	..	1
4 Infantile genitalis	..	..	1

Cross bred herd.

1 Persistent Corpus Luteum	..	..	6
2 Follicle	..	..	..
3 Anoestrous cases	..	..	..
4 Vaginitis	..	..	Nil.
5 Metritis	..	..	1

All the above cases were given various treatments, according to the conditions with successful results in most of them.

(l) *Miscellaneous work*—(i) *Soil Conservation Scheme*.—In accordance with the scheme sanctioned for undertaking soil conservation measures in this farm, a detailed soil conservation (contour) survey was conducted for a part of the farm area extending over 297 acres, forming a separate sub-catchment.

Along with the survey work, soil conservation measures were undertaken in areas where the loss of top soil by erosion in monsoon rains was alarming. The measure adopted was mainly contour bunding with the protection by establishing grass over these bunds.

Thus detailed contour survey was carried out in 28.545 acres and contour bunding was executed to a length of 12.939 r.ft. in an area of 45 acres.

(ii) *Horbori-culture*.—Tree planting was also attended to, during the period as usual. Nurseries for Pungam, Seshum, Sestania, Boganvilla, together timber trees were raised and the following were planted:—

Coconut.—100.

(iii) *Apiculture*.—There were 10 hives during the period under report from which 23½ lb. of honey was extracted.

(iv) *Recreation and First-Aid*.—A radio centre and first-aid medical centre were run for the benefit of the farm staff inclusive of labourers. During the period, 5,697 patients were treated with a daily average attendance of 40.45 at the medical centre.

(v) *Madras State Cattle Show*.—In the first Madras State Cattle Show held in March 1957 at Madras, 78 animals, both cattle and sheep were taken for participation. On the whole, 23 prizes were awarded to the animals of this farm inclusive of Breed Championships in Sindhi, Gir and Mandya Breeds.

(m) *Receipts and Charges*.—A total amount of Rupees 1,06,230.10 was realized through the sale of cattle and cattle products during the period as against an expenditure of Rupees 1,01,654.84 incurred on maintenance of cattle.

A total quantity of 155,835.0 lb. of milk was received during the period of which 115,263.0 lb. were sold for consumption as whole milk. The balance was used up for feeding calves and poultry for conversion and sale as butter and ghee. 261.6 lb. of butter and 873.12 lb. of ghee were sold during the period.

During the period 109 bulls were issued from the farm as against 124 in the previous year.

At the end of the period, there were 197 bulls as against 204 in the previous year as detailed below:—

	Bulls.
Sindhi	69
Kangayam	74
Sahiwal	14
Gir	26
Murrah	5
Cross-bred	9
Total	197

(ii) District Livestock Farm, Pudukkottai.

28. (a) This farm which was formerly the dairy farm for His Highness the Maharaja of Pudukkottai, was taken over in 1951-52 by this Department on the merger of this State with the Madras State, is chiefly intended (i) to meet the local demand for pedigreed stock, (ii) to improve the local stock of the district, (iii) to serve as a demonstration centre for the district on practical Animal Husbandry on modern lines, and (iv) to raise a dairy to meet the local demand for milk.

(b) *Cattle Population of the Farm.*—The total strength of the farm at the beginning of the period was 156 as against 154 in the previous year. There were 15 additions and 10 disposals during the period as detailed below :—

Additions—		Disposals—	
By birth	13	By sale of breeding and sale for non-breeding purposes.	5
By receipt from other stations.	12	By culling	2
		By death	..
Total	25	By transfer to other stations.	3
		Total	10

Thus at the end of the period the strength stood at 161 as against 168 in the previous year. There was no appreciable change in the strength when compared to the previous year. The class-war strength of animals are detailed below :—

Breed.	Stud bulls.	Cows.	Young bulls.	Heifers.	Bull calves.	Heifer calves.	Work cattle.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sindhi	3	10	2	4	4	3	2	28
Graded Sindhi	..	12	11	7	1	8	..	39
Kangayam	10	22	11	23	7	5	10	88
Gir	3	..	..	..	..	..	..	3
Murrah	3	..	..	..	..	..	..	3
Total	19	44	24	34	12	16	12	161

(c) *Dairy.*—During the period on an average 22.4 cows remained in milk out of 41.6 cows in the herd, yielding a total quantity of 40,057.0 lb. of milk as against 89,092.5 lb. yielded by 31.6 cows in milk out of a total herd of 53.3 cows in the whole of previous year.

There was considerable increase in the daily average yield per cow of the farm over the cows in milk and over the cows in the herd as could be seen, from the figures below :—

	1956-57. LB.	1955-56. LB.
Daily average yield for cow over the cows in milk of the farm.	11.8	7.6
Daily average yield per cow over the cows in the herd of the farm.	6.3	4.5

The breed-war particulars on milk yield are furnished below :—

Breed.	Average number of cows in the herd	Average number of cows in milk.	Total yield of milk during the period in lb.	Daily average yield (in lb.)			
				1956-57 (1st November 1956 to 31st March 1957.)		1955-56.	
				For cows in milk.	For cows in the herd.	For cows in milk.	For cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sindhi	8.2	6.8	17,037.0	16.7	13.7	9.3	6.5
Graded Sindhi	10.0	8.1	15,137.0	12.4	10.0	11.1	7.9
Kangayam	23.4	7.5	7,883.0	7.1	2.2	5.7	2.8

The breedwar/average yield of milk was also on the increase during the period.

Details on some of the good performers in milk yield are given below :—

Serial number, breed and number.	Milk yield in lb.	Daily average for the lactation (in lb.).	Number of days in milk.
(1)	(2)	(3)	(4)
1 Sindhi 760	4,534.5 lb.	20.7 lb.	219
2 Do. 785	5,433.0 ..	20.1 ..	270
3 Graded Sindhi 61	1,084.5 ..	17.8 ..	61
4 Do. 83	4,808.0 ..	17.9 ..	269
5 Kangayam 811	818.5 ..	11.7 ..	70
6 Do. 936	1,942.0 ..	11.1 ..	163

(d) *Incidence of diseases in the Farm.*—There was no outbreak of any of the contagious diseases during the period.

Surra.—There was no attack during the period. But 144 animals were given prophylactic treatment with Antrycide.

Contagious abortion.—One case of abortion in Kangayam cow was confirmed as Brucellosis. This animal was isolated to avoid further spread of the disease.

Abortion.—There was one abortion during the period, materials from which proved negative for Brucellosis.

Retention of Placenta.—There were 2 cases of retention of placenta during the period which were treated successfully with no secondary complications.

(e) *Mortality.*—There was no death during the period.

(f) *Sterility work done.*—Nine cows were treated during the period of which 5 were reserved after treatment.

(g) *Clinical Laboratory.*—The clinical laboratory attached to this farm was handed over to the Veterinary Assistant Surgeon in charge of Veterinary Hospital, Pudukkottai.

(h) *General*—(i) *Agriculture.*—Three beehives were functioning out of which 1½ lb. of honey was collected during the period.

(ii) *Cattle shows*.—(1) An one-day cattle show was organized by the farm during the Gosamvardhana Week celebrations in which 180 animals participated in the show. Prizes to the tune of Rs. 265.37 were awarded to the best exhibits of the show.

(2) *First State Cattle Show of district shows*.—The farm animals participated in the District Cattle Show held in February 1957 at Tiruchirappalli and in the First Madras State Cattle Show held in March 1957 at Madras. Out of 9 animals that participated in the District Cattle Show, all of them were awarded either first or second prizes. Out of 29 animals of this farm, 10 were awarded prizes in the State Cattle Show.

(i) *Receipts and Charges*.—The total revenue received during the period through the sale of cattle and dairy products was Rs. 14,491.41 and the total expenditure incurred on maintenance of cattle was Rs. 31,677.75. Out of a total quantity of 29,635 lb. of milk received during the period, 27,897.5 lb. were sold to the public and the balance was fed to calves.

The farm issued 5 bulls during the period as against 10 in the last year. There were 24 bulls at the end of the period as detailed below as against 19 in the previous year :—

Sindhi	2
Kangayam	11
Graded Sindhi	11
Total ..	24

(iii) District Livestock Farm, Orathanad.

29. (a) *Strength*.—There were 323 animals at the beginning of the period. During the period there were 41 additions and 11 disposals as detailed below :—

Additions—			Disposals—		
By births	34		By transfer to other station.		1
By receipt through purchase and transfer from other station.	7		By death		8
			By sale		2
Total ..	41		Total ..		11

Thus at the end of the period, the strength stood at 353. The breedwar and classwar strength has been detailed below :—

Breeds.	Stud Bulls.	Cows.	Young Bulls.	Heifers.	Bull calves.	Heifer calves.	Work Cattle.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sindhi	10	19	18	13	8	10	1	79
Umblachery	2	44	16	34	16	21	8	141
Kangayam	1	..	5	..	..	..	21	27
Gir	2	..	4	..	..	..	..	6
Cross bred	..	..	..	..	..	..	..	..
Murrah	3	43	15	20	8	11	..	100
Total ..	18	106	58	67	32	42	30	353

(b) *Diary*.—During the period under report on an average there were 101.4 cows and she-buffaloes in the herd of which 55.5 cows and she-buffaloes were in milk yielding 74,756.5 lb. of milk with a daily individual average yield of 8.8 lb. over the cows in milk and 4.8 lb. over the whole of cows in herd as against 10.6 lb. and 6.9 lb. respectively in the same period of last year.

Breedwar particulars on milk yield are detailed below :—

Breed.	Average number of cows in the herd.	Average number of cows in the milk.	Total milk yielding during the period in lb.	Daily average yield per cow in 1955-56 (1 Nov. 1956 to 31 Mar. 1957 in lb.).		Daily average yield per cow in 1956-57 (1 Nov. 1956 to 31 Mar. 1957 in lb.).	
				For cows in milk.	For cows in the herd.	For cows in milk.	For cows in the herd.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sindhi	16.7	13.7	25,436.0	12.3	9.2	13.3	10.0
Umblachery	39.8	15.1	3,525.5	1.5	0.6	2.9	1.7
Murrah	43.0	26.7	45,295.0	11.3	6.9	15.4	9.1

Details on the good performances by individual animals are given below :—

Breed and number.		Milk yield.	Number of days in milk.	Daily average for lactation.
(1)	(2)	(3)	(4)	(5)
Sindhi 833	..	5,129.0	305	16.8
Umblachery 34	..	566.5	213	2.6
Murrah 7	..	6,080.0	336	18.0
Murrah 11	..	6,673.5	360	18.5

(c) *Incidence of diseases*.—There was no outbreak of any contagious disease and incidence of infectious diseases except for one death due to Johne's disease during the period.

(d) *Mortality*.—There were only 8 deaths due to other causes during the period as against 5 in the same period of last year working out a percentage of 2.2 as against 2.0 in the last year.

(e) *Laboratory work*.—(i) 19 specimens were set to Principal, Madras Veterinary College for examination of which 2 were declared positive.

(ii) The Clinical Laboratory started in the last year was supplied with a microscope at the end of the period only and hence only 12 specimens were dealt with.

The progress of this laboratory can be studied only after the buildings and other laboratory accessories are furnished in full.

(f) *Sterility work*.—The work on sterility continued to be undertaken during the period the details of which are furnished below :—

Sindhi Breed—			
1 Anæstrous	..	..	2
2 Cystic ovaries	..	..	..
3 Persistent corpus luteum	..	..	1

Murrah—

1 Anæstrous	3
2 Persistent corpus luteum ..	1
3 Cystic ovaries	1

Umlachery—

1 Anæstrous	..
2 Persistent corpus luteum ..	..

(g) *Miscellaneous*—(i) *Agriculture*.—Out of 20 beehives functioning at the beginning of the year only 10 were functioning during the period. Twenty pound of honey was collected during the period.

(ii) *Pisciculture*.—Thousand cirrihina, 150 catla and 3,000 Labeo fingerlings were released in 3 farm ponds for rearing.

(iii) *Arboriculture*.—Tree planting was continued details of which are given below :—

Glyricidia cuttings	3,200
Drumstick 7"	4
Multivitamin green cuttings ..	2

(iv) *Cattle shows and exhibitions*.—(a) "One day Cattle Show" was organised at Orathanad during the 'Gosamvardhana' celebrations. Four hundred and twenty-six animals participated out of which 66 were awarded prizes.

(b) The farm animals participated in the First Madras State Cattle show held at Madras and also in the First District Cattle Show at Tanjore. In each of these shows 16 farm animals competed and 14 prizes in each of the 2 shows were awarded. In Madras State Cattle Show, the prize for the best animal of the show (other sex) was awarded to Murrah Buffalo Bull of this farm.

(c) *Exhibitions*.—An exhibition with film shows was arranged for a period of three days on the eve of inauguration of Stockmen course at Orathanad in the farm premises. This exhibition was first of its kind for the locality and all the other development departments of the State (viz.), Agriculture, Co-operative, Fisheries also participated in this exhibition.

(v) *Training*.—This farm provided for the practical training for the students of stockmen course which was newly inaugurated this year. The Agricultural students of P. S. Sivaswamy Iyer's High School, Tirukkattupalli, visited the farm for a visual study in the farm.

(h) *Receipts and Charges*.—A total amount of Rs. 14,263.21 was realised under Livestock Section receipts and the total expenditure on maintenance of cattle was Rs. 79,901.82.

A total quantity of 74,756.5 lb. of milk was received during the year, 54,056 lb. was sold to public for consumption and the balance was fed to calves and converted as ghee.

There were 58 young bulls at the end of the year as against 40 in the last year as detailed below :—

Sindi—18, Umlachery—16, Murrah—15, Kangayam—5, Gir—4.

(iv) *District Livestock Farm, Ramanathapuram.*

30. (a) The opening of a livestock farm in Ramanathapuram district was proposed under the Second Five-Year and the same was opened during this period under report on 9th November 1957. To work out the preliminaries for the establishment of the farm, a Superintendent was posted on 9th November 1956 with his headquarters at Madurai.

(b) *Objects*.—(1) To study the potentialities of the local type of cattle with particular reference to their response to judicious feeding and scientific management.

(2) Grading up of the local cattle with an approved breed of cattle and studying the performances of the grades under practically identical conditions with the pure breeds.

(3) Maintenance of different approved breeds of cattle and buffaloes with a view to assess their adaptability to the climatic and environmental conditions of this area and to supply pedigreed bulls of acclimatised strains of these breeds for the grading up of the local cattle.

(4) Fodder production and pasture management primarily to meet the requirements of the farm stock and incidentally to study the adaptability of different forage crops to the climatic and allied conditions of the area.

(5) To serve as a demonstration and training centre on the scientific feeding, breeding and management of cattle including pasture management, fodder production, conservation of fodder as silage and hay Arboriculture, etc.

(6) Incidentally making available milk and milk products, to the public.

(c) *Progress of work*.—The programme of work for the period under report was mainly the selection and acquisition of suitable area for locating the farm. A total area of about 1,905 acres falling within the village limits of Pallathur, Kothadi, Kanadika-then and Kothamangalam was selected out of which 1,770.87 acres have been taken over for the farm.

(v) *Season and crops.*

31. (A) *Livestock Research Station, Hosur*.—(i) On the whole the season and rainfall during the year was not favourable for cultivation on account of south-west monsoon failure which handicapped the preparation of cultivation and heavy rains during the north-east monsoon which spoiled the crops through stagnation of water in fields.

The total rainfall during the period was 7.43 inches in 18 days as against 2.61 inches in seven days in the corresponding period last year.

(ii) *Pastures*.—An area of 933.91 acres was under pastures with spear grass both for haymaking and grazing. 526.01 acres was under spear grass, 19.5 acres under Teosinte and 27.5 was

under Ragi and lab lab mixture. The following were also grown under pasture conditions on an experimental basis in plots of 10 cents :—

- 1 Kudzu vines.
- 2 Pillipesara.
- 3 Rhodes grass.
- 4 Kolukattai grass.
- 5 Australian grass.
- 6 Weeping Love grass.
- 7 Dew gram.
- 8 Wooly finger.
- 9 Calapogonium.
- 10 Kikvi grass.

(iii) *Hay making*.—Hay making was taken up during the month of December 1956 and completed in January 1957. Twelve new stacks realising a total quantity of 912,398 lb. of hay working out an yield of 1,735 lb. per acre as against 1 stacks, 926,449 lb and 1,528 lb. respectively.

(iv) *Garden cultivation*.—(i) A total area of 314.18 acres consisting of wet, dry and garden lawns was under this Section for growing fodder, fodder grasses, legumes and cereal crops. The yield particulars on the various crops and grasses grown are given below :—

Details of crops.	Area in acres.	Green fodder.	Yield in lb. ^s	
			Straw.	Grains.
(1)	(2)	(3)	(4)	(5)
		LB.		
Berseem	14.10	361,271	..	..
Lucerne	9.19	84,623	..	..
Guinea grass	8.54	55,989	..	..
Sudan grass	0.20	504	..	..
Buffalo grass	6.54	115,442	..	..
Napier grass	0.75	12,264	..	..
Rhodes grass	2.00	23,600	..	..
Ratoon cholam	19.36	24,554	..	..
Rahi	..	..	..	..
Cholam	27.87	509,596	87,476	7,260
Teosinte	..	..	..	..
Maize	4.46	21,992	15,238	5,440
Sweet Potato vines	..	..	..	..
San hemp	16.30	167,391	..	..
Velvet beans	0.30	..	..	302
Horsegram	12.51	..	6,484	2,666
Paddy	2.00	..	3,800	2,745
Wheat and Oats	0.40	..	896	203
Mixed grass on bunds	..	372,210	..	..

(v) *Silage*.—A total quantity of 963,838 lb. of green fodder was ensiled in 3 silo pits as against 1,767,658 lb. in the previous year. The green material ensiled were teosinte, cholam, maize, Napier grass, guinea grass, mixed grasses.

(vi) *Fodder position*.—The fodder supply to cattle during the year was satisfactory. The farm was self-sufficient in respect of its fodder requirement and no fodder was purchased from outside.

A total quantity of 1,671,933 lb. of fodder consisting of green, dry and silage material was supplied to the livestock of the farm during the period.

(B) *District Livestock Farm, Pudukkottai*.—(i) *Season and rainfall*.—During the period a total rainfall of 9.36 inches spread over in 15 days was received as against 19.14 inches in 15 days in the same period of last year. As could be seen from the above figures, the season and rainfall was not favourable during the period under report.

(ii) *Pasture and cultivation*.—There was no area under pasture in this farm. An area of 5.98 acres was under fodder cultivation the details of which are given below :—

Name of crop.	Area cultivated (in acres and cents).	Total yield.
(1)	(2)	(3)
		LB.
Guinea grass	4.05	75,141
Rhodes grass	0.39	3,899
Buffalo grass	0.81	8,967
Napier grass	0.10	861
Naise	0.22	878
Berseem	0.04	1,370
Lucerne	0.04	755
Kolakattai	0.04	224
Bund grasses	..	11,131

As only a small area was available for cultivation in this farm, self sufficiency in respect of fodder requirement could not be achieved. Hence to meet the requirements of the farm, 218,100 lb. of paddy straw to the work of Rs. 6,679 had to be purchased during the period.

Action taken to increase the fodder.—Intense cultivation was taken up even on bunds leaving no space of land uncultivated. Steps were taken to require more lands in Machuvadi Reserve forest area in the vicinity of the Pudukkottai town.

(C) *District Livestock Farm, Orathanad*.—(1) There was a total rainfall of 40.06 inches spread over 11 days as against 43.27 inches in 57 days in the whole of last year. Though the intense rainfall was detrimental to the cultivation and harvest paddy crops, it was beneficial to dry crops.

(2) *Pasture and cultivation*.—An area of 39 acres was reserved for grazing. 167.00 acres were under cultivation for

growing cereal crops and fodder crops and grasses. The details of crops and grasses grown are given below :—

Name of crop.	Area cultivated in acres.	Grain.	Straw.	Green fodder.
(1)	(2)	(3)	(4)	(5)
		LB.	LB.	LB.
Samba paddy ..	31.97	46,467	92,800	..
Cholam	3.98	1,514	24,000	..
Cholam	13.22	..	..	280,320
Maize	1.60	950	13,570	..
Horsegram ..	5.92	236	..	4,780
Buinea grass ..	12.82	..	..	222,430
Napier grass ..	4.90	..	..	118,860
Buffalo grass ..	2.10	..	..	107,530
Rhodes grass ..	0.30	..	..	10,400
Lucerne	0.68	..	..	1,020
Cowpea	0.40	..	..	1,200
Chlorisboureyi ..	0.10	..	..	180
Blue Buffalo ..	0.10	..	..	150
Green grass from bunds. ..	..	..	..	479,030

(3) *Silage making*.—During the period 2 silos were filled with 151,750 lb. of various green fodder grown in the farm as detailed below :—

	LB.
Guinea grass	23,100
Napier grass	9,000
Buffalo grass	27,600
Cholam	85,050
Bunds grass	4,000
Maize	3,000

(vi) *Kangayam Cattle Improvement Scheme.*

32. (a) *Object*.—This scheme was started on 31st July 1942 by the Indian Council of Agricultural Research in co-ordination with the Animal Husbandry Department, Madras State, in the cattle farm of the Pattagar of Palayakkottai with 60 Kangayam heifers and 2 bulls. The object of the scheme is to improve the milking qualities of Kangayam cows without impairing the draught capacity of the breed on scientific lines, viz., by selective breeding, balanced feeding and sound management. The scheme had been extended during the year to be in operation for a further period of two years from 1st April 1957 to 31st March 1959.

The strength of animals as on 1st November 1956 and 31st March 1957 :—

	Strength on 1st November 1956.	Strength on 31st March 1957.
Cows in milk	59	81
Dry cows and cows nearing parturition ..	66	61
Heifers (above 1 year)	93	94
Young bulls (above 1 year)	114	86
Heifer calves (below 1 year)	47	47
Bull calves (below 1 year)	58	60
Bulls at stud	2	2
Work cattle	89	89
Total	528	520

There were 38 births during the period; and 44 bulls were sold to the Government as per the conditions of the scheme and 2 animals died.

(b) *Dairy*.—Out of a total number of 137 cows in the herd, on an average 69.1 cows remained in milk yielding 16,607 lb. of milk. There was an increase in the daily individual average during the period as could be seen from the following data :—

	1956-57 (1st November 1956 to 31st March 1957).	1955-56.
Daily individual average over cows in milk in lb.	8	7.1
Daily individual average over cows in herd in lb.	4	3.9

Details of some of the good performers are given below :—

Breed and cow number.	Total milk yield up to the date of drying in lb.	Daily average for the lactation in lb.	Number of days in milk.
Kangayam 361	2,992.0	9.4	318
Do. 81	2,811.0	9.3	303
Do. 559	2,620.0	7.7	399
Do. 80	2,555.0	7.0	365
Do. 318	2,548.0	8.3	306

Calvings.—There were 38 births, of which 20 were bull calves and 18 were heifer calves.

(c) *Experimental work done*.—Birth weight of calves : Recording of birth weight of calves was also undertaken the details of which are given below :—

	1956-57 (1st November 1956 to 31st March 1957 in lb.).	1955-56 in lb.
Average birth weight of a calf	45.7	44.2
Average birth weight of a bull calf	48.3	46.4
Average birth weight of a heifer calf	42.7	42.2
Maximum weight of calf	57.0	59.0
Minimum weight of calf	29.0	26.0

(d) *Testing of animals for draught capacity.*—This item of work was entrusted to a committee of local experts after general discussion with Animal Husbandry Commissioner with the Government of India. Committee comprises of the Pattagar of Palaya-kottai and three non-official members, with the Deputy Director of Animal Husbandry (Livestock) and the Superintendent, Kangayam Cattle Improvement Scheme, as official members. Periodical meeting of the committee were held and their opinions were recorded regarding the draught capacity of bullocks included in the scheme in respect of ploughing fields, mhothe work, and dragging loads. It was only a rough test and from the observations made so far there was no difference found in the working ability between the bullocks descending from high milk yielding dams and low milk yielding dams. If some mechanical contrivance is made available more authentic information can be collected.

(e) *Maturity of heifers.*—As a result of study on maturity among heifers it was observed that the average of maturity was 42.66 months with a maximum of 51.0 months and a maximum of 38 months as against 43, 57, 37 months respectively in the previous year.

(f) *Antenatal massage of udders.*—Udders of pregnant heifers were massaged daily for two months before calving with controls for the experiment. Results arrived at with the massage done among 4 heifers in having 4 others as controls are as follows :—

	Experi- mental animals.	Controls.
Average milk yield in lb.	2,303	2,063
Daily average yield in lb.	7.5	7.4
Average days in milk	307	279

There was increase in the total yield of milk with the prolongation of lactation period.

(vii) Cross Breeding Scheme, Ootacamund.

33. (a) This scheme is in operation since 20th January 1955 in the Nilgiris hills of this State at Ootacamund with a net work of 4 sub-centres (viz.), Nanganad, Prospect Estate, Dhavani and Tummanahatty in co-ordination with the Indian Council of Agricultural Research.

(b) *Object of the scheme.*—The scheme aims at improving the milk yield of local cows (non-descript) by the systematic introduction of pedigree Jersey blood in a systematic well planned manner, without affecting the stamina to withstand the environmental factors. The main object is to strike and ascertain the proportion of foreign blood under which the crosses are able to do their best as regards milk yield as well as the capacity to withstand the environmental factors.

In this hilly and heavy rainfall area it is proposed that the breeding up with the Jersey bulls should go on for two generations so as to produce cows with 75 per cent Jersey blood animals initially. Further programme as to whether these graded animals

are to be graded up with Jerseys or downgraded to an Indian breed or bred among themselves will be decided after studying the adaptability of the crosses, to the environmental factors.

Out of the total population of 5,227 cows of breedable age in the area under the scheme, 2,500 indigenous ones with no foreign blood as far as could be known were selected and their full history were brought into the preliminary survey and Livestock Registers with tattooing for identification in the future study.

(c) *Milk recording.*—Milk recording for the non-descript and cross bred cows at random at Monthly intervals was done as per the instructions contained in the tour notes of the Deputy Livestock Adviser to Government of India. During the period under report 1,256 non-descript cows and 311 cross bred cows were milk recorded. The average milk yield for the non-descript cows was 3.5 lb. and for the cross bred the average milk yield was 7.0 lb.

(d) To eliminate the adverse effects of breeding with scrub bulls was enforced through Livestock Improvement Act and thus 329 castrations were done during the period under report.

(e) The introduction of Jersey blood was carried out through artificial insemination with the Jersey semen received thrice in a week from the Central Artificial Insemination Centre, Bangalore, by air transport. The results of inseminations were also followed up by verification of the services and the calves born. The details of work done in this aspect are furnished below :—

	1956-57 (1st November 1956 to 31st March 1957).	1955-56.
Number of insemination done with Jersey semen.	1,349	945
Number of services verified	858	58
Number of calves born	152	228
Number of calves inspected	152	228
Number of calves born to registered cows under the scheme.	75	..

The tattooing of heifer calves will be taken up shortly as they were too young to be tattooed during the period under report.

(f) Besides the insemination, registration of progeny, milk recording work, the staff of the scheme was also engaged in rendering first-aid for 931 morbid cases while on tour and enforcing prophylactic vaccinations against contagious diseases of endemic.

Particulars.	Number of animals protected.
Blackquarter	..
Hæmorrhagic Septicæmia	190
Ranikhet Disease	170
Rabies	60

The progress under this scheme earned the good impressions of the eminent visitors like Dr. E. Palsson, F.A.O., Expert, Dr. T. Gullickson, T.O.M., Animal Nutrition Expert, Deputy Livestock Adviser to Government of India and the Director of Livestock Research, Bihar.

(viii) Artificial insemination.

34. There were six artificial insemination centres with 10 sub-centres at the beginning of the period functioning in places as shown below :—

Place of location of artificial insemination centres.	Place of location of sub-centres
1 Madras City	1 Saidapet. 2 Mylapore. 3 Basin Bridge. 4 Rayapuram. 5 Kodambakkam.
2 Coimbatore town	1 Government Agricultural College, Coimbatore. 2 Tudialur. 3 Singanallur.
3 Madurai	1 South Veli street, Madurai. 2 Ponragaram.
4 Tiruchirappalli .. .. .	.....
5 Erode .. .. .	.....
6 Salem .. .. .	.....

Consequent to reorganization of the States the Centres at Kozhikode and Mangalore came under the Kerala and Karnataka States respectively on 1st November 1956 and thus were six centres at beginning of this period out of the eight centres at the end of the last period.

During the period 34 bulls of various breeds were maintained in these centres, out of which 815 collections of semen were made to conduct 11,122 inseminations as against 41 bulls 1,516 collection and 18,753 inseminations in the whole of previous year. The details of work done at the various centres are given below :—

Location of the artificial insemination centres.	Number of bulls maintained under each breed.						Number of collections made.
	Jersey.	Ongole.	Sindhi.	Kangayam.	Murrah.	Total.	
Madras	1	1	2	..	2	6	190
Madurai	..	..	3	1	3	7	119
Coimbatore	..	..	2	1	2	5	197
Tiruchirappalli	..	..	2	1	2	5	102
Erode	..	..	..	2	2	4	100
Salem	..	..	3	3	1	7	107
Total	1	1	12	8	12	34	815

				Number of inseminations made.	Rate of insemination per collection	Number of pregnancies verified.	Number of calves inspected.	Number of sterility cases handled.
Madras	..	..	..	1,958	10.30	897	415	..
Madurai	..	..	..	1,118	9.39	788	305	..
Coimbatore	..	..	..	5,347	21.14	2,514	1,373	..
Tiruchirappalli	..	..	..	589	5.77	350	62	..
Erode	..	..	..	1,191	11.91	470	204	5
Salem	..	..	..	919	8.59	425	169	7
Total	..	..	..	11,922	13.64	5,444	2,523	12

In the centres at Madras City and Coimbatore semen collections of Jersey and Tharparker breeds were imported by air from the Central Artificial Insemination Station, Bangalore the details of which are given below :—

Centres.	Number of semen collections received.	
	Jersey.	Tharparker.
(1)	(2)	(3)
Madras	67	50
Coimbatore	64	50
Total	131	100

Studies on semen.—Periodical studies on the quality and the keeping quality of semen used for insemination were made at the various centres while the keeping quality of semen of Kangayam and Sindhi bulls were good that of buffalo bulls was not satisfactory. A course of vitamin C injunction was tried in buffalo bulls and the semen improved in its keeping quality up to a duration of 72 hours while previously it was not preservable for even 24 hours. As a rule semen more than 72 hours old was not used. The preservability of semen ranged from two to five days in case of buffaloes and three to seven days in case of Ongole and Sindhi bulls.

Training.—Training of veterinary personnel was undertaken in artificial insemination centre in Madras. During the period under report six stockmen of this State were given training for a period of a fortnight. This centre at Madras continued import training in artificial insemination work to the final year students of the B.V.Sc. course of the Madras Veterinary College as a part of their syllabus.

35. *Artificial insemination centres handed over from Community Project areas.*—The artificial insemination centres under Community Projects Scheme handed over to this department during the last period, were continued to be run by the Veterinary Assistant Surgeon in-charge of the respective veterinary dispensaries and

no separate Veterinary Surgeons was posted to be in-charge of the centres exclusively. The details of work turned out at these centres are :—

Location of centres.	Number of bull				Number of collections.	Number of inseminations.	in and/or inspected.	Number of pregnancies verified.	Remarks.
	Kangayam.	Sindhi.	Murrah.	Total.					
Cheranmahadevi.	1	1	1	3	80	212	61	218	
Tirukalikundram.	..	2	4	6	63	132	22	92	
Dharmathupatty.	2	..	2	4	75	541	..	97	Opened on 15th June 1957.
Vadipatty.	..	2	..	4	25	336	..	115	Opened on 24th June 1956.
Kavandapady ..	2	..	2	4	81	819	36	150	
Malayampalayam.	2	..	2	4	99	602	30	37	

36. *Artificial insemination centres attached to the veterinary institutions.*—In addition to the above centres, three more artificial insemination centres were opened and sanctioned during the period attached to the veterinary institutions under charge of the Veterinary Assistant Surgeon of the institutions concerned the details of which are furnished below :—

Location of centres.	Number of bulls.			Collections made.	Insemination done.
	Sindhi.	Murrah.	Total.		
Veterinary Hospital, Tirunelveli.	2	2	4	25	77
Veterinary Hospital, Vellore.	2	2	4	28	103
Veterinary Hospital, Virudhunagar.	2	2	4	29	93

(ix) *Key village scheme.*

37. (a) *Key village centres.*—The key village scheme sponsored at All-India level by the Government of India was inaugurated in Madras State in 1952-53. This scheme is in implementation in Kangayam breeding tract, in Anamalais Hill area for Sindhi breed and at Hosur Cattle Farm for Hallikhar Breed.

There were nine key village centres during the period, four new key village centres were opened and two more key villages were added in the existing key village centres. Thus there were 13 key village centres at the end of the period. The details of location of these centres are given below :—

Name of key village centres.	Breeding trace.	Number of key villages attached to the centres.
Vellakkoil	Kangayam	6
Kangayam	Do.	6
Mulanur	Do.	6
Sankarandapalayam ..	Do.	6
Thoppampatti	Do.	6

Name of key village centres.	Breeding trace.	Number of key villages attached to the centres.
Chikkanapuram	Kangayam	6
Malayandipatnam	Do.	6
Chinchona (Anamalais) ..	Sindhi	6
Livestock Research Station Hosur Cattle Farm.	Hallikar	6
Pettaikalipalayam	Kangayam	Nil.
Sultanpet	Do.	Nil.
Chinnadharapuram	Do.	Nil.
Kalimandiyam	Do.	Nil.

There were 189 breeding bulls in the scheme at the end of the period as against 10 in the previous year. Out of these bulls 23,207 inseminations were made during the period, besides 1,444 natural services against 29,350 inseminations and 3,111 natural services in the whole of previous year. The details of location of bulls, semen collections inseminations done at various centres were given below :—

Location of key village centres.	Number of bulls in the centres and key village.	Number of collections made.	Number of inseminations done.	Rate of insemination.	Number of natural services performed.	Number of calves born.	Number of calves in the subsidy scheme.
Kangayam ..	10	296	4,292	14.50	86	279	78
Vellakkoil ..	10	141	3,185	22.60	57	476	106
Sankaranda palayam.	12	173	2,969	17.20	267	822	82
Chikkanapuram.	17	136	2,511	18.25	133	821	13
Mulanur ..	17	233	4,075	17.50	108	788	39
Thoppampatty ..	19	156	2,785	17.90	121	334	21
Malayandi-patnam.	13	114	1,223	10.70	137	465	60
Cinchona ..	15	84	435	5.20	135	224	11
Livestock Research Station, Hosur.	11	91	1,106	12.20	355	501	80
Pettaikalipalayam.	18	16	385	21.10	..	..	..
Sultanpet ..	13	..	..	..	7	..	..
Chinnadharapuram.	15	22	241	10.95	..	..	..
Kalimandiyam ..	14	..	..	..	38	..	..

Under the key village scheme in addition to inseminations and follow up of these chases, the other aspects of animal husbandry in these are also like production and preservation of fodder, protection in advance of livestock against epidemics, rendering treatment to morbid cases, castration of scrub bulls and rams were also attended to by the personnel of these centres. House to house survey were also made from time to time in villages along with insemination with a view to study the feasibility of solving livestock problems at village level, the formation of livestock co-operative for both production and marketing of livestock and livestock products.

(b) *Work on sterility.*—Among the morbid cases, special attention was paid to study and treat the pathological conditions of reproduction system with a view to augment the early and frequent calving among cows and thereby increase the milk production.

(c) *Disease control*.—Besides the work on development side, control measures to avert the incidence of epidemics were undertaken in the scheme through preventive inoculation in all species of livestock as detailed below :—

Name of disease against which preventive inoculations were done.						Number of inoculations done.
Cattle—						
Blackquarter	..	..	..	..	..	5,374
Sheep—						
Sheep-pox	..	..	..	..	..	158
Enterotoxaemia	..	..	..	..	..	1,638
Poultry—						
Ranikhet	..	..	..	..	..	692
Fowl-pox	..	..	..	..	..	..

(d) *Calf rallies*.—The tempo if the enthusiasm of the public in the scheme area was maintained by holding calf rallies, in addition to the cattle shows of the region, as one of the annual mela in the rural parts through Government subsidy supplemented with public contribution. Well kept and quality animals were awarded prizes. Calf rallies are held in the future interest of the scheme through the proper care and management at present for a well-developed livestock of the future. Such calf rallies were held in all the centres and the details of animals participated and prizes awarded are given below :—

Location of key village centres.					Number of animals participated.	Number prizes awarded.
Kangayam	..	..	..	..	462	282
Vellakkolil	..	..	..	..	650	153
Thoppampatti	..	..	..	..	561	73
Mulanur	..	..	..	..	365	154
Chikkannapuram	..	..	..	..	589	251
Malayandipatnam	..	..	..	..	410	114
Chinchona	..	..	..	..	180	142
Livestock Research Station, Hosur-Cattle Farm.	..	..	..	..	1,302	354
Pettaikalipalayam	..	..	..	..	279	121
Sultanpet	..	..	..	..	158	37
Chinnadharapuram	..	..	..	..	177	56
Kalimandiyam	..	..	..	..	242	62
Sankarandampalayam	..	..	..	..	1,035	768

(e) *Subsidy scheme for pasture development*.—The scheme for the improvement of pastures through performance of subsidy in key village areas which was undertaken last year in 17 plots comprising of 100 acres of pasture land in the area of Kangayam centre, was continued during the period. Fencing, contour bunding and hay making were carried out and subsidy at Rs. 50 per acre was also paid for all plots except one wherein binding was not completed.

(f) *Calf subsidy scheme*.—The scheme of subsidy for selected calves in the key village with a grant of Rs. 10 per month per calf

was continued during the period. Bull calves over six months of age that are expected to become good breeding bulls are selected for subsidy every month. Thus there were 504 calves enlisted on this scheme at the end of the period.

38. *Scheme for utilization of bulls produced in key villages—Opening of supplementary extension centres*.—During the year, the proposal for opening five supplementary extension centres in non-key village tracts with a view to utilise the bulls produced in key villages was sanctioned during the period. As per this scheme 50 bulls are to be located in an area with a population of 5,000 cows of breedable age. All the five centres were opened during the period as detailed below :—

District.	Place.	Number of bulls distributed		
		Kangayam.	Sindhi.	Murrah.
Salem	Namakkal	38	..	11
Tiruchirappalli	Karur	38	..	12
Chingleput	Maduranthakam	..	40	10
Madurai	Uthamapalayam	37	..	12
Madurai	Dindigul	36	..	15

These bulls were located in villages under the custody of ryots who will be paid a subsidy of Rs. 30 per month for each bull towards feeding and maintenance of the bulls in good condition. No service fees will be charged by the custodians from the owners of cows.

(x) Key farm centres.

39. (a) Six key farm centres were run during the period with 13 sub-centres with a total number of 57 bulls of Sindhi, Kangayam and Murrah breeds were maintained. On the inclusion of Kanyakumari district in Madras State, the key farm centre at Jagarcoil came under this department with the three bulls located at this centre. Thus there were seven centres at the end of the period.

In these centres 1,325 collections of semen were made out of which 6,419 inseminations were carried out as against 1,262 collections and 9,631 inseminations in the whole of previous year. The details of work done at these institutions are given below :—

Location of key farm centre.	Districts.	Number of bulls maintained.				Natural Services performed.	Number of collections made.
		Kangayam.	Sindhi.	Murrah.	Total.		
Nagercoil	Kanyakumari	..	2	1	3	73	53
Neikarapatty	Madurai	6	2	11	19	732	716
Idayakkottai	Do.	3	..	2	5		180
Chidambaram	South Arcot	..	2	3	5		88
Valarpuram	Chingleput	..	3	3	6		51
Kilacheri	Do.	..	2	3	5		81
Sivagiri	Coimbatore	12	..	4	16	147	156

Location of key farm centre.	Number of nations dose.	Rate of inoculation per collection.	Number of calves born and inspected.		Number of pregnancies verified.
			Artificial Insemination.	Natural services.	
Nagercoil	478	1.0	49	..	92
Neikarapatty	1,293	1.0	404	..	366
Idayakkottai	1,850	10.3	117	..	521
Chidambaram	345	3.9	59	..	67
Valarpuram *	124	2.4	22	..	103
Kilacheri	534	6.6	158	32	255
Sivagiri	1,795	11.5	245	69	1,110

* This centre was shifted to Poonamallee on 1st December 1956.

(b) In addition to the artificial insemination work, the staff rendered treatment and castrated scrub bulls through first-aid veterinary centres attached to the institutions at the Idayakkottai, Valarpuram and Neikarapatty and also while on tour for verifying services and inspecting the progeny. Preventive inoculations against epidemics were also undertaken in the areas under these institutions. The details of work are given below :—

1 Number of cases treated	2,623
2 Number of castrations done	647
3 Number of preventive inoculation done against Haemorrhagic Septicæmia.	7,411
4 Against Blackquarter	3,489
Against Enterotoxæmia in sheep	1,722
Against Sheep-pox	424
Against Ranikhet disease	2,255

(c) *Sterility work done.*—In addition to treatment and preventive inoculations, the staff at these centres paid special attention to the diagnosis and treatment of ancestrus and sterile conditions among female stock. Thus nine cases were treated during the period.

(d) *Calf subsidy scheme.*—The scheme for payment of subsidy to selected calves of these centres at the rate of Rs. 10 per month was continued during the year on the same lines as in the key village centres. There were 79 calves at the end of the period.

(e) *Calf rallies.*—Calf rallies were also conducted in almost all these key farm centres with a view to rouse the consciousness among the ryts to bestow better care in rearing the calves born in the interest of future livestock population. In these rallies almost all of the calves born of the bulls at these centres were gathered as exhibits and prizes were awarded to the best animals besides consolation prizes to others. The details of the rallies conducted are given below :—

Name of the centre where calf rally was held.	Number of animals exhibited.	Number of prizes awarded.
Poonamallee	151	85
Neikarapatty	224	163
Chidambaram	201	94
Idayakkottai	319	96
Kilacheri	372	130
Sivagiri	391	143

(xi) *Scheme for the salvage of dry cows.*

40. (a) Under this scheme, a farm was opened in 1944 at Kambakkam kancha in Chingleput district, at a distance of 54 miles from Madras. The object of this scheme is to prevent the cows in the City being taken to abattoirs for economic reasons after they become dry and thereby in a way to increase the milch production in the City. As per this scheme, cows in the City during their dry period are taken to this farm and are maintained there for a nominal fee of Rs. 10 per mensem till they are being taken back as pregnant or after calving.

(b) *Strength.*—Only such of those animals that were further fit for breeding were admitted in the farm, so as to maintain the popularity and the usefulness on economic lines of the farms. In this regard, the advice of the Regional Sterility Officer was followed. The details of admissions, etc., of the farm as follows :—

Details.	1955-56 (1st November 1955 to 31st March 1956).	1956-57 (1st November 1956 to 31st March 1957).
1 Number of cows on hand at the beginning of the period.	169	191
2 Number of cows admitted during the period.	99	101
3 Number of cows returned after calving.	68	92
4 Number of cows returned pregnant ..	7	7
5 Number of cows returned unfit for salvage.	16	12
6 Number of cows died	2	4
7 Number of cows transferred to adult stock.	..	2
8 Number of cows on hand at the end of the period.	175	179

The average period of stay of a cow in the farm was 292 days as against 299.8 days in the previous year.

(c) *Breeding bulls.*—There were 4 breeding bulls at the beginning of the period and one was transferred from young stock bringing the total to 5 bulls.

(d) *Pasture.*—The grazing facilities were not satisfactory due to seasonal conditions and panther in the grazing area.

(e) *Fodder.*—Owing to the shifting of the farm to Alamadhi area fodder crops were not raised and only the Australian drought resisting grass was maintained. During the period 1,021 lb. of grass was produced during the year.

(f) *General.*—During the period, the Advisory Committee for the Salvage Farm made use of the services of the Regional Sterility Officer, Madras, for check up and treatment of the condition of the sterile cows. Initial arrangements were made for shifting the farm from Kambakkam to Alamadhi.

(xii) *Salvage farms and Goshalas under private agencies.*

41. Under the Second Five-Year Plan, development of Goshalas was envisaged and thus the following two Goshalas were subsidized :—

(a) *Salvage farm in Tiruchirappalli.*—The Tiruchirappalli-Srirangam Milk Supply Union opened a salvage farm in Thumbiyadi village in area of 100 acres of land assigned to them. A buffalo bull was purchased during the period.

(b) *Goshala in North Arcot district.*—The S.P.C.A., Pinjarpole at Vellore, has been selected under the Second Five-Year Plan Scheme for development of Goshalas and *ad hoc* grant of Rs. 5,000 was made for the purchase of 10 Kangayam cows and one Kangayam bull. This will be located in area of 18 acres allotted by Government to the Society for the Prevention of Cruelty to Animals, Vellore at Ariyoor village.

(c) *Goshala in Tanjore district.*—The Gandhi Memorial Goshala at Alathambadi, Tiruturaipoondi taluk, was taken up during the period for development under Goshala Development Scheme. One Umbalachery bull and 10 Umbalachery cows were supplied by the Government as foundation stock. The total strength of animals was 34 at the end of the period.

(xiii) *Village livestock improvement scheme.*

42. The main feature of the scheme as worked out by this department and through the co-operative societies are—

(i) The castration of all unwanted male stock thus making available only services of the approved bulls to the cows in the area;

(ii) the protection of all the animals in the area against the various cattle diseases;

(iii) the maintenance of necessary records with regard to breeding pedigree, production, etc., and tattooing of the cows and the progeny; and

(iv) the provision of subsidy for the payment of Rs. 5 per mensem for heifer-calves from seventh month to an age of two years born to the cows registered for proper maintenance at the rate of 50 calves per year in each centre.

This scheme continued to function in the firkas which were allotted to this department under the scheme, viz., Saliamangalam (Tanjore district), Malli (Ramanathapuram district) and Kumbala, South Kanara district).

(i) *Saliamangalam.*—The scheme continued to be in operation since 12th March 1951 in the area comprising of Palliyur, Tirubhuvanam, Poondi and Saliamangalam villages. Three Umbalachery bulls were maintained which were allowed for services free of cost. One hundred and thirty-eight services were performed during the period. Seventeen calves were born. Eighty-two calves have been registered for payment of subsidy and 45 heifer calves were given subsidy. Madras Livestock Improvement Act was enforced in the area during the period.

(ii) *Malli centre.*—The scheme is continued to be in operation since 26th January 1953 with two Kangayam bulls and two Murrah

buffalo bulls were maintained. One hundred and sixty-seven services were performed by the bulls and 70 calves were born of them during the period. Thirty scrub bulls were castrated under Livestock Improvement Act.

(xiv) *Cattle breeding through co-operative societies and association.*

43. With a view to inculcate among the agriculturists the enthusiasm for co-operative endeavour towards the improvement of livestock solving the problems at village level from all aspects (viz.) breeding, feeding and management, cattle breeding associations and co-operative societies were encouraged to be formed by persuasion, propaganda and subsidy. Thus during the year nine breeding associations were functioning.

(1) *Anamalai Hill Cattle Society, Anamalai, Coimbatore district.*—This society which was started 20 years ago with the idea of grading up local cattle in the Sindhi breed continued to function during the period with 42 Sindhi bulls.

(2) *The Livestock Improvement Association, Kottur, Malayandipattanam.*—This association organized under Key Village Scheme was doing good work in the sphere of livestock improvement work.

(3) *The Kangayam Cattle Breeding and Marketing Co-operative Society, Limited, Palladam, Coimbatore district.*—This society continued to function during the period and had distributed among its members 171 Kangayam bulls with the grants made available under National Extension Service Scheme funds.

(4) *Anchetty Co-operative Cattle Breeding Society, Anchetty, Salem district.*—The society continued to function during the period. There were nine Hallikhar breeding bulls with the members for stud purposes. One hundred and thirty-nine services were performed by these bulls and 175 calves were born.

(5) *Mecheri Co-operative Cattle Breeding Society, Mecheri, Salem district.*—This society continued to function during the period with 11 Hallikhar breeding bulls. Three hundred and thirty-two services were performed by these bulls and 115 calves were born.

(xv) *Breeding bulls under departmental schemes.*

44. Pedigree breeding bulls of various breeds were located in the State at the rate of 1 for every 100 cows of breedable age under various schemes for grading up the stock in urban and rural areas. They are detailed below :—

Breed of bulls.			Veterinary institutions.	Premium Scheme.	Government Livestock Distribution Scheme.	District Board Scheme.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Kangayam	66	438	88	201	793		
Gir	1	..	11	1	13		
Sindhi	56	53	63	2	174		
Sahiwal	1	..	1	..	2		
Ayrshire	..	4	..	..	4		
Holstein	..	3	..	..	..		
Cross-breed	1	17	3	..	21		

Breed of bulls.			Veterinary Institutions.	Premium Scheme.	Government Livestock Distribution Scheme.	District Board Scheme.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hallikhar	1	52	13	..	66		
Umlachery	..	103	..	7	110		
Alambady	..	1	..	..	1		
Murrah	57	138	80	..	275		
Jersey	3	6	..	..	9		
Ongole	3	1	..	..	4		
Tharparkar	..	1	..	..	1		
Total	189	817	259	211	1,476		

(a) *Bulls at stud in veterinary institutions.*—There were 189 breeding bulls located at the veterinary institutions during the period. They performed 3,818 services during the period. Two thousand nine hundred and sixty-five calves were born of these bulls of which 2,594 calves were inspected.

(b) *Bulls under Male Livestock Distribution Scheme.*—This scheme is for location of bulls free of cost in villages with suitable custodians interested in cattle improvement, under the condition that they should maintain it for three years for stud purposes. There were 259 bulls under this scheme located in villages at the end of the period as against 277 in the previous year. A total number of 3,554 services were performed by these bulls during the year. One thousand one hundred and forty calves were born of these bulls, of which 750 were inspected.

(c) *Bulls under Premium Scheme.*—This scheme provides for utilizing the bulls for the benefit of the village that are maintained by individuals for their use, through payment of an amount of Rs. 200 for bulls and Rs. 220 for buffalo bulls per annum as premium up to a maximum period of five years for a bull in the same centre.

There were 817 bulls at the end of the year as against 713 in the previous year. Eighteen thousand three hundred and twenty-seven services were performed by the bulls during the year. Five thousand seven hundred and seventy-eight calves were born of which 3,495 were inspected.

(d) *Bulls under District Board Scheme.*—The scheme encourages district boards to take up livestock improvement work also by way of payment of grant by the Government.

Bulls are located in villages by the district board with suitable custodians who have to bear certain percentage of the cost of the bull and maintain the same for three years for stud purposes. Under this scheme there were 211 bulls as against 189 in the previous year. These bulls performed 3,574 services during the year. One thousand, seven hundred and seventy-eight calves were born of these bulls of which 1,353 were inspected.

(e) *Bulls at stud in Agricultural Research Station, Koilpatti and Rice Research Station, Ambasamudram.*—There were five bulls at the end of the period which performed 163 services. Eleven calves were born of which 4 were inspected.

(xvi) Breeding bull under other schemes.

45. (a) *Toda Welfare.*—Under the Toda Welfare Scheme, there were no bulls during the period but 3 Murrah buffalo bulls were given to 3 leading Todas under Government Male Livestock Distribution Scheme for the benefit of the Toda community in Nilgiris district.

(b) *Local Development Works.*—Thirteen bulls were purchased from the funds of Local Development Works in Salem district.

(c) *Bulls purchased from Common Good Funds of Co-operative Societies and by Panchayats.*—Total number of 22 bulls were purchased with the grant available under the scheme in Nilgiris, Salem and North Arcot districts, during the period as against 24 purchased in the last year.

(xvii) Milk supply.

(1) Milk supply through private agencies.

46. (a) The collection and distribution of milk to public for consumption in the State were looked after by various organizations like co-operative milk supply unions and societies, private dairies in addition to the Government livestock farms, Government Milk Factory and the private milkmen. The biggest of all co-operative milk supply unions is the Ayyanavaram Co-operative Milk Supply Union, which handles the largest quantity of milk serving the public of Madras City and its suburbs.

(b) *Private dairies.*—The Private dairies that were functioning in the districts are detailed below :—

District.			Name of dairy.		
(1)	(2)	(3)	(4)	(5)	(6)
1 Madras	..	..	1 Loyala College Dairy Farm,		
			Nungambakkam.		
2 Chingleput	..	..	2 Dairy Farm of Messrs. C.M.V.R.		
			Agricultural Corporation,		
			Chunampet.		
3 Tiruchirappalli	..	..	3 St. Joseph's College Dairy Farm,		
			Tiruchirappalli.		
			4 Southern Railway Dairy Farm,		
			Golden Rock.		
			5 Central Jail Dairy Farm, Tiruchi-		
			rappalli.		
			6 Dalmia Dairy Farm, Dalmia-		
			nagar.		
4 Madurai	..	..	7 Narendra Dairy Farm, Neikkara-		
			patty.		
			8 Dairy Farm, Idayakkottai.		
			9 Dairy Farm, Angu Vilas, Dindigul.		
5 Tirunelveli	..	..	10 Vaniankulam Estate Dairy Farm.		
			11 Denavoor Missionaries Dairy		
			Farm.		
			12 Dairy Farm, Agricultural Farms		
			Limited, Ramayampatti.		
			13 Dairy Farm at T.V.S. Farm, at		
			Eravadi.		
6 Coimbatore	..	..	14 S. P. Subbaraya Gounder's Dairy		
			Farm, Modakkurichi.		
7 Nilgiris	..	..	15 Municipal Dairy, Ootacamund.		

(2) Government Milk Factory, Teynampet.

47. The Government Milk Factory, which was started under the Revenue Board, to augment the milk-supply to the city by supplementing with toned milk and reconstituted milk, was handed over to the Animal Husbandry Department on 1st October 1955 whence "toned milk" was produced exclusively instead of reconstituted milk. This was done with a view to supply fresh clean whole milk to the public at cheaper cost. This was done by toning up the buffaloes' milk in all its qualities. The toned milk produced at this factory was certified on investigation by the Bio-Chemical Laboratory of Madras University to be as good as cow's milk in biological and nutritive values.

The factory was equipped with all necessary plants such as,

- (1) Refrigeration plant.
- (2) Milk pasteurisers.
- (3) Homogenisers.
- (4) Cooler.
- (5) Automatic refrigerating plant.
- (6) Bottle cleaning machine.
- (7) Can washing unit.
- (8) Boiler.
- (9) Milk pump, etc.
- (10) Aluminium cap type bottling machine.
- (11) Milk vans (insulated).

The quantities of milk produced and sold during the period are detailed below :—

	LB.
Toned milk produced	859,294
Toned milk sold	857,201½

NOTE.—Besides the toned milk, milk products such as ice cream, rose milk were also produced at the factory for sale to public at cheaper cost. Thus 12,817 lb. of rose milk and 5,197 cups of ice cream were manufactured during the year.

The sale price of milk and milk products during the year are given below :—

Milk per bottle of 1 pint—Re. 0-5-0 (Re. 1 local Madras measure).

Ice cream per cup of 3 oz.—Re. 0-2-6.

Rose milk per cup of 6 oz.—Re. 0-2-0.

Distribution of milk to the various parts of city was undertaken through regional distributors employed on commission basis.

(3) Cattle colonization scheme.

48. A scheme to reorganize the present milk-supply position and to meet the growing demand for milk in Madras City has been drawn up and included in the Second Five-Year Plan. The scheme which has been drafted more or less on the lines of milk colony organization in the other big cities of India, has been taken up for implementation. The plan contemplates to evacuate all the city cattle from the congested areas of the city and offer an accommodation for 4,000 milk animals with their owners in a Cattle Colony in the outskirts of the city.

Madavaram village which is five miles north-west of the city and within two miles from the Corporation Sewage Farm at Kudungayur has been selected for establishing the colony. The first phase of this project (viz.) the acquisition of lands, construction of building, lay out of approach roads has commenced. Special staff from Revenue and Public Works departments have been appointed for the purpose. A special officer for cattle colonization has also been appointed to expedite the implementation of the scheme. Acquisition of 191 acres of land was completed and the approach road to the colony is being laid. The public work department have commenced the construction of buildings and approach roads.

The rural milk pockets from where milk could be collected are also being surveyed. The scheme envisages to canalise the city source of milk-supply through the colony.

A total expenditure of Rs. 2,35,298 has been incurred towards the scheme during 1956-57.

2. SHEEP AND GOATS.

49. Though the State may be having a good proportion of sheep and goats in its livestock population, their quality and condition in respect of wool and meat production are not up to the standard as they are expected to be. The rearing of sheep in rural areas is mostly with the main object of manuring and not on commercial aspects of wool and mutton except in Nilgiris areas, where flocks of woolly sheep, that too, of low quality are seen. The result was that the breeding, and rearing of these were at the lowest standard and the department had to take up the task of improving the sheep from all aspects, viz., breeding, care and management and wool production through persuasion, propaganda and demonstration. The development activities on sheep was carried out by the department through the Sheep Breeding Farm, Ootacamund, sheep breeding station at Livestock Research Station, Hosur, and the three sheep shearing demonstration units at Coimbatore, Madurai, Cuddalore, Kancheepuram and Salem. Steps were taken to open a sheep breeding and Research station at Chinnasalem and sheep demonstration unit at Tiruchirappalli and Virudhunagar during the period. The details of location, area, etc., of the farms are furnished in Table XI (b) herein annexed :—

A. Sheep.

(i) Sheep Breeding Farm, Ootacamund.

50. (a) The object of the farm is to standardize the present woolly sheep in Nilgiris in its wool qualities, to improve its carcass weight, to supply good stud rams to the public, to grade up the local sheep and to study the disease problems under farm conditions. The farm has also undertaken investigations to establish suitable grasses that will withstand the weather conditions of the area. For the purpose of improving the wool of local stock, both in quality and quantity by cross-breeding, ten Romney Marsh rams were received during the year from Australia.

(b) *Strength*.—There were 556 animals at the beginning of the period as against 475 in the last year.

There were 150 additions and 79 disposals as detailed below :—

Receipts—			Disposals—		
By births	150		By deaths	5	
„ purchase	..		„ sale for breeding ..	24	
			„ culling and auction.	50	
Total ..	150		Total ..	79	

Thus there were 627 animals at the end of the year as against 497 in the last year. The breedwar and classwar details are given below :—

Breeds.	Rams.	Ewes.	Ram lambs.	Ewe lambs.	Total.	Cows.	Bullocks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Nilgiris	41	331	82	70	524	..	..
Romney.							
Marsh Nilgiris.	X 10	..	..	..	10	..	..
Cross	..	..	53	35	93	..	..
Scindhi	..	..	..	..	..	1	..
Cross	..	..	..	..	..	..	2
Breed.							
Total ..	51	331	140	105	627	1	2

(c) *Wool yield.*—During the period shearing of wool was done in two seasons (viz.), in October–November and February–March in two batches but the animals were shorn only once in a year. Four hundred and sixty-three animals were shorn yielding a total quantity of 563 lb. 2 oz. working out an average yield of 1 lb. 3 oz. per animal as against 1 lb. and 2.50 oz. in the previous year. Details of average classwar and the high yields are given below :—

	Average yield per animal.		Highest yield.	
	LB.	OZ.	LB.	OZ.
Rams	1	5.3	3	1
Ewes	1	5.2	2	7
Yearlings	0	15.6	2	1 (Ram lamb).
			2	0 (Ewe lamb).

(d) *Season and rainfall.*—A total rainfall of 5.13 inches in 17 days was received during the year as against 5.01 inches in 11 days in the previous year.

(e) *Pasture and cultivation.*—Eighteen acres and 85 cents of land were under cultivation during the year. Various exotic frost resistant grasses were tried on this far in addition to intensive cultivation of fodder crops such as berseem, oats, maize, Italian rye and lucerne. It is noteworthy that the farm was continued to be self-sufficient in its fodder requirements. The fodder problem in the farm and in Ootacamund taluk is acute from November to April as the natural grasses of the area completely destroyed by frost besides the existing pasture grasses being very poor in nutritive value. Field trials to improve the existing pasture with frost resistant variety of grasses were undertaken.

The following are some of the important exotic grasses and fodder plants tried in the farm :—

(i) Exotic grasses—

Eragrostic Curirifa.
Dactylis Glomerata.
Lobium Parene.
Festuca Elabor.

(ii) Fodder Plants—

Mehlotus Alba Kale (3 varieties—Merrowstemmed.
Hungry Gap Thousand headed).

(iii) Clovers—

White clover.
Sweet clover.

During the period 52,934 lb. of fodder grasses and leaves were cut as against 15,248 lb. in the corresponding period of last year.

During the period, a silo pit was filled and covered with 13,018 lb. of green material as detailed below :—

	LB.
Maize with hairy vetch mixture	11,006
Berseem	1,302
Bunds grass	610
Love grass	100

(f) *Soil conservation.*—The contour bunds, trenches and lines formed in the last year were maintained satisfactorily and rotational grassing was adopted to prevent erosion.

(g) *Incidence of diseases.*—It is worthy of mention that there was no incidence of contagious diseases during the period.

(h) *Mortality.*—There were five deaths during the period as against 16 in the same period of last year. The deaths were mostly due to debility due to old age and parturition at old age. The percentage of mortality worked out to 0.7 as against 6.6 in the same period of last year.

(i) *General.*—Animals from this farm participated in the District Cattle and Sheep Show at Ootacamund and First Madras State Cattle Show at Madras and knocked off the prizes (i) for the best sheep, and (ii) for the best flock of Nilgiris breed in both the shows.

(ii) Wool Analysis Laboratory, Ootacamund.

51. The Wool Analysis Laboratory, Ootacamund, was established to analyse the wool of sheep of Sheep Farm, Ootacamund, in order to draw breeding programme and to watch the progress of the achievements made by adopting various breeding policies.

The equipments required for this laboratory have not yet been received from the companies mainly due to the closure of Suez canal on account of political disturbances in the Middle East, though orders were placed with companies long ago. With the available equipments, measurement of length of samples received from the Sheep Farm, Ootacamund, and estimation of medullation by count method are being carried out.

A total of 309 samples of wool were received from the Sheep Farm, Ootacamund, and the same were hand opened, washed in soft soap solution and then allowed to dry in the atmospheric temperature prevailing there in room. After drying all the samples

were analysed for mean length by the Burns Tant method during the period and the percentage of medullation was found out.

(iii) Livestock Research Station, Hosur.

52.(a) Sheep breeding is going on in the farm since 1st April 1938 when this farm was taken over by this department. The Indian Council of Agricultural Research was contributing up to 31st March 1952, towards the "Madras Sheep Breeding Scheme" started in this farm in 1938. Thereafter, the Madras Government had taken over the scheme.

(b).*Strength*.—There were 274 sheep at the beginning of the period as against 301 in the previous year. There are 32 additions and 48 disposals as detailed below :—

Additions—		Disposals—	
By birth	32	By culling and auction. ..	7
		„ deaths	16
		„ sale for breeding ..	25
Total ..	32	Total ..	48

Thus at the end of the period there were 258 sheep as against 286 in the last year. The breedwar strength as on 31st March 1957 is given below :—

	Rams.	Ewes.	Ram lambs.	Ewe lambs.	Total.
Bikanir	20	61	13	11	105
Bellary	3	7	1	1	12
Mandya	18	77	22	24	141
Total ..	41	145	36	36	258

(c) *Matings*.—The mating seasons were two, one in April-May and the other in October-November. The details of matings are given below :—

Breed and number.				Number of ewes put.	Number served.	Number lambd.
1 Bikanir R. 72	..	..	..	23	23	10
2 Do. R. 82	..	..	..	17	17	7
3 Bellary R. 934	..	..	..	5	5	4
4 Mandya 40	..	..	..	15	15	13
5 Do. 60	..	..	..	13	13	12

Breedwar fertility percentage worked out as follows :—

	PER CENT.
Bikanir	42.5
Bellary	80
Mandya	Not furnished as the lambings were not over during the period.

(d) *Shearing*.—The sheep were usually shorn twice in a year after being washed and dried with improved shears and shearing machines. The details of shearing are given below :—

Breed.	Average number of sheep shorn.	Total yield of wool.	Average yield per head.
		LB. OZ.	LB. OZ.
Bikanir	83	92 0	1 1
Bellary	10	12 0	1 3

Mandya flock was also shorn twice a year. During the period 128 sheep were shorn giving a total yield of 83½ lb. of hair at an average of 11 oz. per head.

(e) *Wool yield*.—The study on wool yield of sheep sexwar was carried out as in the previous year, and the details are given below :—

Breed.		During this period.			
		Adults.		Yearlings.	
		Rams.	Ewes.	Rams.	Ewes.
Bellary	..	1-6	1-11	1-8	1-8
Bikanir	..	1-7	0-9	1-9	1-5

Some of the best performances for the different breeds are given below :—

Breed.	Sex.	Tag number.	Wool yield.
			LB.
Bellary	Ram	934	1-8
Do.	Ram	957	1-8
Do.	Ewe	958	1-8
Do.	Ewe	920	1-4
Bikanir	Ram	97	2-0
Do.	Ram	76	1-12
Do.	Ewe	158	1-8
Do.	Ewe	164	1-6

Wool analysis was carried out by testing and recording the medullation percentage of each and every animal. All the wool was graded and sorted according to region of the body, colour, age, breed and quality.

(f) *Body weight*.—All sheep were weighed after shearing. Their average weight are furnished below :—

Breed.		Average body weight.	
		Rams.	Ewes.
		LB. OZ.	LB. OZ.
Bellary	..	99 13	70 12
Bikanir	..	60 16	52 8
Mandya	..	70 13	57 7

(g) *Incidence of diseases*.—There were only 16 deaths as against 43 in the previous year. No contagious disease was prevalent during the period except Johne's disease which proved fatal in four animals.

(h) *Mortality*.—The percentage of mortality was 5.8 during the period as against 9.4 in the previous year.

(iv) Sheep Breeding Research Station, Chinna Salem, South Arcot district.

53. The scheme proposed by this department for starting a sheep breeding research station in an area of 1,500 acres in a contiguous plot lying in Athur taluk of Salem and Kallakurichi taluk of South Arcot districts met with the Government's approval

and sanction in G.O. Ms. No. 2130, Agriculture, dated 5th September 1956. This ambitious scheme was envisaged as a result of the favourable response evoked on the part of local ryots of the area to the experimental scheme of grading up the local black woolly variety sheep with Bikanir rams. This research station was opened on 31st March 1957.

Object.—The objects in opening this sheep breeding research station are—

(i) To form a nucleus for the activities in sheep breeding, feeding and management on modern lines.

(ii) To carry out breeding experiments with local black woolly sheep with Bikanir rams.

(iii) To supply pedigree rams to the public to grade up the local stock.

(iv) To be a model centre for the maintenance of pasture cultivation of new varieties of grasses and various methods of grazing.

(v) To carry out research in problems relating to sheep husbandry.

Progress of work.—Out of the team of staff sanctioned, only the post of the superintendent was filled up on 31st March 1957. Out of 1,500 acres proposed for the farms 886.88 acres in Athur taluk (Salem district) and 616.77 acres in Kallakurichi taluk (South Arcot district) were acquired by the department.

(v) Sheep Shearing and Demonstration Units.

54. The four Sheep Shearing and Demonstration Units at Coimbatore, Madurai, Cuddalore and Kancheepuram and Salem continue to function during the year. These units conducted intensive propaganda and visual demonstrations on better production and clean harvesting of wool, using improved shears, grading of wool, deworming and deticking. These units also trained workers on all the above subjects. Propaganda was also done on all aspects of sheep and goats husbandry such as improving the breed by selective breeding, castration of scrub males, adjusting the mating season in such a way as to get lambs in favourable seasons, advance protective inoculations against contagious diseases and better housing and feeding. For these purposes, breeding calendars have been drawn up for each region.

During the period two more units were opened in December 1956 at Tiruchirappalli and Virudhunagar for the benefit of ryots in Tiruchirappalli and Ramanathapuram districts respectively.

The summary of work done by the units is furnished below :—

(i) Number of villages visited	488
(ii) Number of shearing demonstrations conducted	44
(iii) Number of sheep washed	297
(iv) Number of shepherds trained	5
(v) Number of castrations done	219
(vi) Number of rams and bucks inspected	73
(vii) Number of sheep shorn	969
(viii) Number of sheep dewormed	2,601
(ix) Number of sheep deticked	16,045

(vi) Grading scheme for mutton sheep at Hosur.

55. The scheme for improving the mutton quality of the local sheep with Mandya rams in the Hosur taluk was continued during the period. Controlled mating with superior rams supplemented with systematic castration, deworming and deticking operations were undertaken in these villages, the benefits of which were well realized by the rural folk on seeing the good condition of graded up progeny. In addition to the 93 Mandya rams distributed in the previous years in 15 villages 40 more rams were distributed during the period.

The details of work done in these areas are as follows :—

Number of sheep dewormed	1,110
Number of sheep deticked	3,846
Number of sheep washed and shorn	490
Number of rams castrated	74
Number of lambs born to approved rams inspected	379
Number of persons trained in hearing with improved shears	5
Number of sheep shows conducted	1

(vii) Sheep development in districts.

56. Besides the work of sheep demonstration units in the various districts, development of sheep in various districts were also taken up under Community Projects and National Extension Service Schemes and through distribution of pedigree rams under Government Male Livestock Distribution scheme.

(a) *Madurai district.*—The Soundararajapuram Co-operative Sheep Breeding and Cumbly Weaving Society which was started with 5 rams and 90 ewes distributed among 30 members continued functioning at present with 299 ewes and 168 rams, of Coimbatore variety. There were also 485 sheep of black variety in the society. The five sheep breeding associations at Annampatty, Kandai, M. Pothanadhi, Kilavaneri and Reddipeddipatti continued to function well during the period. Thirty-five Karuvai rams in Tirumangalam block and 40 Karuvai rams in Usilampatty block area and 7 ewes to the Youth Farmers Club were distributed. Two Mandya rams under Government Male Livestock Distribution Scheme were at Naikarapatti for stud purposes and one ram was located at Madurai under Local Development Scheme.

(b) *Coimbatore district.*—Mechery rams were distributed in Palladam, Tirupur and Kangayam blocks to improve the local sheep. Three Mandya rams were continued to be maintained in Avanashi block for propaganda and demonstrations in Sheep Husbandry.

A sheep unit with the headquarters at Coimbatore was functioning, the area of operation comprising of Nilgiris, Coimbatore districts.

The various items of work carried out during the year 1956-57 by the Sheep Unit Staff are detailed below :—

Number of sheep washed for wool	...	...	675
Number of sheep shorn	...	...	957
Number of sheep dewormed	...	...	22,739
Number of sheep deticked	...	...	18,852
Number of rams castrate	...	...	428

Scheme for introduction of Mecheri rams in the key village schemes of Kangayam and Vellakoil centres was also implemented during the period.

(c) *Tirunelveli district*.—Sheep rearing is not much advanced in this district. Twenty-one rams were located in National Extension Service Block areas to upgrade the local mutton type of sheep.

(d) *South Arcot district*.—There was a Sheep Demonstration Unit with headquarters at Cuddalore and the staff of this unit on tour did propaganda and practical demonstration pertaining to sheep husbandry inclusive of wool production and disease control in the North Arcot and South Arcot districts. There were 46 rams located in the National Extension Service areas for improving the local variety of sheep in mutton quality. A sheep breeding research station was opened at Chinnasalem an area of 1,500 acres extending both in Salem and South Arcot districts.

(e) *Tiruchirappalli district*.—During the year one sheep demonstration unit was opened with headquarters at Tiruchirappalli. The staff of the unit toured all over the district and did propaganda and practical demonstrations covering all aspects of sheep husbandry inclusive of wool production and disease control.

(f) *Salem district*.—Besides the sheep section and Mandya grading up Scheme at Livestock Research Station, Hosur, one sheep demonstration unit was started during the year at Salem. The sheep breeding research station opened at Chinnasalem, South Arcot district, lies partly in Athur taluk of this district also.

Seventeen Mandya rams were located for grading up for mutton type of sheep.

(g) *Nilgiris district*.—Besides the Government Sheep Farm at Ootacamund, rams were also distributed in villages for grading up the local woolly variety. Thus 43 Nilgiris rams were at stud during the period.

(h) *North Arcot district*.—In addition to the propaganda and demonstration by the staff of the sheep unit at Cuddalore, 5 Nellore rams were distributed in the National Extension Service areas for upgrading the local flocks of sheep.

(i) *Ramanathapuram district*.—Thirteen rams were located to grade up the local mutton type of sheep. A sheep demonstration unit of the department was opened with headquarters at Virudhunagar to educate, propagate and demonstrate among ryots the economic modern methods on sheep husbandry inclusive of wool production and disease control.

(j) *Chingleput district*.—In addition to the location of the sheep demonstration unit of this department at Kancheepuram, 272 rams were at stud being distributed all over the National Extension Service areas.

Pilot scheme for improvement of sheep in the key village scheme (cattle) areas.

57. It was considered that development of sheep should also be taken up along with cattle improvement in the key village scheme areas and accordingly, Five-Year Pilot Scheme was formulated for the purpose to be implemented in Vellakoil and Kangayam key village areas. The scheme was sanctioned by the Government in G.O. Ms. No. 2584, Agriculture, dated 31st October 1956.

The above scheme was implemented during the period under report. Two flock men were appointed one at Kangayam and the other at Vellakoil and a detailed census of sheep was collected in these areas. Proposals for the distribution of 50 Mecheri rams in each of the 2 centres were made and the lists of custodians were approved during the period. Drugs and equipments were also purchased during the period.

B. Goats.

(viii) Development of goats through grading.

58. In addition to the above farm, bucks were distributed under different schemes and the services of bucks were also made available in veterinary institutions in urban areas.

(a) *Bucks under various schemes*.—*Madurai district*.—The Goat Breeding Association formed at M. Pothanadhi in Tirumangalam Block 3 bucks and 14 does of Tellicherry breed continued to work well and had become a breeding centre. In Usilampatti block Jamnapari bucks were distributed at 50 per cent cost under National Extension Service Scheme.

Kanyakumari district.—Two Surti bucks are maintained for stud purposes at Marthandam by Y.M.C.A.

(b) *Bucks at stud in veterinary institutions*.—Pedigree bucks were stationed at Veterinary Institution in the West Coast districts (viz.) Coimbatore, Malabar and South Kanara. The details of location are given below :—

Place of location.	Breed.	Number of bucks per sanctioned.	Number of services performed during the year.	Number of kids born.	Number of kids inspected.
Veterinary Hospital, Tellicherry Coimbatore.		1	60	16	16

3. POULTRY.

59. Poultry development work in the State was undertaken through the Poultry Research Station, Teynampet, poultry sections in the Livestock Farm at Hosur and Orathanad, the poultry demonstration units at the various Veterinary Institutions and the poultry demonstration centres in rural areas. Besides being practical study centres for the public, pedigree birds and eggs were

supplied to the public and on an intensive scale in areas under Key Village, Community Projects and National Extension Service Schemes at nominal cost and thus 1,673 birds and 18,477 eggs were distributed for rearing and hatching out respectively from these forms and units during the year.

The summary of work done at the various farms and units are detailed below :—

(i) *Livestock Research Station, Hosur.*

60. (a) In the Poultry Station, Livestock Research Station, Hosur, White Leghorn, Rhode Island Red, and Black Minorca breeds of poultry were maintained. There was a total strength of 1,721 birds at the beginning of the period as against 415 in the previous year. There were 1,445 additions and 1,226 disposals during the year as detailed below :—

Additions—				Disposal—			
By hatch	..	..	1,445	By sale for breeding	..	398	
				By culling and sale for table.		417	
				By transfer of other stations.		14	
				By deaths and destruction.		397	
Total ..				1,226			

Thus at the end of the year there were 1,940 birds as against 1,388 in the last year.

There was reduction in the sale for breeding as the opening strength was very low on account of severe culling in the previous year as a measure to eradicate Avian Leucosis.

The breedwar strength in the farm is detailed below :—

				Cocks.	Hens.	Chicks.	Total.
White Leghorn	..	..	..	10	78	525	613
Rhode Island Red	..	..	..	13	139	983	1,135
Black Minorca	..	..	..	2	18	179	199
Total ..				25	235	1,687	1,947

(b) *Egg production.*—During the period 12,698 eggs were collected as against 5,103 eggs in the same period of last year. There was considerable increase in the eggs produced on account of the fact that the strength of laying stock was also on the increase. The receipt and disposal of eggs are detailed below :—

Receipts—				Disposals—			
Opening balance	..	..	404	Kept for hatching	..	3,029	
Collected during the period.		12,698		Sold for hatching	..	1,916	
				Transferred to other stations for hatching.		4,320	
Total ..				Sold for table	..	3,895	
				Broken and fed to chicks.		465	
				Free transfer to Artificial insemination sections.		81	
				Closing balance	..	296	
Total ..				13,102			

(c) *Percentage of hatchability.*—The overall percentage of hatchability for 3,029 eggs set for hatching was 47.7 as against 39.3 in the previous year.

(d) *Performance of birds.*—There were an average of 187.52 laying hen of all breeds which yielded 12,698 eggs giving an overall flock average of 67.6 eggs per hen as compared to 67.36 laying hens yielding 5,103 eggs with an average of 75.7 in the corresponding period of previous year breedwar performance are furnished below :—

Breed.	1956-57 (1st November 1956 to 31st March 1957).		
	Average number of laying hens.	Total egg yield.	Average per hen.
(1)	(2)	(3)	(4)
White Leghorn	74.54	4,593	61.6
Rhode Island Red	108.40	7,330	67.6
Black Minorca	14.58	775	53.1

The number of pullets that had completed their first year laying are given below breedwar with details of their performance :—

Breed.	Number of birds completed their first year of laying.	Number of eggs laid in the pullets.	Average egg yield.
	(5)	(6)	(7)
White Leghorn	1	86	86
Rhode Island Red	6	1,176	196
Black Minorca	1	155	155

(e) *Incidence of diseases.*—(i) *Avian Leucosis Complex.*—This disease continued to be prevalent during the period accounting for 111 deaths. Visceral form of this disease was generally met with.

(ii) *Fowl Pox.*—There were 19 deaths during the period on account of single outbreak of this disease. Preventive vaccinations were carried out periodically.

(iii) *Coccidiosis.*—There were only 6 deaths on account of this disease.

(iv) The other conditions that were causing mortality are shown below :—

1 Hatched weak	...	59
2 Born cripple	...	56
3 Enteritis	...	31
4 Ruptured yolk	...	8
5 Crop bound	...	99
6 Accidental injury	...	1
7 Haemorrhage	...	1

8 Hepatitis	2
9 Ill-developed organs	2
10 Rupture of spleen	1
11 Egg bound	1

(f) *Mortality*.—There were 397 deaths as against in the previous year. The percentage of mortality was 23.6 as against 14.1 in the previous year.

(ii) *Poultry Research Station, Teynampet, Madras.*

61. (a) This station was started in the year 1941, with a view to study (i) the performance of exotic-birds under the existing environmental conditions, (ii) for production and supply of exotic birds of eggs to the public of State, (iii) to study the potentialities like increased egg yield, body weight, etc., of local indigenous birds under farm conditions, (iv) to evolve thereupon by selective breeding a strain noted with increased production and (v) to serve as a control institution for training both departmental and private candidates in poultry husbandry.

The following breeds of exotic poultry were maintained in the farm during the year :—

- (1) White Leghorn;
- (2) Rhode Island Red;
- (3) Black Minorca;
- (4) Light Sussex; and
- (5) Brown Leghorn.

(b) *Strength*.—At the beginning of the period there were 1,882 birds as against 693 in the corresponding period of last year. During the period under report there were 9,345 additions and 6,070 removals as detailed below :—

Additions—		Disposals—	
By hatch	3,438	By sale for breeding ..	645
By receipt from other stations.	2,029	By sale for table	387
Purchased from abroad ..	1,456	By transfer to other stations.	607
Total ..	7,923	By deaths and destructions.	4,437
		Total ..	6,070

Thus at the end of the period there was a strength of 5,157 birds. The breedwar strength are as follows :—

Breed.	Cooks.	Hens.	Chicks.	Total.
White Leghorn	30	92	3,179	3,301
Rhode Island Red	25	69	1,275	1,369
Black Minorca	1	5	224	230
Light Sussex	1	19	20	40
Brown Leghorn	4	17	92	113
Indigenous	4	12	35	51
Anstrolop	..	..	53	53
Total ..	65	214	4,878	5,157

(c) *Egg production*.—During the period 16,176 eggs were collected as against 14,245 in the corresponding period of last year. Receipt and disposals of eggs during the period are detailed below :—

Receipts—		Disposals—	
Opening balance	316	By set for hatching ..	9,192
Number collected	16,176	Sold for hatching	2,137
Number purchased	24	Transferred to other station for hatching.	..
Received from other stations.	4,398	Sold for table	7,500
		Fed to chicks	1,887
		Transferred to other station for table.	142
		Closing balance	56
Total ..	20,914	Total ..	20,914

(d) *Performance of birds*.—Trap nesting was done for all the laying birds at the farm with a view to record the performance of individual birds breedwar. The breedwar details of performance are given below :—

Breed.	Average number of layers.	During the period,	
		Number of eggs.	Average yield.
White Leghorn	119.7	6,294	52.8
Rhode Island Red	129.3	7,010	52.2
Black Minorca	5.0	328	65.6
Indigenous	15.2	420	27.4
Light Sussex	26.1	1,267	49.5
Brown Leghorn	19.9	851	47.9

(e) *Percentage of hatchability*.—Out of a total 9,192 eggs set during the year, 3,438 chicks were hatched out working out a percentage of 37.4 as against 36.3 per cent in the previous year.

The low hatchability was due to the incidence of contagious coryza and avian leucosis complex which divitized the general system. Further mass scale hatching had to be adopted to raise a large number of chicks for meeting the requirements of the various schemes under the Second Five-Year Plan and almost every egg was incubated. A large number of available eggs were also obtained from the other farms for hatching which were subjected to condition during transport that lowered the hatchability.

(f) *Incidence of diseases*.—(i) *Contagious Coryza*.—This disease was prevalent during the period in the farm resulting in the death of 23 birds. Drugs like Avisol and "Dihydro Streptomycin" were tried which afforded only temporary relief. Long range measures for the complete eradication of the disease were also undertaken through raising of stock from the newly hatched ones under isolated roup free conditions.

(ii) *Avian Leucosis Complex*.—This disease was also prevalent causing death of nine birds during the period. Prophylactic measures by way of segregation and culling after blood test were adopted.

(iii) *Fowl Pox*.—Nil.

(iv) *Coccidiosis*.—There were seven deaths on account of this disease. Further spread of this disease was kept under control by rearing chicks on wire net flooring and periodical dosing of birds with sulphamezathine.

(v) There were deaths due to other causes as detailed below :—

1	Entertis	..	..	..	58
2	Hatched weak	..	..	..	2,041
3	Congestion of liver	..	..	..	1
4	Crop bound	..	..	..	1
5	Shock	..	..	..	6
6	Egg peritonites	..	..	..	2
7	Wounds	..	..	..	86
9	Debility	..	..	..	1,499
8	Reaction to Ranikhet disease vaccination.	..	..	..	252
10	Rupture crop	..	..	..	1
11	Paralysis	..	..	..	1

(g) *Mortality*.—Three thousand nine hundred and ninety birds died during the period working out a percentage of 35.9 as against 18.9 in the previous year.

The large number of deaths in general were due to the high susceptibility and want of body resistance especially among the imported stock, in spite of taking all possible precautions and preventive methods. It is hoped that after acclimitization the existing stock and their progeny would gain sufficient resistance and the mortality would be reduced to the minimum.

(h) *Investigation and research—Selective breeding among indigenous birds*.—The experiments under this programme could not be continued as exotic blood was observed to be mixed up in the experimental stock.

(i) *Education and training*.—The Poultry Research Station, Teynampet, which was hitherto a production-cum-research centre for poultry was made into an Educational Centre for practical courses in Poultry Husbandry.

(1) *Poultry Husbandry Course*.—A theoretical-cum-practical course in Poultry Husbandry extending for a period of four months was started to train out personnel to meet the demand for trained personnel for the various poultry development schemes under Second Five-Year Plan. The first batch of 12 candidates completed the course successfully and the second batch of 12 candidates admitted were undergoing the course.

(2) *Practical training in Poultry-keeping for farmers*.—Under the Pilot Scheme of Poultry Development a training course extending for a period of six weeks for farmers from Block Development areas with a stipend of Rs. 20 per mensem per head was started and continued. Nine candidates were trained out of successfully during the period.

(iii) *Poultry Development Schemes in Madras State*.

62. (a) *All-India Poultry Development Scheme*.—In the last year the Government of India chose Madras as one of circles for its implementation of the Pilot Scheme for Poultry Development, mainly intended for improving poultry in the country which will

provide better eggs and poultry meat. The scheme envisaged the following items of works :—

(i) Rearing of 3,000 imported day old chicks at Poultry Research Station, Teynampet, up to an age of five months.

(ii) Location of poultry development blocks in National Extension Service areas in consultation with departmental District Officers, Collectors and Block Development Officers, with 300 birds in each block by distributing them to persons in units of one cockerel, two pullets of five months age at concessional rate of Rs. 2 per birds.

(iii) Starting of three demonstration farms with 200 birds each in places where no such farms or centres are existing nearby already.

(iv) Distribution of 10 birds each 20 persons in three towns or cities at concessional rate of Rs. 5 per bird.

(v) Distribution of accessories like wirenetting, etc., for the protection of existing poultry to selected interested villagers. The scheme was merged with All-India Poultry Development Scheme sponsored under the Second Five-Year Plan. During the period made report and the number of Poultry Demonstration Centres to be opened was raised from 3 to 9.

(b) *Poultry demonstration centres*.—In addition to 3 centres, sites for 6 more centres under this scheme were inspected at places where from gifts of lands were forthcoming and Government poramboke lands were available. Thus the following 6 centres were chosen :—

Centres.	District.	Extent in acres.
Kodanagaram	 Tirunelveli district	.. 5.00
Kalakottai	 Madurai district	.. 5.00
Aruppankulam	 Ramamthapuram district	.. 6.35
Palavakkottai	 Coimbatore district	.. 5.00
Polivakkam	 Chingleput district	.. 5.00
Veppanthattai	 Tiruchirappalli district	.. 5.00

All the centres were in opened by posting the staff and supplying the poultry equipments and stock of 10 cocks and 90 pullets in all. The three centres opened in the early period of this year have fulfilled the target of distribution of 1,000 eggs per year as could be seen below :—

Centres.	Number of eggs.	Period.
Tiruvarankulam	.. 2,179	December 1956 to March 1957.
Kothengudi	.. 1,661	January 1957 to March 1957.
Bhuvanagiri	.. 1,000	February 1957 to March 1957.

(c) *Distribution of birds at concessional rates*.—List of persons for distribution of units of birds at concessional rate up to Rs. 2 in National Extension Service and Community Projects areas and at Rs. 5 in city was furnished and distribution was carried on.

(d) *Training of farmers from National Extension and Community Project Areas in Poultry Husbandry*.—Nineteen farmers selected from National Extension Scheme and Community Project areas were given practical training for a period of six weeks with

* stipend of Rs. 20 per month at Poultry Research Station, Tey-nampet.

(e) *Poultry improvement in key village scheme areas.*—The scheme for poultry improvement in key village areas was sanctioned in the later period of the year and the same was started in the following areas:—

- 1 Malayandipattanam Coimbatore district.
- 2 Neikarapatti Madurai district.
- 3 Chidambaram South Arcot district.

The target of distribution of 200 chicken cockerels in each of these areas in exchange for indigenous 6 inoculators for each centres achieved during the period. The indigenous cocks received in exchange were removed from this area sold for table and the surplus cocks were advised to be either removed or used for table or caponised.

(f) *Subsidy to private poultry breeders and associations.*—The scheme for the grant of subsidy to a maximum of Rs. 850 to private breeders or association who foster the development of poultry husbandry was sanctioned.

The conditions for the payment of grant are as follows:—

(i) The breeder or association should have been maintaining a poultry farm for at least one year prior to the date of application for subsidy.

(ii) The private poultry breeder or association should have effected sales of hatching eggs in the surrounding area for a year prior to the application for the grant.

(iii) He should have effected sale of pure exotic chicken (pullets and cockerels) for breeding purposes for one year prior to the application for the grant.

(iv) That the sale prices of the hatching eggs or breeding chicken are in accordance with these of the rates prevailing in Government farms.

The grant for each person per year will consist of—

(a) Subsidy for the purchase of wire-netting, etc.—Rs. 200 or 50 per cent of the cost of wire-netting, whichever is less.

(b) Subsidy for the purchase of incubators (50 to 100 eggs capacity)—Rs. 200 or 50 per cent of the cost of the incubators, whichever is less.

(c) Bonus of 2 annas for every hatching egg supplied at Re. 0-4-0 each to public (with a maximum for 2,000 eggs)—Rs. 250.

(d) Subsidy of a maximum of Rs. 4 for every exotic bird supplied at the rates in Government farms—Rs. 250. Total Rs. 850.

Under the above conditions ten breeders were chosen for the payment of subsidy for the year 1956-57 and also a reserve list of three more breeders was finalized for the payment of subsidy if there were to be balance amount available after payment to the above ten breeders.

(iv) District Livestock Farm, Orathanad.

63. The poultry section was opened in this farm on 10th July 1955, with a unit of White Leghorn and Rhode Island Red breeds.

(a) *Strength.*—There was stock of 261 birds at the beginning of the period as against 44 in the last year. There were 270 additions and 206 disposals as detailed below:—

Additions—		Disposals—	
By hatch	254	By sale for breeding ..	135
By receipts from other stations.	16	By culling and auction ..	36
		By deaths	35
Total ..	270	Total ..	206

Thus at the end of the period there were 265 birds as against 174 in the previous year as detailed below:—

Breed.	Cock.	Hens.	Chick.	Total.
White Leghorn ..	10	39	125	174
Rhode Island Red ..	9	36	46	91
Total ..	19	75	171	265

(b) *Egg production.*—During the period 2,826 eggs were collected as against 2,190 in the whole of previous year. The receipt and disposal of eggs are detailed below:—

Receipts—		Disposals—	
Opening balance	60	Kept for hatching	638
By collection	2,826	Sold for hatching	1,030
By transfer from other stations.	36	Sold for table	270
		Fed to chicks	826
		Closing balance	158
Total ..	2,922	Total ..	2,922

(c) *Percentage of hatchability.*—The overall percentage of hatchability for 638 eggs set for hatching was 39.8 as against 33.7 in the previous year.

(d) *Performance of birds.*—There were an average of 50.6 laying hens of all breeds which yielded 2,826 eggs giving an overall average of 55.9 per hen. Breedwar performances are detailed below:—

Breed.	Average number of hens.	Total egg yield.	Average yield per hen.
White Leghorn ..	29.6	1,681	56.8
Rhode Island Red ..	21.0	1,145	54.5

(e) *Incidence of diseases.*—It will be gratifying to note that the farm was free from contagious diseases during the period under report. There were only 35 deaths due to other conditions like hatched weak.

(f) *Mortality.*—There were 35 deaths only as against 66 deaths in the previous year working out a percentage of 7.3 as against 20.2 in the last year.

(v) Poultry development in districts.

64. Poultry rearing, a cheap source for an essential valuable human food, was encouraged in both rural and urban areas by various means, namely:—

- (i) Supply of exotic pedigree birds and eggs at nominal cost from Government farms and demonstration units;
- (ii) subsidizing the existing private farms;

(iii) through distribution of birds and eggs free of cost or at half cost in the areas under National Extension Service and Community Project;

(iv) opening of model units in Community Projects, National Extension Service areas; and

(v) rendering of free technical aid to the private farms.

Poultry Demonstration Units in Veterinary Institutions.

65. There were 26 units, demonstration units, at the beginning of the period. Four units were transferred to this department from Community Projects Scheme on its conversion into National Extension Service pattern and one unit in Kanyakumari district. Thus at the end of the period there were 31 units.

The breed maintained, number of birds in stock, receipt and disposals of eggs in each of these units are furnished in statements annexed to this report.

A total number of 495 exotic birds for breeding and 10 birds for table were sold as against 1,576 and 31 respectively in the whole of last year. A total number of 9,732 eggs on sale to public for hatch and 2,198 eggs for hatching in institutions were used during the period as against 16,990 eggs and 3,970 eggs respectively during the whole of last year. 67.4 per cent of the total eggs received from these units were utilized for hatching during the period.

66. (a) *North Arcot district.*—The American Arcot Mission Farm was continued to be given the subsidy during the year for running the 12 model poultry units in this district and a sub-farm at Arni.

(i) The 12 model poultry units distributed 77 cockerels at the rate of Rs. 3 per cockerel to be concentrated within a radius of 25 miles from Katpadi in Madras State to grade up the local birds. The Central Farm was paid a subsidy of Rs. 3 for each cockerel sold. The details of work are given below :—

1 Cocks distributed	..	..	77
2 Eggs collected	..	..	10,817
3 Eggs sold for table	..	..	4,956
4 Eggs sold for hatching	..	..	5,807
5 Eggs set for hatching	..	..	54
6 Demonstration arranged	..	..	4
7 Exhibitions conducted	..	..	6

(ii) The sub-farm at Arni continued to function during the year with White Leghorn birds. The farm distributed 14 cockerels at the rate of Rs. 2 and it was paid a subsidy of Rs. 4 per bird. The details of work are given below :—

1 Cocks distributed	..	..	..	14
2 Eggs collected	..	..	..	1,402
3 Eggs sold for table	..	..	..	628
4 Eggs sold for hatching	..	..	..	727
5 Eggs set for hatching	..	..	..	47
6 Demonstration arranged	..	..	..	5
7 Exhibitions conducted	..	..	..	1

(iii) *Pilot Scheme for Chick Hatchery and Poultry Process subsidized by Indian Council of Agricultural Research at American Arcot Mission Farm, Katpadi.*—This scheme was sanctioned by Indian Council of Agricultural Research during the last year for incurring a sum of Rs. 2,31,320 and was in operation from 1st June 1955 within a radius of 10 miles from Katpadi.

The object of the scheme is to hatch out 20,000 chicks a year and to rear them for four months when they are to be sold at the rate of Rs. 1-8-0 per bird or in exchange for a Desi fowl. The Desi fowls so collected have to be slaughtered and kept in registration for being sold to public through the co-operative egg marketing society together with the sale of table eggs. The Mission has to import 1,000 chicks from abroad to be reared for four months and then distributed among 20 to 25 farmers who will supply eggs for hatch.

During the period the following 17 units were functioning :—

Particulars.	Breed.	Number of birds.
Sholamur	White Leghorn ..	75
Sankuttai	Do. ..	40
Adukkamparai-I ..	Do. ..	75
Sallavoor	Rhode Island Red ..	39
Sathuvachari	White Leghorn ..	26
Narasingapuram ..	Rhode Island Red ..	36
Adukkamparai-II ..	Do. ..	45
Tiruvalam	Do. ..	46
Karugampathur ..	Do. ..	92
Salavanpet	Do. ..	46
Ramanaickanpalayam ..	Do. ..	35
Puttuthakku	Do. ..	35
Sarkadu	Do. ..	60
Karikeri	Do. ..	50
Idyansathu	Do. ..	45
Virupakshipuram ..	Do. ..	45
Perumalnagar	Do. ..	47

There was an opening balance of 3,598 chicks at the beginning of the period. The Hatchery section has collected 23,846 eggs. Twenty-three thousand eight hundred and forty were set for hatching and of the them 15,222 chicks were hatched. Five thousand, four hundred and ninety-four chicks were distributed, 3,987 chicks died, 847 chicks were destroyed and there was a closing balance of 8,492 chicks at the end of the period.

(iv) *Scheme of subsidizing private poultry farm under Second Five-Year Plan.*—The Private Poultry Farm at Gudiyatham owned by Sri Parasuraman was recommended for the subsidy under this scheme. This farm had an opening stock of 482 birds during the period, with a receipt of 278 birds by hatch and disposal of 20 by way of sale for breeding purposes. There was a total collection of 7,267 eggs in the farm during the period besides 180 eggs received from outside for hatching. Seven thousand, two hundred and sixty-seven eggs were sold out to public for hatching.

In the six blocks under National Extension Service Scheme, 43 units were functioning with strength of 192 birds. Four

hundred and twenty-six eggs were got for hatching in these units and 510 eggs were sold to the public for hatching. Besides these units, 77 cockerels of exotic breed were distributed in rural parts for grading up local indigenous breed.

(b) *Tirunelveli district*.—In addition to the two poultry development units attached to the veterinary institutions at Tirunelveli and Chernamahadevi, three more units were functioning in the National Extension Blocks at Sankarankoil, Kumrikulam and Koilpatti. Two hundred and seventy-six exotic birds were distributed in villages for raising backyard units.

(c) *Madurai district*.—(i) There were 12 private breeders at Bodinaickanur, Madurai, Usilampatti, Thirumangalam, Uthamapalayam and Pannaipuram with exotic breeds like White Leghorn, Rhode Island Red, Plymouth Rock and Black Minorca. Besides the five Government poultry demonstration units in block areas and veterinary institutions, nine poultry units with private individuals were started during the period in the block areas.

(ii) *Poultry Farm at Basic Agricultural Training Centre, T. Kallupatty*.—This farm is run with a unit of Rhode Island Red birds with a view to impart practical training in Poultry Husbandry to the Gramasevak trainees trained out of this centre for work in National Extension Service schemes, birds and eggs were also sold for breeding to the public of the area.

At the beginning of the year there were 5 cocks, 32 hens and 35 chicks of Rhode Island Red breed and 9 Desi hens. During the year 1,543 eggs were collected of which 216 eggs set for hatching and 1,398 sold for hatching and table purposes. Fifty-one birds were sold to public for rearing. At the end of the year there were 5 cocks, 25 hens and 26 chicks of Rhode Island Red breed and 8 Desi hens.

Grading up the local indigenous poultry through distribution of exotic cocks was also undertaken in Block areas. One poultry demonstration unit with Black Minorca breed was opened in Bodinaickanur Block under National Extension Service Scheme.

(d) *Kanyakumari district*.—Besides the demonstration poultry unit at Veterinary Hospital, Nagercoil, three more units with exotic birds at Suchindram, Chemmankala and Killiyoor are maintained by Government. There is also a private farm owned by Y.M.C.A. at Marthandam with 107 birds of White Leghorn, Rhode Island Red, Black Minorca and Plymouth Rock breeds.

(e) *South Arcot district*.—Besides the two poultry demonstration units attached to the veterinary institutions at Cuddalore and Kallakurichi, there was a poultry sub-unit at Muttathur opened by the American Arcot Mission, Katpadi, under the poultry subsidy scheme. Four hundred and fifty-three exotic birds were distributed in National Extension Service Areas for raising backyard units in villages.

(f) *Salem district*.—There were two poultry farms subsidized by Government one at Melur and the other at Gandhi Ashrams, Tiruchengode. There is a poultry farm in Livestock Research Station, Hosur. There were 20 more small poultry units raised in this district both in and out of National Extension Service areas.

Two hundred and eighty-two exotic birds and 2,807 exotic eggs were distributed in National Extension Service areas for raising backyard poultry units.

(g) *Nilgiris district*.—One poultry demonstration unit which was closed in the previous year was started again this year under National Extension Service funds. Forty-two birds were distributed in villages for developing backyard poultry keeping.

(h) *Chingleput district*.—There were two poultry demonstration units in the veterinary institutions at Kancheepuram and Kaliyampoondi. There were seven private poultry farms in the district in the areas outside the National Extension Service Scheme. In the National Extension Service areas 780 exotic birds and 1,806 eggs were distributed to raise backyard units in villages.

(i) *Coimbatore district*.—Besides the poultry demonstration units attached to the veterinary institutions at Erode, Dharapuram, Kavandapady, Malayampalayam and Pollachi one poultry extension centre at Palayakkottai was opened under All-India Poultry Development Scheme. There was a private poultry farm at Modachur in Gobichettipalayam taluk with above eight breeds of exotic variety. This farm was taken under scheme for subsidy to private poultry breeders and associations of the State Government. Five hundred and one exotic birds and 1,602 eggs were distributed in villages of National Extension Service blocks for raising backyard poultry units.

(j) *Tiruchirappalli district*.—There is a poultry demonstration unit at Veterinary Hospital, Pudukkottai. The poultry farm at Central Jail continued to function during the year with White Leghorn. The 31 poultry units organized in the last year under the guidance of the departmental staff continued to function during the period. Fourteen units of exotic birds were organized in National Extension Block areas. One thousand, eight hundred and fifty-six exotic birds and 130 exotic eggs(?) were also supplied in villages for raising backyard poultry units.

(k) *Ramanathapuram district*.—In addition to the poultry demonstration centre at Veterinary Dispensary, Devakkottai, the poultry production centre at Malli in Rajapalayam Block continued to function with a unit of White Leghorn birds with a view to grade up local Desi birds at the centre itself on an intensive scale for distribution in all National Extension Service Blocks of the district. During the period there were 43 exotic birds, 5 birds of graded variety and 5 Desi hens. A total number of 875 exotic and cross-breed eggs were collected during the period. One hundred and fourteen exotic birds and 974 exotic eggs were supplied in villages of National Extension Service areas for raising backyard poultry(?) units.

(l) *Tanjore district*.—There were 2 poultry demonstration units of this department at Veterinary Hospital, Tanjore and Nagapattinam and a poultry production centre at Saliangalam. In the poultry production centre at Saliangalam there were 52 White Leghorn birds and 37 birds of Desi and graded varieties, during the period. A total number of 1,592 eggs were collected of which 562 exotic eggs were sold for hatching. A poultry farm was opened

at Kothangudy of Kumbakonam North block under Second Five-Year Plan. Sixty exotic birds were distributed in National Extension areas.

4. HORSE BREEDING.

67. Horse breeding in this State is not up to the standard in the rural and urban areas of this State except among race horses in Madras City and Ootacamund, as mostly ponies only are maintained in other areas for transport purposes.

With a view to develop the local stock of ponies, stallions were maintained in veterinary institutions at Pollachi, Tiruppur and Erode and Coimbatore districts and in Livestock Research Station, Hosur.

The number of services performed by the stallions at veterinary institutions are given below :—

Place of location.	Number of services.
Pollachi	20
Erode	12
Tiruppur	20

In the Livestock Research Station, Hosur, 2 stallions, 2 mares, 2 fillies and 2 filly foals were maintained during the period.

One stallion issued to the Pattagar of Palayakkottai in the last year was maintained for stud purposes during the period by him.

5. FIG REARING.

68. Pig rearing with exotic breeds in the State was not common during the year except for a few people, who were interested in rearing exotic pigs, details of which are given below :—

Chingleput district.—A farm consisting of 50 pigs including Berkshire breed of pigs was maintained by Messrs. R. N. Buck at Pudupakkam village.

Tirunelveli district.—A small farm with 19 pigs of exotic breed, viz., African Yorkshire was maintained by Mr. Thanapandian at Mulakad near Tuticorin.

Tiruchirappalli district.—Berkshire breed of pigs were maintained in the district by private bodies and persons as detailed below :—

- 1 St. Joseph's College, Tiruchirappalli.
- 2 St. Paul Seminary, Tiruchirappalli.
- 3 Dr. Rajan's Farm, Vengimalai.
- 4 Sri Thangarajan, Amoor.

6. TRADE IN LIVESTOCK.

69. Trade in livestock is generally carried on in the State through weekly cattle shandies and annual cattle fairs. There are a number of such weekly shandies and cattle fairs in almost all the districts. There is a daily cattle market at Tiruvottiyur in Chingleput district managed by the Tiruvottiyur Cattle-Breeding and Marketing Society.

The Tirunelveli district is noteworthy for having as many as 14 cattle fairs in a year from October to February, each of which has a duration of 15 days. In the Ramanathapuram district, sheep and goats were exported from the ports of Kilakarai and Tondi to Kats in Ceylon. Cattle and ponies from Mysore and Andhra State were also brought into the shandi at Tiruvannamalai in North Arcot district.

The prices of work-bullocks, she-buffaloes and sheep prevailing at the important cattle market were reported to the Director of Statistics, Madras.

A statement showing the export and import of livestock and livestock products during the year as made available by the assistant Collector of Customs, Madras, is given below :—

<i>Exports.</i>					
Particulars.				Quantity.	Value. rs.
Raw goats skins	..	..	..	4,276 lb.	20,94,310
Raw sheep skins	..	..	..	..	..
Raw cutting of hides and skins	..	..	..	1,11,185 Nos.	1,27,309
Raw cow-calf skins	..	..	..	..	..
Raw buffalo hides	..	..	..	..	..
Raw cow hides	..	..	..	..	..
Tanned cow-calf skins	..	..	..	13,748 lb.	60,42,622
Tanned buffalo hides	..	..	..	7,747 „	16,13,439
Tanned buffalo-calf skins	..	..	..	17,301 „	44,63,101
Tanned cow hides	..	..	..	1,51,681 „	3,69,02,215
Tanned goat skins	..	..	..	89,789 „	6,15,27,547
Tanned sheep skins	..	..	..	63,055 „	5,90,60,650
Tanned other skins	..	..	..	..	..
Horn tips and pieces of horns	..	..	..	9,153 lb.	2,79,239
Ivory, manufactured	..	..	..	..	..
Bonemeal	..	..	..	..	..
Horn meal	..	..	..	..	..
Bones for manufacturing purposes	..	..	..	7,897 lb.	21,50,030
Bones for manurial purposes	..	..	..	..	..
<i>Animals—</i>					
Cattle excepting sheep and goats.	..	..	..	..	..
Sheep and goats	..	..	..	20,536*	11,91,253
Horses	..	..	..	..	..
Other kinds	..	..	..	1,891 Nos.	76,836
Leather, unwrought	..	..	..	46,389 lb.	42,80,089
Hair, goat hair (other than Angora).	..	..	..	28,49,394 „	21,01,292
Other kinds of hair	..	..	..	1,09,268 „	1,47,652
<i>Imports.</i>					
Leather—unwrought	..	..	..	22,397 lb.	3,68,548
Roller skins	..	..	..	28 „	1,13,642
Hides, raw	..	..	..	6,299 „	7,70,841

Particulars.	Quantity.	Value RS.
Skins, tanned	31,610 lb.	1,74,270
Hides, tanned	..	..
Skins, raw	61,627 Nos.	1,59,493
Bacon and ham	98 lb.	30,194
Milk food for infants and invalids	9,109 „	31,07,323
Whole milk including cream (evaporated - or condensed).	18,173	17,50,052
Dried skimmed—milk	..	..
Animal horns	8 Nos.	1,01,246
Other kinds	4,085 „	61,890
Dried milk or powder whole	1,369 „	2,20,946
Dried milk or skimmed powder	1,90,192 „	1,38,25,845
Dried milk condensed	..	..
Whole	..	..
Butter	706 lb.	1,67,434
Ghee	..	..

70. The details of export and import of livestock from the Madras State and the average prices for the year for hides and skins in Madras City and Dindigul as furnished by the State Marketing Officer are given below :—

Particulars.	Cattle.	Sheep and goats.	Others.
(1)	(2)	(3)	(4)
Import—			
From other States ..	2,813	128	91
From foreign countries ..	..	..	737

Statement showing the prices of hides and skins in Madras City for the period from 1st November 1956 to 31st March 1957.

Month.	Cow hides, 5-3½ lb.	Buffaloes, 12-13 lb.	Cow calf 1½ lb.	Goat prime.	Sheep prime superior.
(1)	(2)	(3)	(4)	(5)	(6)
November 1956	RS. A. P. RS. A. P. 2 4 0 to 2 6 0	RS. A. P. RS. A. P. 1 8 0 to 1 9 0	RS. A. P. RS. A. P. 3 6 0 to 3 10 0	RS. A. P. RS. A. P. 5 4 0 to 6 0 0	RS. A. P. RS. A. P. 7 0 0 to 8 0 0
December 1956	 2 3 0 to 2 6 0	 1 8 0 to 1 9 0	 3 4 0 to 3 8 0	 5 4 0 to 6 0 0	 7 0 0 to 8 0 0
January 1957	 2 3 0 to 2 6 0	 1 8 0 to 1 9 0	 3 6 0 to 3 10 0	 5 4 0 to 6 0 0	 7 0 0 to 8 0 0
February 1957	 2 3 0 to 2 5 0	 1 8 0 to 1 9 0	 3 4 0 to 3 8 0	 5 4 0 to 6 0 0	 7 0 0 to 8 0 0
March 1957	 2 4 0 to 2 6 0	 1 7 6 to 1 8 6	 3 4 0 to 3 8 0	 5 4 0 to 6 0 0	 7 0 0 to 8 0 0

Statement showing the prices of hides and skins in Dindigul market for the period from 1st November 1956 to 31st March 1957.

Months.	Cow hides.			Goat skins.		Sheep skins.	
	Superior.	Average.	Inferior.	A Quality.	Deccan quality.	Superior.	Inferior.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
November 1956.	0 11 0 to 0 12 0	0 9 0 to 0 10 0	0 3 0 to 0 9 0	1 3 6	0 14 6	1 4 3	0 15 9
December 1956.	0 11 0 to 0 11 6	0 9 0 to 0 9 6	0 8 6 to 0 9 0	1 6 8 to 1 8 0	1 1 8 to 1 2 8	1 6 10 to 1 9 2	1 3 5 to 1 4 9
January 1957.	0 12 6	0 10 0	0 9 0	1 7 6	1 0 0	1 2 6	0 13 6
February 1957.	6 11 6	0 9 6	9 8 6	1 6 6	0 15 0	1 1 0	0 13 9
March 1957.	0 10 9	6 9 3	0 8 6	1 3 6	0 14 6	1 1 0	0 13 0

Exports.

Particulars.	Cattle.	Sheep and goats.	Others.
To other States	1,215	1,076	Nil
To foreign countries ..	Nil	4,658	488

7. COLLECTORS' DISCRETIONARY GRANT.

71. The grants available at the discretion of Collectors of districts were also availed of during the period towards the livestock development activities as detailed below :—

(a) *Madurai district.*—A sum of Rs. 150 was utilized towards the award of 10 prizes to those who evinced real interest in the livestock development.

(b) *Ramanathapuram district.*—A sum of Rs. 300 was utilized towards the one-day cattle show at Ramanathapuram and Sheep Show at M. Reddipatty held during the period.

(c) *Tanjore district.*—A sum of Rs. 200 was awarded as prizes to 10 deserving persons for their sustained interest in the development of livestock.

(d) *South Arcot district.*—Rs. 200 was utilized towards the award of prizes to ryots in appreciation of their keen interest in livestock improvement. Thirteen prizes were awarded.

(e) *North Arcot district.*—A sum of Rs. 200 was sanctioned by the Collector of this district as detailed below :—

	RS.
(1) For the award of prizes to livestock in Annual Rural Fair and Exhibition conducted by American Arcot Mission, Katpadi	75
(2) For the owner of premium bull maintained in best condition in the district	25
(3) Award of prizes to four ryots for their interest in poultry development	100

(f) *Coimbatore district.*—A sum of Rs. 250 was sanctioned towards cattle shows and calf rallies held at Erode, Mulanur and Malayandipatnam.

(g) *Tanjore district.*—A sum of Rs. 200 was utilized for the award of 12 prizes to the ryots of the district who highly showed sustained interest in the development of livestock.

8. RECEIPTS AND EXPENDITURE IN VARIOUS FARMS.

72. Total Receipts and charges in the various farms of this department during the period are given below :—

Place.	Receipts.	Expenditure.
(1)	(2)	(3)
	RS.	RS.
Livestock Research Station, Hosur ..	1,11,090.76	1,12,490.04
District Livestock Farm, Orathanad ..	16,032.12	88,395.09
District Livestock Farm, Pudukkottai.	11,491.41	46,340.53
Sheep Farm, Ootacamund	1,310.63	15,199.57
Poultry Research Station, Teynampet	9,080.63	23,573.45

The expenditure during the year as a whole was less than in the previous year in District Livestock Farm, Orathanad and Sheep Farm, Ootacamund. The expenditure was slightly higher than last year in Poultry Research Station, Teynampet. The increase in expenditure in the case of the farms, viz., Livestock Research station, Hosur and District Livestock Farm, Pudukkottai, was due to the implementation of Second Five-Year Plan Schemes like Soil Conservation Scheme at Livestock Research Station, Hosur, etc.

There was considerable increase in receipts at Livestock Research Station, Hosur and District Livestock Farm, Pudukkottai and Poultry Research Station, Teynampet.

CHAPTER VI—VETERINARY HEALTH SERVICE.

73. The different kinds of diseases among livestock in the State were attended to by the departmental veterinary institutions opened at various centres depending upon the demand from the public and the need of the area concerned. These institutions in general are intended for the treatment of cases both surgical and medical, for the castration of scrub animals and to serve as infirmaries for the animals remanded under the Society for Prevention of Cruelty to Animals Act and to conduct post-mortem on dead bodies brought by both the public and police.

The patients that are taken to these institutions are given treatment free of cost provided the monthly income of their owners does not exceed Rs. 200 per month. Facilities for treatment of cases as in-patients are also provided in all the hospitals and dispensaries.

Though these institutions were originally intended for attending to the clinical side in the post, about a score of years back, later on, the activities relating to the development aspect were also gradually introduced in most of the major institutions. Thus, in these institutions pedigree bulls, bucks and stallions of various breeds are maintained for breeding purposes through natural services and artificial insemination besides the establishment of demonstration poultry units. The details of these activities are given in the following chapter on "Livestock". Clinical laboratories were also added on to the important institutions for early diagnosis and treatment of disease both at hospitals and in the field.

74. *Veterinary institutions.*—There were in all 118 veterinary institutions at the beginning of the year. Fifteen institutions were transferred to Kerala and Karnataka States and five institutions were taken over by this State by the integration of the Kanyakumari district consequent on the reorganization of States.

Thus at the end of the period there were 108 institutions (veterinary hospitals 34, veterinary dispensaries 74) excluding the four veterinary institutions in the Madras City maintained by the Madras Corporation.

Forty-nine institutions were located in Government buildings of which 25 buildings were electrified. Eight institutions were equipped with refrigerators and 28 institutions with microscopes. In all the departmental institutions, a total number of 133,543 morbid cases were treated and 23,956 castrations were done as against 251,568 cases treated and 43,134 castrations in the whole of last year. The number of cases treated and castrations done in some of the important institutions are given below :—

Institutions.	Number of cases treated.	Number of castrations done.
(1)	(2)	(3)
1 Veterinary Hospital, Madras Veterinary College.	6,981	24
2 Veterinary Hospital, Coimbatore ..	4,260	169
3 Veterinary Hospital, Saidapet ..	4,034	43
4 Veterinary Hospital, Salem ..	3,457	57
5 Veterinary Dispensary, Madurai City.	3,233	180
6 Veterinary Hospital, Tiruchirappalli ..	2,472	183

The districtwar details of veterinary institutions and progress are given below :—

(i) *Madras City.*—There were two veterinary hospitals one at Saidapet and the other at the Madras Veterinary College, Vepery. A veterinary dispensary continued to function at Rayapuram in a rented building. The veterinary hospital at Saidapet was electrified and equipped with a refrigerator. In the veterinary institutions at Saidapet and Rayapuram 6,001 cases were treated and 47 castrations were performed during the period as against 12,078 cases and 74 castrations in the whole of previous year. In the hospital attached to the Madras Veterinary College 6,981 cases were treated and 24 animals were castrated.

The other details on this hospital are furnished in Chapter III. There were in addition four veterinary dispensaries maintained by the Madras Corporation, where during the period under review, 9,731 cases were treated and 29 animals were castrated.

(ii) *Chingleput district.*—There were 7 veterinary institutions located as shown below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital ..	1 Kancheepuram.
Veterinary dispensary ..	2 Kaliyamnoondi.
	3 Thirukalikundram.
	4 Tiruvallur.
	5 Madurantakam.
	6 Chingleput.
	7 Ponneri.

Government buildings were provided for the first three institutions and the rest were accommodated in rented buildings. The veterinary dispensary at Chingleput was equipped with refrigerator for cold storage purposes. The veterinary dispensary at Chingleput was also equipped with a microscope.

During the period 9,067 cases were treated in these institutions and 1,458 castrations were done as against 15,812 cases and 2,937 castrations in the whole of previous year.

(iii) *North Arcot district.*—There were seven institutions during the period, which were located in the district as shown below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital ..	1 Vellore.
	2 Thiruvannamalai.
	3 Ranipet.
Veterinary dispensary ..	4 Arkonam.
	5 Tiruppattur.
	6 Vanivambadi.
	7 Kilpennathur.

The veterinary hospitals were located in Government buildings whereas all the veterinary dispensaries were located in rented buildings. A refrigerator was supplied to the Veterinary Hospital at Vellore.

In these institutions 8,531 cases were treated and 1,587 castrations were performed during the period as against 15,789 cases and 3,295 castrations in the whole of previous year.

(iv) *South Arcot district.*—There were six veterinary institutions during the period. They were situated at the following centres :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital ..	1 Cuddalore.
	2 Kallakurchi.
Veterinary dispensary ..	3 Cidambaram.
	4 Tindivanam.
	5 Kattumannarkoil.
	6 Pinnalur.

Both the hospitals were located in Government buildings whereas all the veterinary dispensaries were located in rented buildings.

During the period 6,818 cases were treated and 1,318 castrations were done as against 13,216 cases and 2,262 castrations in the whole of previous year.

(v) *Salem district.*—There were five institutions in the district as shown below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital ..	1 Salem.
Veterinary dispensary ..	2 Krishnagiri.
	3 Namakkal.
	4 Tiruchengode.
	5 Mettur Dam.

All the above institutions were located in rented buildings except the veterinary hospital at Salem for which Government buildings existed. The veterinary hospital at Salem was also equipped with a refrigerator and a microscope.

In these institutions 7,133 cases were treated and 560 castrations were done during the period as against 15,325 cases and 1,066 castrations in the whole of the last year.

(vi) *Tirunelveli district*.—There were six veterinary institutions in the district as detailed below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital	1 Tirunelveli.
Veterinary dispensary	2 Sivagiri.
	3 Cheranmahadevi.
	4 Tuticorin.
	5 Kadayannallur.
	6 Tenkasi.

The above institutions were located in rented buildings except the first two and last one which were housed in Government buildings. The Veterinary Hospital, Tirunelveli, was equipped with a refrigerator for cold storage purposes and a microscope for examination of specimens.

In the above institutions 4,783 cases were treated and 7,868 castrations were done during the year as against 9,329 and 3,206 respectively in the whole of previous year.

(vii) *Madurai South*.—There were eight institutions in this district as shown below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital	1 Tallakulam.
	2 Periyakulam.
Veterinary dispensary	3 Madurai.
	4 Melur.
	5 Chatrapatty.
	6 Tirumangalam.
	7 Cumbum.
	8 Bodinaickanoor.

The first five institutions were located in Government buildings. The Veterinary Dispensary, Madurai, was also equipped with a microscope and refrigerator. During the period 14,531 cases were treated and 2,953 castrations were done at these institutions as against 23,121 cases and 5,683 castrations in the whole of previous year.

(viii) *Madurai North*.—There were six institutions as shown below inclusive of the two institutions transferred from Community Project Scheme to this department :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital	1 Kodaikanal.
Veterinary dispensary	2 Dharmathupatty.
	3 Pallapatty.
	4 Dindigul.
	5 Palani.
	6 Shelavandan.

The first three institutions were located in Government buildings and the rest in rented buildings. During the period 10,298 cases were treated and 1,006 castrations were performed as against 8,433 cases and 819 castrations in the last year.

(ix) *Tanjore West*.—Thus at the end of the period there were eight institutions as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Tanjore.
	2 Kumbakonam.
Veterinary dispensary	3 Aranthangi.
	4 Pattukkottai.
	5 Orathanad.
	6 Papanasam.
	7 Thiruvaiyaru.
	8 Thirupannandal.

The first three institutions were in Government buildings and the rest were in rented buildings. Microscopes were provided in institutions at Tanjore and Kumbakonam. A refrigerator was provided in the Veterinary Hospital at Tanjore. During the period 9,862 cases were treated and 2,107 castrations were performed as against 22,267 cases and 5,374 castrations in the whole of previous year.

(x) *Tanjore East*.—There were nine institutions in this zone as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Nagapattinam.
	2 Tiruvarur.
	3 Mannargudi.
Veterinary dispensary	4 Thiruthuraiipoondi.
	5 Mayuram.
	6 Konerirajapuram.
	7 Koradachery.
	8 Sirkazhi.
	9 Nannilam.

The first five institutions were in Government buildings, the next two were in rent-free buildings and the last two were in rented buildings. Institutions at Tiruvarur, Nagapattinam and Mannargudi were equipped with microscopes. During the period 9,474 cases were treated and 2,807 castrations were performed in these institutions as against 18,218 cases and 5,353 castrations in the whole of last year.

(xi) *Tiruchirappalli South*.—There were four institutions as shown below :—

Kind of institution.	Place of location.
(1)	(2)
Veterinary hospital	1 Tiruchirappalli.
	2 Pudukkottai.
Veterinary dispensary	3 Karur.
	4 Manapparai.

The first two institutions were located in Government buildings and the rest were in rented buildings. The institutions at Tiruchirappalli was provided with a refrigerator and a microscope and the veterinary hospital at Pudukkottai was provided with a microscope. In all these institutions 5,476 cases were treated and 700 castrations were performed as against 19,249 cases and 3,905 castrations in the whole of last year. In addition to the above a Private Veterinary Institution at Sivayam of Kulittalai taluk was subsidised by Government during the period.

(xii) *Tiruchirappalli North*.—There were three institutions as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary dispensary	1 Ariyalur.
	2 Lalgudy.
	3 Musiri.

The institutions at Ariyalur was located in Government building and the rest were in rented buildings. In all these institutions 3,219 cases were treated and 1,470 castrations were performed during the period as against 7,477 cases and 2,666 castrations in the whole of last year.

(xiii) *Ramanathapuram district*.—There were seven veterinary institutions in the district as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Rajapalayam.
	2 Sivaganga.
Veterinary dispensary	3 Devakottai.
	4 Ramanathapuram.
	5 Virudhunagar.
	6 Srivilliputhur.
	7 Karaikudi.

The first four institutions were in Government buildings and the rest in rented buildings. During the period 6,586 cases were treated and 1,687 castrations were performed as against 14,290 cases and 4,407 castrations in the whole of previous year.

(xiv) *Coimbatore West*.—There were 10 institutions in the district as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Coimbatore.
	2 Pollachi.
	3 Vettaikaranpudur.
	4 Udumalpet.
Veterinary dispensary	5 Ramachandrapuram.
	6 Singanallur.
	7 Valparai.
	8 Annur.
	9 Mottupalayam.
	10 Malayandipatnam.

The first five institutions were located in Government buildings and the rest were in rented buildings.

The institution at Coimbatore was equipped with refrigerator. Microscopes were also provided in the institutions at Ponneri and Coimbatore.

In all these institutions 16,118 cases were treated and 1,882 castrations were done as against 35,045 cases and 3,232 castrations in the whole of previous year.

(xv) *Coimbatore East*.—There were 11 institutions in the district inclusive of the four veterinary dispensaries handed over by the Community Projects administration on its conversion into the National Extension Service Scheme. They were located as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Erode.
	2 Tiruppur.
	3 Dharapuram.
Veterinary dispensary	4 Nathakadayur.
	5 Gobichettipalayam.
	6 Sathyamangalam.
	7 Bhavani.
	8 Chennimalai.
	9 Malayampalayam.
	10 Kavundapady.
	11 Bangalapudur.

Institutions Nos. 1 to 3 above were in Government buildings, Nos. 4, 9 to 12 in rent-free buildings and the rest in rented buildings. Institutions Nos. 1 to 3 and 9 and 10 were equipped with microscopes.

During the period 12,308 ailing animals were treated at these institutions and 2,525 castrations were done as against 17,180 and 3,582 cases in the whole of last year.

(xvi) *Nilgiris district*.—There were three institutions in the district as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Ootacamund.
	2 Coonoor.
Veterinary dispensary	3 Gudalur.

The veterinary hospitals were located in Government buildings and the veterinary dispensary in a rented building. The Veterinary Hospital, Ootacamund, was equipped with a microscope and a refrigerator and Veterinary Hospital, Coonoor, with a microscope.

In these institutions 2,232 cases were treated and 63 castrations were done during the period, as against 6,471 cases and 216 castrations in the whole of previous year.

(xvii) *Kanyakumari district*.—There were five veterinary institutions as shown below :—

Kind of institutions.	Place of location.
(1)	(2)
Veterinary hospital	1 Nagercoil. 2 Kuzhithura. 3 Thuckalai.
Veterinary dispensary	4 Bhoothapandi. 5 Aramboli.

The first two institutions were in Government buildings and the rest were in rented buildings. During the period 4,691 cases were treated and 204 castrations were done in these institutions.

75. *Dispensaries maintained by the Corporation of Madras*.—During the period four dispensaries were continued to be maintained at the Cattle Depots of the Corporation of Madras. The details of work done at these institutions are given below :—

Place of location.	Number of cases treated.	Number of castrations done.
(1)	(2)	(3)
Vyasarpady	1,790	..
Pudupet	3,414	4
Mylapore	2,813	25
Thyagarayanagar	1,714	..

76. *Clinical laboratories*.—With a view not only to investigate into diseases peculiar to particular areas but also to avoid the delay, in diagnosis and control of diseases both in hospital and field by the laboratory confirmation, caused in sending suspected materials to the Madras Veterinary College and the Veterinary Disease Investigation Officers, 12 regional clinical laboratories were functioning during the period at the rate of one for each district as detailed below :—

Place of location.	Jurisdiction of the laboratories.
(1)	(2)
1 Madras Veterinary College	Madras City.
2 Veterinary Hospital, Tirunelveli	Tirunelveli district.
3 Do. Coimbatore	Coimbatore district.
4 Do. Salem	Salem district.
5 Do. Vellore	North Arcot district.
6 Do. Cuddalore	South Arcot district.
7 Do. Kancheepuram	Chingleput district.
8 Do. Ramanathapuram	Ramanathapuram district.
9 Do. Tallakulam	Madurai district.
10 Livestock Research Station, Hosur	Hosur taluk and Farm.
11 District Livestock Farm, Orathanad	Tanjore district.
12 Do. Pudukkottai	Tiruchirappalli district.

In all the laboratories at the veterinary institutions a total number of 6,568 specimens were received for examination of which 2,232 were found positive. The details of specimens examined are given below :—

Kind of specimen.	Number received.	Number examined.	Number positive.	Number negative.
(1)	(2)	(3)	(4)	(5)
Fæces	4,651	4,651	1,825	2,826
Bloodsmears	1,095	1,095	119	976
Pussmears	10	10	7	3
Scrapings	481	481	93	388
Nasal washing	298	298	169	129
Urine	8	8	4	4
Milk	12	12	5	7
Other specimen	10	10	7	3
Total	6,568	6,563	2,232	4,336

77. *Criminal poisoning*.—Materials from suspected cases of poisoning were sent to the Chemical Examiner, Government of Madras. Thus 14 materials from 2 animals died suspicious of poisoning, were sent for examination of which 12 were examined. The details of examination are given below :—

Nature of material examined.	Number examined.	Number positive.	Kind of poison.
(1)	(2)	(3)	(4)
Viscera and contents	6	6	Arsenic 6
Excreta or Stomach contents	6	6	{ Arsenic 6
Miscellaneous articles	..	..	{ Arsenic
			Oleanders

78. *Post-mortem and wound certificates*.—The staff of the department examined and certified 107 cases of wounds and malicious injuries. They conducted post-mortem on 55 cases and issued certificates during the period.

79. *Society for Prevention of Cruelty to Animals*.—Under the Act for prevention of cruelty to animals, this department through its Veterinary Assistant Surgeons and veterinary institutions provided for the examination and for infirmaries for the remand and treatment of animals until trial and after trial, if necessary. Thus during the period 3,620 cases were convicted of which 763 were put in the infirmaries for treatment as in-patients.

80. *Glanders inspection*.—The Glanders Inspector and the District Veterinary Officer, Madras, inspected 22 horses on landing at Madras Port. Four horses of the King Institute, Guindy, were malleined.

The Veterinary Assistant Surgeon in charge of Glanders inspection work, made periodical visits to cattle sheds, jutka stands and State hospital milking yards for their maintenance under hygienic conditions. Seven thousand one hundred and eighteen bovines and 344 ponies were inspected during the period in various parts of the City.

81. *Veterinary Council.*—Under the existing rules issued by the Ministry of Health, Government of India, the veterinary practitioners in India are debarred from prescribing certain drugs as sulphanamides, barbiturates and the like as they are not included among the registered practitioners. As there were no authorised registers of veterinary practitioners as on the medical side, the Indian Council of Agricultural Research had suggested that steps should be taken to remedy the defect, at least partially, by preparing registers in stages which would be deemed as interim authorised registers.

With this object in view the Government of Madras ordered the opening of an interim authorized register of veterinary practitioners in 1954-55. The veterinary practitioners thus registered up to the end of the period was 440 in this State.

82. *Private practitioners.*—Though the veterinary practice was not a lucrative one in the State, there were 36 private veterinary practitioners in the State most of them being retired personnel of the Animal Husbandry Department.

83. *Livestock in Forest department.*—To assist the Forest Department in matters relating to animal husbandry, a team of personnel consisting of an Inspector of Livestock with two Assistant Veterinary Inspectors are working in the forest areas on the Western range mountains.

The management and treatment of the entire livestock, mostly elephants, of Forest department were attended to. There was one birth during the period. No elephants were sold during the period.

The strength of livestock of Forest department has been detailed below :—

Kind of animals.	Number remaining on 1st April 1956.	Additions.					Deductions.					Number remaining on 31st March 1957.
		Captures.	Births.	Transfers.	Purchases.	Total.	Sales.	Deaths.	Lost.	Transfer.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Elephants ..	80	..	1	..	..	81	..	1	..	54	55	26
Buffaloes ..	4	..	..	..	..	4	..	..	..	4	4	..
Bullocks ..	2	..	..	..	..	2	..	..	..	..	..	2

There was no incidence of contagious disease among elephants during the period. But two buffaloes of Nilambur Division had survived an attack of Foot-and-Mouth disease. Fifty-nine cases of non-contagious diseases were treated during the period as against 335 in the whole of previous year.

CHAPTER VII—ITINERANT STAFF.

84. The department provides veterinary aid even at village level besides the veterinary hospitals and dispensaries, through a team of touring staff consisting of Veterinary Assistant Surgeons, Veterinary Livestock Inspectors, Stockmen and Stockmen compounders. The headquarters of these staff are fixed at taluk headquarters or at

important towns with a jurisdiction fixed for each of these touring billets comprising of a taluk or even less. To facilitate the treatment of animals whenever these staff are at headquarters, accommodation is provided to run a minor veterinary dispensary in most of their headquarters. These staff not only tour in villages for the control of epidemics, treatment of cases and castration of scrub animals but also run one or more first-aid centres at convenient places which they visit once or twice a week on fixed days.

(i) Touring Billets and Minor Veterinary Dispensaries.

Thus there were 69 minor veterinary dispensaries, 15 touring billets and 73 veterinary first-aid centres during the period under report.

In all these minor veterinary dispensaries and in villages on tour 59,929 cases were treated and 13,714 castrations were done during the period under report as against 126,610 cases and 39,665 castrations in the whole of last year.

The districtwar details of location of these touring billets and minor veterinary dispensaries are given below :—

(i) *Chingleput district.*—There were five minor veterinary dispensaries and two touring billets in the district as detailed below :—

Minor veterinary dispensaries.	Touring billets.
1 Sriperumbudur.	1 Kancheepuram.
2 Tiruporur.	2 Tiruvallur.
3 Tiruvottiyur.	
4 Cheyyur.	
5 Sathyavedu.	

In addition to the above, three veterinary first-aid centres were also run during the period. All the minor veterinary dispensaries were in rented buildings.

During the period 2,032 cases were treated and 471 castrations were done as against 540 cases and 680 castrations in the whole of previous year.

(ii) *North Arcot district.*—There were eight minor veterinary dispensaries and one touring billet, in the following places :—

Minor veterinary dispensaries.	Touring billets.
1 Cheyyar.	1 Panapakkam.
2 Chengam.	
3 Arni.	
4 Polur.	
5 Gudiyatham.	
6 Ambur.	
7 Wallajah.	
8 Desur.	

Four veterinary first-aid centres were also functioning during the period.

The minor veterinary dispensary at Arni was located in a Government building and those in other places were located in either rented or donated buildings.

During the period 7,694 cases were treated and 3,036 castrations were done as against 11,804 cases and 3,531 castrations in the whole of previous year.

(iii) *South Arcot district*.—There were five minor veterinary dispensaries and one touring billet in the following places of the district :—

Minor veterinary dispensaries.	Touring billets.
1 Tirunavalur,	1 Cuddalore.
2 Vriddhachalam.	
3 Villupuram.	
4 Gingee.	
5 Tirukkoyilur.	

There were nine first-aid centres functioning under National Extension Service Schemes.

During the period 1,473 cases were treated and 803 castrations were done in these institutions as against 7,202 cases and 1,562 castrations in the whole of last year.

(iv) *Salem district*.—There were seven minor veterinary dispensaries and two touring billets at the beginning of the period. During the period one minor veterinary dispensary was opened at Sendarapatti. The eight minor veterinary dispensaries and two touring billets were located at the following places :—

Minor veterinary dispensaries.	Touring billets.
1 Athur.	1 Salem.
2 Rasipuram.	2 Harar.
3 Dharmapuri.	
4 Omialur.	
5 Hosur.	
6 Dankanikota.	
7 Velur.	
8 Sendarapatti.	

In addition to these dispensaries 16 veterinary first-aid centres were also functioning during the period.

The touring staff of the district rendered treatment both on tour and at the above institutions to 9,879 ailing animals during the period as against 17,255 in the whole of last year. Two thousand three hundred and thirty-two scrub animals were castrated as against 3,257 in the whole of last year.

(v) *Tirunelveli district*.—Five minor veterinary dispensaries and one touring billet were in existence during the period, as given below :—

Minor veterinary dispensaries.	Touring billet.
1 Kovilpatti,	1 Sankarankoil.
2 Srivaikuntam.	
3 Valliyoor.	
4 Ambasamudram.	
5 Tiruchendur.	

The Panchayat Board, Tiruchendur, provided a rent-free building for the dispensary and the rents for the buildings of minor veterinary dispensaries at Kovilpatti and Valliyoor were borne by Sri A. Ramaswamy Doss, M.L.A., and Valliyoor Panchayat Board respectively.

Two veterinary first-aid centres were also functioning during the period. Four thousand three hundred and eighty-three animals were treated and 3,013 castrations were done during the period both at these institutions and on tour as against 8,173 cases and 5,837 castrations in the whole of previous year.

(vi) *Madurai South*.—During the period there were four minor veterinary dispensaries and one touring billet as detailed below :—

Minor veterinary dispensaries.	Touring billet.
1 Chinnamanur,	1 Madurai.
2 Allinagaram.	
3 Usilampatty.	
4 Natham.	

There were 4 first-aid centres transferred from Community Project Scheme during the period.

Nine thousand nine hundred and twenty-five cases were treated and 1,481 castrations were performed.

(vii) *Madurai North*.—There were three minor veterinary dispensaries and one touring billet as detailed below :—

Minor veterinary dispensaries.	Touring billet.
1 Oddanchatram.	1 Vedasandur.
2 Nilakkottai.	
3 Pannaikkadu.	

Five first-aid centres were transferred to this department from Community Project Scheme during the period.

Three thousand one hundred and forty-eight cases were treated and 818 castrations were performed during the period.

(viii) *Ramanathapuram district*.—There were seven minor veterinary dispensaries and one touring billet at places detailed below during the period :—

Minor veterinary dispensaries.	Touring billet.
1 Aruppukkottai.	1 Malli.
2 Paramakudi.	
3 Sivakasi.	
4 Madukulathur.	
5 Tiruppattur.	
6 Sathur.	
7 Tiruvadanai.	

In addition to the above, 12 veterinary first-aid centres were also functioning during the period.

Three thousand seven hundred and thirty-one cases were treated in these institutions and in villages on tour and 834 castrations were done during the period as against 10,959 cases and 2,732 castrations.

(ix) *Tanjore West*.—There were three minor veterinary dispensaries in this district at Saliyamangalam, Peravurani and Adu-thurai. During the period 1,760 cases were treated and 563 castrations were performed.

(x) *Tanjore East*.—There were three minor veterinary dispensaries at Kivalur, Muthupet and Kodavasal and touring billets at Needamangalam and Kuttalam. During the period 1,350 cases were treated and 443 castrations were performed.

(xi) *Tiruchirappalli South*.—There were five minor veterinary dispensaries and one touring billet as detailed below :—

Minor veterinary dispensaries.	Touring billet.
1 Srirangam.	1 Thirumayam.
2 Kulitalai.	
3 Chinnadharapuram.	
4 Keeranur.	
5 Alangudy.	

During the period 4,312 cases were treated and 682 castrations were performed.

(xii) *Tiruchirappalli North*.—During the period there were three minor veterinary dispensaries at Perambalur, Jayakondam and Thuraiyur.

Three thousand nine hundred and seventy cases were treated and 1,110 castrations were performed during the period.

(xiii) *Coimbatore West*.—There were four minor veterinary dispensaries and one touring billet in the district as shown below :—

Minor veterinary dispensaries.	Touring billet.
1 Periannaickenpalayam.	1 Kinathukidavu.
2 Avanashi.	
3 Kurichikottai.	
4 Negamam.	

Three veterinary first-aid centres were also run during the period.

Two thousand five hundred and forty-seven cases were treated and 378 castrations were done at these centres and on tour by the staff as against 10,891 cases and 1,931 castrations in the whole of last year.

(xiv) *Coimbatore East*.—There were six minor veterinary dispensaries and one touring billet in the districts as shown below :—

Minor veterinary dispensaries.	Touring billet.
1 Andhiyur.	1 Kollegal.
2 Punjaipuliampatti.	
3 Kangayam.	
4 Palladam.	
5 Kodumudi.	
6 Perundurai.	

In addition to the above, there were 18 veterinary first-aid centres functioning in the district. A rent-free building was provided at Andhiyur by the local panchayat. The panchayats contributed towards the maintenance of institutions at Kodumudi, Perundurai, Palladam and Punjaipuliampatti.

Four thousand seven hundred and forty-two cases were treated and 2,815 castrations were done during the period in these institutions and on tour as against 11,255 cases and 3,315 castrations in the whole of last year.

(xv) *Nilgiris district*.—There were one minor veterinary dispensary at Kotagiri and a touring billet at Ootacamund during the period. The entire district was covered by National Extension Service Scheme and the Extension Officers for Animal Husbandry were doing most of the touring work of the department.

Eight thousand eight hundred and seventy-five cases were treated and 228 castrations were performed during the period.

(xvi) *Kanyakumari district*.—There were no separate touring staff to attend to disease control and to provide veterinary aid in rural parts. The Veterinary Assistant Surgeons (i.e.), veterinary institutions were attending to the work relating to outbreak reports of contagious diseases.

(ii) Pilot Scheme for eradication of Rinderpest.

85. This scheme was continued with 15 quarantine stations, check-posts in the districts of Chingleput, North Arcot, Coimbatore, Salem and South Kanara, with a view to keep the State free from Rinderpest by warding off even the trickling of infection from the infected neighbouring States. The stations were located on the important cattle routes leading to this State as shown below :—

Station number and place of location.	District.
1 Thiruvethiyur	Chingleput.
2 Elavur	Do.
3 Varadhapalayam	Do.
4 Ramanjeri	Do.
5 Thiruvalam	North Arcot.
6 Modikuppam	Do.
7 Pernampet	Do.
8 Tiruppathur	Do.
9 Berikai	Salem.
10 Bagalur	Do.
11 Jeebi (Hosur)	Do.
12 Dinnur Cross Road	Do.
13 Sattegal	Coimbatore.
14 Jagarapuram	Do.
15 Hassanur	Do.

Animals passing through these stations are protected with Freeze Dried Rinderpest vaccine and branded with a standard "0" mark. The animals in the neighbourhood of the stations are also protected so as to create an immune belt in the borders of the State. A total number of 87,658 animals were protected during the year through these quarantine stations.

86. *Veterinary Mobile Units.*—The efficiency in respect of prompt control of contagious diseases in rural parts was further enhanced by providing 2 veterinary mobile units for ensuring expediency in attendance of outbreak reports and covering a large number of villages under the mass campaign of advance preventive vaccinations in free areas. This was done as an experimental measure to start with in 2 districts (viz.) Tanjore and Chingleput. Though the mobile vans were supplied to these areas in the middle of the year, yet the usefulness and the efficacy of this scheme can well be judged from the lower number of outbreak reports recorded in these districts during the year as a whole when compared to last year as detailed below :—

						Number of outbreaks recorded.	
						1956-57.	1955-56.
Tanjore	..	..	..	..	..	154	323
Chingleput	..	..	..	..	..	172	708

CHAPTER VIII—DISEASE AMONG LIVESTOCK.

87. It is noteworthy to mention here that the incidence of various contagious diseases among livestock during the year under report was considerably low as could be seen from the fact that only 1,863 outbreak reports with the resultant mortality figure of 9,655 were recorded during the year as against 4,058 outbreaks with 20,418 deaths in the previous year.

Incidence of contagious and infectious disease among livestock in the rural parts of the State is recorded through reports received by the touring Veterinary Assistant Surgeons from the ryots either direct or through village officials, and detection of these diseases is also done by the staff while they are on routine tour in villages. On receipt of these reports, the staff visit the spot for confirmation of the disease either by clinical examination or from clinical history furnished by ryots, and then to arrange for prophylactic measures.

The reporting on the outbreak of diseases by village officials had improved considerably during the period though there is still scope for improvement. In case of discrepancies between the figures furnished by Revenue department and that of this department, reconciliation was done at taluk offices by the departmental staff once in a month.

During the period under report, 878 outbreak reports were received, most of them being of Black-quarter, and Haemorrhagic Septicæmia as against 4,508 outbreaks in the whole of previous year. With a view to avert further spread in affected areas and incidence of outbreaks in free areas, a mass scale protection in the endemic areas was launched as a result of which 429,475 inoculations and vaccinations were conducted during the period under review, by the staff both in affected and free areas among various species of livestock as against 1,980,583 done in the whole of previous year. The details of outbreaks and inoculations done, are given in Tables I and II annexed to this report.

88. *Mortality.*—There was a total number of 4,139 deaths due to the various contagious diseases of all species of domesticated livestock as against 20,418 deaths in the whole of previous year. Most of the deaths were due to the common epidemic diseases like Haemorrhagic Septicæmia, Blackquarter, Foot and Mouth and Anthrax which accounted for 3,239 animals as against 17,641 in the whole of previous year. The average mortality due to these diseases per outbreak was 4.18 as against 4.72 in the last year.

The diseasewar details of attacks and deaths are given below :—

Diseases.	Number of attacks.	Number of deaths.
Blackquarter	1,167	1,104
Haemorrhagic Septicæmia	1,788	1,740
Foot and Mouth	1,032	10
Anthrax	388	335

89. *Cattle*—(i) *Contagious and infectious diseases*—(a) *Rinder pest.*—It is noteworthy that the State continued to be free from rinderpest during the period. This is perhaps due to the efficient prophylactic measures enforced during the period at the quarantine stations (check posts), creation of immune belt on the borders of the State and mass protection of animals in cattle-fairs of the State. A total number of 94,703 animals were protected during the period, as detailed below, as against 466,043 in the previous year :—

Method of inoculation.	Number of animals protected.
(1)	(2)
Serum alone	656
Freeze-dried vaccine	94,047
	94,703

(b) *Haemorrhagic Septicæmia.*—This disease was prevalent during the period in all districts of the State except Salem. The incidence of this disease was low during the period with 402 outbreaks resulting in the death of 1,740 animals as against 997 outbreaks with a mortality of 4,952 animals in the whole of last year. The incidence was somewhat high in South Arcot and Tanjore districts with 100 and 85 outbreaks respectively. Prompt action was taken to control the outbreaks by protecting 82,189 animals in the affected village and to avert the spread and the incidence in endemic areas by doing preventive inoculations among 51,460 animals in disease-free areas also.

(c) *Blackquarter.*—The incidence of this disease was reported from all the districts of this State. A total number of 330 outbreak reports were recorded with a mortality figure of 1,104 during the period as against 2,424 outbreaks and 11,154 deaths. During the period under review prevalence of this disease was fairly high in Tiruchirappalli district wherein 90 outbreak reports were received with 399 deaths and the disease was fairly high in North Arcot, Ramanathapuram and South Arcot districts. Preventive inoculations were done both in affected villages and disease-free areas and thus 80,107 animals were protected in affected areas and 76,683 animals were vaccinated in free areas.

(d) *Anthrax*.—This disease was recorded in all the districts during the period except in Tiruchirappalli, Tanjore, Tirunelveli and Ramanathapuram. There were 21 outbreak reports during the period with 92 as against 83 outbreaks with 352 deaths in the whole of previous year. The disease was high in North Arcot district.

Preventive inoculations were carried out both in affected and free areas and thus 5,934 animals were protected in affected areas and 1,579 were vaccinated in free areas.

(e) *Foot-and-mouth diseases*.—During the period there were 21 outbreak reports of this disease with 1,032 attacks and 10 deaths as against 196 reports with 35 deaths in the whole of previous year.

(f) *Surra*.—This disease was recorded in North Arcot, Madurai, Ramanathapuram and Tirunelveli districts and a total number of 18 outbreak reports with 52 deaths were received as against 47 reports with 184 deaths in the whole of previous year.

(g) *Nasal Schistosomiasis*.—Eight hundred and eighty-one cases were treated during the period as against 732 in the whole of previous year.

(h) *Johne's disease*.—One case was treated during the period as against 4 during last year.

(i) *Brucellosis*.—Eight cases were recorded during the period as against 43 in the whole of previous year.

(j) *Bovine Lymphangitis*.—Fifty-five cases were treated during the period as against 17 cases in the whole of previous year.

(k) *Strongylosis*.—Nine hundred and seventy-five cases were treated during the period as against 1,873 in the last year.

(l) *Mange*.—Four hundred and eighty-six cases were treated during the period as against 78 in the whole of previous year.

(m) *Mastitis*.—One hundred and eight cases were treated as against 353 in the whole of previous year.

(n) *Coccidiosis*.—Three hundred and nine cases were treated as against 601 in the last year.

(o) *Ephemeral fever*.—Three hundred and fifty-five cases were treated as against 1,026 in the last year.

(p) *Piroplasmosis*.—One hundred and twenty-one cases were treated during the period as against 214 in the last year.

(q) *Theileriasis*.—Fifteen cases were treated as against 27 in the last year.

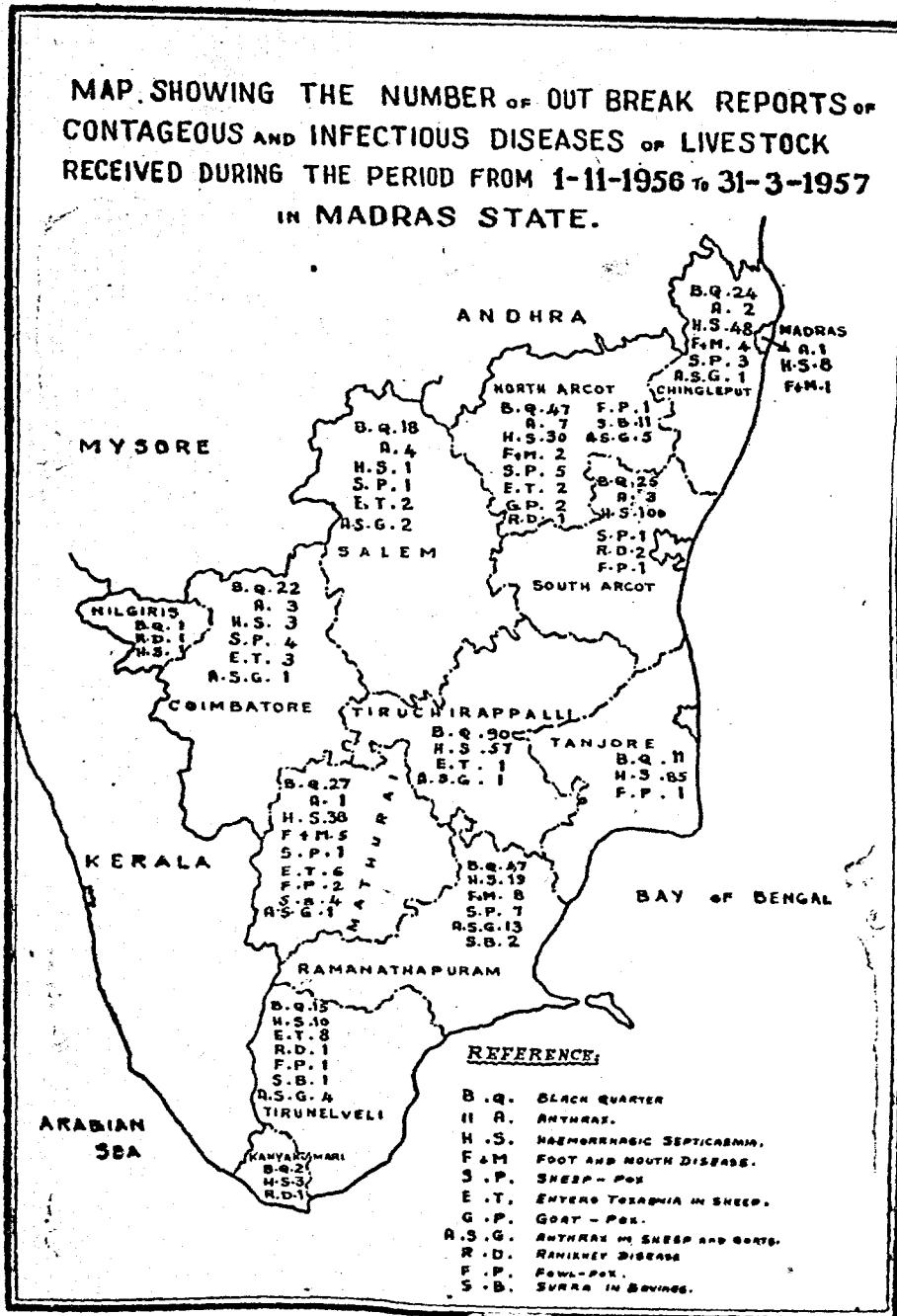
(r) *Rabies*.—One case died of this disease. A total number of 52 bovines were given protection against this disease.

(ii) *Non-contagious diseases*—(a) *Rheumatic Arthritis*.—Two hundred and forty-two cases were treated during the period as against 394 in the whole of previous year.

(b) *Urethral Calculi*.—Four cases were met with during the period as against six in the last year.

(c) *Haematuria*.—Thirty-three cases were treated during the period as against 120 in the last year.

MAP SHOWING THE NUMBER OF OUT BREAK REPORTS OF CONTAGEOUS AND INFECTIOUS DISEASES OF LIVESTOCK RECEIVED DURING THE PERIOD FROM 1-11-1956 TO 31-3-1957 IN MADRAS STATE.



A.H.—18B

(d) *Sterility*.—One hundred and twenty-four cases were treated as against 159 cases in the last year.

(e) *Chronic luxation of patella*.—A total number of 1,890 cases were treated for this condition as against 3,684 in the whole of previous year.

90. *Diseases among sheep and goats*.—Contagious and infectious diseases.—The following table gives the details of the outbreak reports received, number of animals protected against various diseases among sheep and goats :—

Name of disease.	Number of out-break reports received.	Number of deaths.	Number protected in affected areas.	Number protected in free areas.
(1)	(2)	(3)	(4)	(5)
Anthrax	28	374	6,370	5,427
Sheep-pox	22	151	7,774	3,949
Enterotoxaemia ..	22	346	17,703	9,806
Goat-pox	2	2	212	..

91. *Disease among other animals*.—Contagious and infectious diseases.—(i) *Surra in equines*.—Nil.

(ii) *Rabies in Canines*.—Five cases were confirmed for this disease and 87 dogs were protected during the period.

(iii) *Ranikhet disease in fowls*.—There were six outbreaks with 50 deaths during the period. Four thousand seven hundred and thirty-two birds were inoculated in affected areas and 75,345 in free areas.

(iv) *Fowl-pox*.—There were six outbreaks with 18 deaths during the period. Two hundred and ninety-eight birds in affected areas and 4,572 birds in free areas were protected during the period.

CHAPTER IX—INVESTIGATION AND RESEARCH.

92. The department was focussing on the welfare of the livestock population of the State from three angles (viz.), disease control, development and investigation and research.

Field investigation into disease problems of livestock was carried on by the team of investigation staff and research work on prophylactic aspect was carried out at the Institute of Veterinary Preventive Medicine, Ranipet, and on basic sciences like Anatomy, Animal Nutrition, Parasitology, Bacteriology, Pathology, etc., and on specific diseases at the Madras Veterinary College.

(i) Madras Veterinary College.

93. In addition to teaching of students of the B.V.Sc. degree, stockmen and Flaying Courses, supervising and guiding the post-graduate research students and attending to the hospital, diagnostic and animal husbandry work, inspection and advice with regard to

the proper maintenance of the City Police horses and dogs, the several departments of the College engaged themselves in research work as shown hereunder :—

(i) *Chemistry department*.—Calculi from kidney, urinary bladder, etc., were analysed qualitatively and so also rumen and stomach contents. Estimation of male sex hormones in the urine was done. Estimation of aminoacids from the hydrolysis of proteins present in hair was attempted by paper chromatography. Routine estimation of calcium content in the blood serum of bullock was also done in connection with the investigation on Nasal Schistosomiasis of cattle.

(ii) *Biology department*.—Work on *Drosophila* was continued during the period.

(iii) *Anatomy department*.—Study on the anatomy of the foetal elephant was in progress.

(iv) *Bacteriology department*.—Studies on Mastitis, type of a strain of *Mycobacterium tuberculosis* isolated from a dead Giraffe and Pathogenicity test on Fungus isolated in the last year from chicks dead in shell were in progress.

(v) *Parasitology department*.—The survey of the parasitic fauna in domestic cats and ducks, studies in *Trypanosoma evansi* and intensive method of treatment of Nasal Schistosomiasis were in progress.

(vi) *Pathology department*.—(1) The following aspects under the scheme for the study of Avian Leucosis Complex were studied in co-ordination with Animal Genetics department :—

(a) Experimental transmission of the various forms in the developing chick embryo and day-old chicks.

(b) Hæmatology in paralytic, experimental and normal birds.

(c) Incidence of the disease.

(2) *Cirrhosis in dogs*.—Experimental work to elucidate the role of low protein diet in the etiology of hepatic cirrhosis was continued.

(3) Work on "Features of Pullet Disease" was in progress.

(vii) *Animal Nutrition department*.—Investigation into nutritional factors as a cause of low hatchability was undertaken.

Study on the nutritional status of sperm-free fluid of semen of breeding bulls was in progress.

Preliminary study on the nutritional status of Erythrocytes of animals were made to determine their vitamin E status making use of the hæmolysis reaction of Gyorgy and Rose.

(viii) *Helminthology department*.—Work on "Host Parasite Relationships" and on *Echinococcus* was in progress during the period.

(ix) *Animal Genetics department*.—The investigation into the etiology and genetical aspects of the Avian Leucosis complex in poultry was started and in progress during the period.

(ii) *Institute of Veterinary Preventive Medicine.*

94. In addition to the manufacture and supply of various biological products to the field staff of this State and to other States on demand, research work was also carried on in the production of vaccines. The experimental and research work thus carried out are detailed below :—

(1) *Rinderpest*.—(i) Studies on the viability of Freeze Dried Goat Tissue vaccine after reconstitution with normal saline was continued and it was found to be viable after six hours when kept at 85° to 90°F.

(ii) The suitability of the Goat Tissue vaccine for immunising sheep against rinderpest was studied and found that it can be used safely for the same.

(2) *Blackquarter*.—(i) The possibility of manufacturing a potent vaccine against Blackquarter by incorporating mineral oil and lenolin as adjuvants to suspension of Cl. Chauvoei and Cl. Septique as in the case of Bain's Hæmorrhagic Septicæmia.

(ii) The efficacy of Terramycin in the treatment of Blackquarter was studied.

(iii) The effect of the addition of growth promoting factors like yeast extract, Sodium Thioglycolate, Liver extract, Glucose, Cystine Hydrochloride to the routine Noguchi medium used in the manufacture of Blackquarter vaccine was studied during the period.

(3) *Hæmorrhagic Septicæmia*.—(i) The studies on the oil adjuvant vaccine and Alum precipitated vaccine were continued both at the laboratory and in the field.

(ii) Studies on the use of Terramycin as a curative agent in Hæmorrhagic Septicæmia was carried out and found to be useful only in early stages of the diseases, i.e., before the onset of septicæmia.

(4) *Bacterin for Enterotoxæmia in sheep*.—Anaculture using Cl. welchii types B and D were manufactured and tested for its efficacy in field use on mass scale for controlling outbreaks.

(5) *Sheep-pox vaccine*.—(i) The effect of heat-killed vaccine in immunising the sheep was studied and found to be of negative value.

(ii) Cross-immunity studies were made with Rumanian strain of sheep-pox virus used in vaccine production and found the same to be antigenically similar to that of local strain of virus.

(6) *Anthrax Spore vaccine*.—The minimum strength of spores per dose of this vaccine for use safely among sheep was studied and found that vaccine containing one million spores per dose conferred immunity as against 2.5 millions per dose in the issue for field use.

(7) *Ranikhet disease*.—A few experiments were carried out to find out whether Ranikhet Disease vaccine in freeze dried form sent by post could be stored in a refrigerator on receipt and then used subsequently.

Ranikhet disease vaccine in a freeze dried form can be easily transported by post and be still viable after 18 days' exposure to atmospheric temperature (85° to 90°F). This vaccine could also

be used subsequently by storing it in the refrigerator for a further period of 15 days without loss of potency.

(8) *Pigeon-pox vaccine*.—(i) The spray method of vaccination of young chicks with pigeon-pox vaccine as suggested by American workers was tried during the period. A 1 in 1,000 dilution of the freeze dried pigeon-pox vaccine was sprayed by using an atomiser on the thighs of a dozen chicks after removing a few feathers in the area. Most of the chicks developed typical lesions at the site on fifth or sixth day.

Pigeon-pox vaccine in a freeze dried form when exposed to atmospheric temperature for 15 days and then stored in the refrigerator for one month was found viable.

(ii) *Fowl-pox vaccine*.—Freeze dried fowl-pox vaccine stored in the deep freeze cabinet for a period of two years and nine months was found viable.

(9) *Brucella Abortus vaccine and Antigens*.—The viability of the organisms in the vaccine on storage at room temperature and in refrigerator at 40°F was studied and found to be viable up to seven days at room temperature and up to 45 days at 40°F.

(10) *Johne's disease vaccine*.—The batch of calves at the Hosur Cattle Farm vaccinated with Johne's disease vaccine on 26th January 1956 were tested again and it was found that the majority of the vaccinated calves gave positive reaction to Johnin test even after eight months after vaccination.

95. *Indian Council of Agricultural Research Schemes*.—The following two schemes of the Indian Council of Agricultural Research were continued during the period :—

(1) Scheme for the improvement of hæmorrhagic septicæmia vaccine and manufacture of a combined vaccine for hæmorrhagic septicæmia and blackquarter.

(2) Scheme for the improvement in the technic and methods used in the manufacture of virus vaccine.

(i) Studies on the increase in the growth of pasteurella organisms in the nutrient broth by the addition of growth-promoting factors like glucose and serum were made. It was found that the addition of 0.5 per cent glucose and 5 per cent serum produced a growth about 3 to 4 times more than that obtained in nutrient broth alone. It was also noticed that serum in 8 per cent concentration to nutrient agar produced a luxuriant growth while the addition of glucose alone in 0.5 per cent concentration did not produce any appreciable growth.

(ii) Aeration of nutrient broth seeded with the organisms was tried by the periodical shaking of the flasks and by bubbling air into the medium. It was found that aeration of the medium by the periodical shaking of the flasks did not produce any appreciable increase in the growth of the organisms while bubbling of air through the medium produced a slight increase in the growth.

(iii) A comparative study between the hæmorrhagic septicæmia broth bacterin and alum precipitated bacterin was made and found that the latter has a better immunizing value over the former.

(iv) Studies on the effect of combined vaccine by mixing the two blackquarter vaccines, viz., alum precipitated concentrated blackquarter vaccine and oil adjuvant blackquarter vaccine, and similar types of hæmorrhagic septicæmia vaccines were made and it was found that the mixing of the two vaccines in equal quantities does not interfere with the immunizing value of respective vaccines.

(3) (i) A hyper-immune serum against sheep-pox for the manufacture of sensitized sheep-pox vaccine was prepared. Studies on the four types of sheep-pox vaccine prepared by treating the virus with hyper-immune serum for periods of 6 hours, 24 hours, 36 hours and 48 hours were in progress.

(ii) Cultivation of sheep-pox virus in embryonated eggs was continued.

(iii) To prepare a safe fowl-pox vaccine with fowl-pox virus (Beaudette's strain) for protecting chicks of younger age below six weeks, attenuation of the virus by serial passage through duck's eggs was tried.

(iv) Studies were also made to see if the pigeon-pox vaccine, now in use, confers adequate immunity against fowl-pox in vaccinated birds.

(iii) *Disease investigation.*

96. During the period under report the Veterinary Disease Investigation Officers (Cattle, Sheep and Poultry) continued their investigation on various diseases both in the field and at the laboratory.

Investigation into diseases of cattle.—The Veterinary Disease Investigation Officer (Cattle) carried out investigations on the following diseases and conditions :—

- (1) Anthrax,
- (2) Hæmorrhagic Septicæmia,
- (3) Tuberculosis,
- (4) Johne's disease,
- (5) Bovine lymphangitis,
- (6) Brucellosis and
- (7) Foot and mouth and other obscure diseases.

(1) *Anthrax*.—Field investigation was done in 18 centres of which 16 were in endemic areas and two were in actual outbreaks. It was found that the recurrence of this disease was absent in areas where periodical vaccinations were done.

(2) *Hæmorrhagic Septicæmia*.—The investigation in the field was carried out mainly to judge the efficacy of the oil adjuvant vaccine now prepared at the Institute of Veterinary Preventive Medicine, Ranipet. The results observed so far were encouraging but further studies were continued for arriving at a final conclusion.

(3) *Tuberculosis*.—Investigation on the incidence of this disease was done at four centres by double intra-dermal test with tuberculin. Out of 15 animals tested 2 Murrah buffalo bulls reacted to this test and was declared positive.

(4) *Johne's disease*.—The incidence of this disease was investigated in four centres. Out of 115 animals tested 2 proved positive and 10 gave doubtful reaction.

(5) *Bovine Lymphangitis*.—The incidence of this disease reported in an endemic form in the village Lokkanahalli in Kollegal taluk was confirmed on the spot in six cases out of materials collected from 10 animals. It was found out that the disease was prevalent for a long time in the area in a sporadic form but the same had flared up subsequent to an outbreak of foot and mouth disease.

(6) *Brucellosis*.—The investigation on the prevalence of the disease was carried out in seven centres. Follow-up studies were done in four centres of Ramanathapuram and Madurai districts to evaluate the after-effects of brucella vaccinations in these areas which were endemic. It was reported on enquiry that vaccinated animals did not abort subsequently.

Under the Brucella Eradication Scheme in Coimbatore district, two hundred and thirty-six sera samples and 103 synovial fluid samples were tested and 3,883 vaccinations were conducted. The disease was detected in seven villages. Re-testing after six months of vaccination was done in 115 animals, all of which were negative for the disease.

(7) *Other obscure diseases*.—A report from Perinthatta in North Malabar district on the incidence of deaths among cattle due to a peculiar disease was investigated and found to be akin to that of lumbar paralysis in cattle, seen in South Kanara district inasmuch as the ailing animals responded to treatment for calcium and magnesium deficiency as in South Kanara district.

Examination of materials in the field and laboratory.—Nature of specimens examined at the laboratories and during field investigations are detailed below :—

	Number examined.		Number positive.	
	In the field.	In the laboratory.	In the field.	In the laboratory.
Dung	48	5	13	..
Blood smears	73	51	3	7
Synovial fluid	1	19	..	..
Bowel washings	10	17	3	..
Sera tested	131	95	2	31
Pus smears	10	1	10	1
Nasal washings	..	..	..	..
Milk samples	..	..	..	..
Biological test	..	3	..	..

(iv) *Investigation into diseases of sheep and goats.*

97. During the period, the Veterinary Disease Investigation Officer (Sheep and Goats) investigated into the following diseases among sheep and goats :—

- (1) Anthrax.
- (2) Sheep-pox.
- (3) Goat-pox.
- (4) Enterotoxæmia.
- (5) *Johne's disease*.
- (6) Helminthic and protozoan infection.
- (7) Other obscure diseases.

(1) *Anthrax*.—The disease was reported from 19 centres by the field staff and was investigated in three centres. The incidence of the disease was in a super-acute form, accounting for cent per cent mortality among the attacked animals. The incidence was high in Ramanathapuram district with outbreak reports of this disease.

(2) *Sheep-pox*.—Investigation on the incidence and control of this disease was done in Ramanathapuram, Chingleput and North Arcot districts. Incidence was reported in 20 centres of Madurai, Salem, North Arcot, Tirunelveli, Ramanathapuram and Coimbatore districts.

(3) *Goat-pox*.—This disease was reported from Dharmathupatti in Madurai district and was confirmed on investigation from the lesion and by biological tests.

(4) *Enterotoxæmia*.—The disease was investigated in three centres in Chingleput district besides the reports received from six centres in the districts of Madurai, Salem, North Arcot and Tirunelveli.

(5) *Johne's disease*.—Investigation of this disease was carried out in Livestock Research Station, Hosur. Out of 145 animals tested two proved positive and three gave doubtful reaction. The calcium and magnesium levels in blood was also studied with 19 samples of sera from the flock to note whether there was any deficiency of one or both of these minerals.

(6) *Helminthic and protozoan infection*.—A general survey on the incidence of protozoan and helminthic infections among sheep was undertaken. Blood smears and dung samples were examined. Though incidence of protozoan diseases was absent infection with strongyle species of worms was noticed.

(7) *Other obscure diseases*.—A report from Pethakallipalli village in Vaniyambadi taluk, North Arcot district, on the deaths of goats in a flock was investigated and found to be due to helminthic infection.

Laboratory work.—The details of examinations of specimens which were received and collected are detailed below :—

Nature of specimen.	Number examined.	Number positive.
(1)	(2)	(3)
Blood smears	99	..
Dung samples	127	24
Bowel washings	30	6
Biological tests	4	..

(v) *Investigation into the diseases of poultry.*

98. During the period under report, the Veterinary Disease Investigation Officer (Poultry) investigated into the following diseases :—

- (1) Ranikhet disease,
- (2) Fowl-pox,
- (3) Contagious coryza,
- (4) Avian leucosis complex,
- (5) Coccidiosis and
- (6) Parasitic infestation.

(1) *Ranikhet disease*.—(i) The incidence of the disease has been recorded in almost all the districts of Madras State, affecting all ages and breeds of birds both indigenous and exotic and no seasonal variation has been noticed with reference to the incidence of the disease during the period under report. Vaccinations against this disease were carried out in all the districts and the reactions observed are detailed below :—

Districts.	Number of exotic birds vaccinated	Reaction noticed in exotic birds.					
		Drowsiness, per cent.	Diarrhoea, per cent.	Paralysis, per cent.	Stoppage of egg production.	Mortality, per cent.	Reaction mild or severe.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Madurai	2,542	2.5	0.2	..	1.0	..	Mild.
Malabar	263	2.5	..	..	0.3	0.8	Do.
Nilgiris	3,612	10.7	0.6	..	0.3	..	Do.
North Arcot ..	1,780	18.7	0.3	..	5.0	0.1	Do.
Ramanathapuram ..	..	..	..	..	..	..	..
Salem	1,254	1.9	0.7	0.3	0.8	..	Mild.
South Arcot ..	429	..	..	..	..	..	Do.
Tanjore	1,463	1.3	..	..	1.3	..	Do.
Tiruchirappalli ..	675	3.5	..	2.5	1.3	..	Do.
Tirunelveli	184	25.6	16.0	2.0	17.0	..	Do.
Total	12,212	56.7	17.8	3.3	31.8	0.9	..
The average percentage of reaction observed.	..	6.3	2.4	4.0	3.5	0.1	..

Districts.	Number of indigenous birds vaccinated.	Reaction noticed in indigenous birds.					
		Drowsiness, per cent.	Diarrhoea, per cent.	Paralysis, per cent.	Stoppage of egg production.	Mortality, per cent.	Reaction mild or severe.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	
Madurai	6,669	1.0	..	0.1	..	..	Mild.
Malabar	494	1.6	..	..	..	..	Do.
Nilgiris	6,461	0.4	0.4	..	4.0	..	Do.
North Arcot ..	1,746	6.2	..	..	0.4	..	Do.
Ramanathapuram ..	1,698	..	..	..	3.5	..	Do.
Salem	2,434	1.0	0.3	0.2	0.3	..	Do.
South Arcot ..	883	..	..	..	..	..	Do.
Tanjore	2,761	..	..	..	..	..	Do.
Tiruchirappalli ..	1,873	..	1.0	..	0.5	..	Do.
Tirunelveli	185	2.0	12.0	..	15.3	..	Do.
Total	24,241	12.2	13.7	0.3	24.0	..	..
The average percentage of reaction observed.	..	1.2	1.4	0.03	2.4	..	..

(ii) *Immunity tests against both Ranikhet Disease and Fowl-pox*.—Immunisation of chicks of eight weeks age with the mixed reconstituted Komorove strain of Ranikhet Disease virus and the Beaudette strain of Fowl-pox vaccine was carried out and the results were found to be satisfactory.

(2) *Fowl-pox*.—As a result of field trials it was found that Pigeon-pox vaccine can be used both in free areas and outbreaks among chicks of 2 to 5 weeks old with satisfactory results.

(3) *Contagious Coryza*.—The incidence of this disease was observed in Poultry Research Station, Teynampet, Poultry Production Centre, Malli, and Arcot American Mission Poultry Farm, Katpadi. Treatment with Dihydro Strepto-mycin Disulphate in 0.2 gm. doses for adult and 0.06 gm. doses for chicks intramuscularly proved encouraging.

(4) *Avian Leucosis Complex*.—The incidence of the disease was noticed in Poultry Research Station, Teynampet, District Poultry Farm, Cannanore, Livestock Research Station, Hosur, and Poultry Production Centre, Malli. Only the exotic birds were found to be affected and the visceral form of this disease was observed in birds of 6 to 8 months of age.

(5) The control measure recommended was to weigh birds and to examine the blood smears periodically for culling those which lose weight and show numerous Lymphoid cells.

(6) *Parasitic infestation*.—With a view to maintain the parasitic infestation in poultry at the lowest level, the following measures were prescribed to be adopted in the poultry farms :—

(a) Burning the whole poultry yard or run with dried leaves or straw once a fortnight so that the ova of round worms and the intermediary host of tape worms may be destroyed.

(b) Dosing of birds with vermifuges for both tape and round worms.

(c) External application of Sodium fluoride or *Gaminaxene*.

(7) *Other diseases*.—The incidence of Tuberculosis and Salmonella Pullorum among Poultry was investigated through intradermal test and rapid whole-blood strain antigen method respectively. Out of 20 birds tested for the former and 450 for the latter, all proved negative.

Specimens examined.—Nine hundred and forty-seven specimens were examined during the period both in the field and at the laboratory, details of which are given below :—

Kind of specimens.	In the field.		Laboratory.	
	Number examined.	Number positive.	Number examined.	Number positive.
(1)	(2)	(3)	(4)	(5)
Blood Smears	668	52	39	4
Dropping sampled	152	102	10	4
Samples of organs	..	..	78	3

CHAPTER X—ANIMAL HUSBANDRY WORK IN NATIONAL EXTENSION SERVICE SCHEME (INCLUSIVE OF COMMUNITY DEVELOPMENT BLOCKS).

99. In the National Extension Service areas, the animal husbandry activities were tackled from all angles (viz.) breeding, feeding, management and disease control. The ryots of these areas were well advised either individually or collectively in meetings by the National Extension Service staff of this department for the betterment of their livestock, location of breeding male stock, opening of artificial insemination centres, Veterinary Institute, poultry units, distribution of exotic birds, eggs and grasses for raising at village level and protection of animals against contagious disease were also attended to on an intensive scale, the details of which are given below :—

The development of diary husbandry at village level was also carried out through individual approach of the ryots by the staff for advising them on the modern economic methods of feeding and

maintaining cows and buffaloes for milk purposes. But the economic benefits of this industry was brought home to the ryots in these areas mostly on collective basis by organizing co-operative societies, for the sale of dairy products. As the entire working of these societies are under the purview of the co-operative department the details on progress in this line will be found either in the report of the Co-operative department or that of National Extension Service Scheme.

(i) *Chingleput district*.—During the period there were 7 blocks at Kadambathur, Tiruvallur, Uthukkottai, Sriperumbudur, Thirukalikunram, Poonamallee and Maduranthakam.

There were 37 breeding bulls and 272 rams distributed all over these areas for stud purposes. Seven hundred and eighty exotic birds and 1,806 eggs were distributed in villages to develop backyard poultry units in rural parts. There were 10 poultry farms in these blocks. An artificial insemination centre was functioning in Tirukalikundram which was handed over to this department on 1st October 1956 on the conversion of Community Projects area into National Extension Service Blocks.

There were two veterinary dispensaries, two minor veterinary dispensaries and nine first aid centres in these block areas. Three thousand, seven hundred and seventy-six cases were treated and 988 castration were done at these institutions and while on tour by the staff. Twenty-one thousand, one hundred and ninety-seven inoculations were done to prevent the onset of contagious diseases of livestock. Three thousand, one hundred and seventy-five sheep were dewormed during the period.

(ii) *South Arcot district*.—There were 7 blocks during the period at Panruti, Chinnasalem, Kurinjipadi, Chidambaram, Valathi, Kallakurichi and Gingee. There were 21 breeding bulls and 46 rams located in these areas for stud purposes. Four hundred and fifty-three exotic birds were distributed for raising poultry units in rural parts. Three thousand three hundred and sixty-nine scrub male animals were castrated during the period.

The staff during the course of their tours in villages rendered treatment to morbid cases and thus 6,697 cases were treated during the period. Prophylactic vaccinations were carried out among livestock against epidemics and thus 9,961 animals were protected. There were 11 first aid veterinary centres located in these areas.

(iii) *North Arcot district*.—There were 6 blocks at Tiruvannamalai, Kalasapakam, Polur, K.V. Kuppam, Chetpet and Arcot, but no Extension Officer for animal husbandry was posted to the last 2 blocks opened this year.

In addition to the 23 breeding bulls and 37 rams located in these blocks in the previous year, 4 more breeding bulls and 42 rams were located during the year. There were 35 cocks, 74 hens and 81 chicks of exotic birds. Five hundred and seventy exotic eggs and 77 exotic cockerels for grading up were distributed. Five hundred and thirty-four scrub male breeding stock were castrated in the first aid centres while on tour by the staff.

There were four first aid centres in these areas located in villages in which 593 animals were rendered treatment. Besides this, the staff on tour rendered treatment to 359 animals, and protected 3,408 animals against diseases.

(iv) *Salem district*.—There were 6 blocks at Krishnagiri, Athoor, Kaveripatnam, Peddunaickenpalayam, Kolathur and Bargur.

There were 48 breeding bulls and 106 rams for stud purposes, located all over these blocks. Two hundred and eighty-two exotic birds and 2,807 exotic eggs were distributed in villages for raising backyard poultry units. One thousand, one hundred and three scrub animals were castrated by the staff while on tour.

During the year there were two minor veterinary dispensaries and 7 first aid centres. Three thousand five hundred and seventeen cases were treated at these institutions and while on tour by the staff. Inoculation against contagious diseases was undertaken both in outbreaks and free areas and thus 5,533 animals were protected. Five hundred and sixty-one sheep were dewormed.

(v) *Coimbatore district*.—There were 13 blocks during the period at Tiruppur, Palladam, Kangayam, Kundadam, Avanashi, Dharapuram, Sathyamangalam, Gobichettipalayam, Erode, Perundurai, Kodumudi, Modakkurichi and Bhavani.

There were 183 breeding bulls and 72 rams at stud distributed over the areas. Five hundred and one exotic birds and 1,602 eggs were distributed in villages for raising backyard units of poultry. Two cattle shows and two exhibitions were conducted. There were two poultry development units at Kavandapady and Malayampalayam.

Besides the veterinary hospitals and dispensaries located in these areas under this department, the staff working under this scheme treated cases, performed castrations and preventive inoculations. In all 16,869 cases were treated, 3,405 castrations were done. Thirty-six thousand six hundred and fifty-eight animals were protected against epidemics and 11,185 sheep were dewormed.

(vi) *Madurai district*.—There were 10 blocks during the period at Tirumangalam, T. Kallupatti, Usilampatti, Melur, Madurai, Dindigul, Athoor, Vadiapatti, Alanganallur and Bodi-naickanur.

There were 61 breeding bulls and 189 rams at stud during the period distributed in the block areas. The sheep breeding association at Thirumangalam with Karuvai rams and the goat breeding association at M. Podhanadhi with Tellicherry goats were continued to function well.

During the period 202 exotic birds and 1,741 eggs were distributed in villages for raising poultry units. The poultry unit at T. Kallupatti continued to function during the period with stock of 79 Rhode Island Red birds and 48 graded ones.

There were 12 first aid centres functioning during the period. Fifteen thousand three hundred and one animals were treated and 1,832 castrations were done by the staff in these institutions as well as during their tours in rural areas. Twenty-four thousand two hundred and forty-nine animals were protected against epidemics and 7,490 sheep were dewormed.

(vii) *Tirunelveli district*.—There were 7 blocks at Sankarankoil, Kuruvikulam, Koilpatti, Vallyoor, Cheranmahadevi, Tirunelveli and Radhapuram.

In addition to the existence of 14 breeding bulls and 21 rams for stud purpose in these areas since last year 3 more bulls were added to this list. Besides these bulls, one artificial insemination centre with two sub-centres at Cheranmahadevi were functioning which were handed over to this department on 1st October 1956 on the conversion of this block from community development to National Extension Service type. Three poultry demonstration units were maintained in 3 blocks at Sankarankoil, Kuruvikulam and Kovilpatti, 276 exotic birds were supplied in villages for raising backyard poultry units.

Treatment of ailing animals and castration of scrub animals were undertaken at the veterinary dispensaries and first aid centres located in these blocks and also by the staff in villages during the course of their tours. Thus 790 morbid cases were treated and 435 castrations were done. Nine thousand eight hundred and sixty-six animals were protected against epidemic diseases.

(viii) *Kanyakumari district*.—There were 2 blocks at Suchindram and Munichera.

There were 2 breeding bulls and 2 Surti bucks for stud purposes. A poultry demonstration unit is functioning at Kottarum. Steps were taken to open an artificial insemination centre also in one of the blocks 1,050 exotic birds were distributed in villages.

There were 2 veterinary dispensaries in block areas. One thousand seven hundred and seventy-nine cases were treated and 1,127 castrations were done. Nine thousand and two animals were protected against contagious diseases.

(ix) *Tiruchirappalli district*.—There were 7 blocks in the district at Vellianai, Alangudi, Karur, Musiri, Perambalur, Thottiam and Thirumanur.

There were 75 breeding bulls and 31 rams at stud located at various centres of these areas. Fourteen poultry units of exotic birds were maintained. One thousand eight hundred and fifty-six exotic birds and 130 eggs were supplied in villages for raising backyard units.

In addition to the veterinary institutions of the department in these areas, 13 first aid centres were also run in these blocks under scheme. Three thousand seven hundred and ninety-nine ailing animals were treated at these centres and as well as in villages visited by staff on tours. Prophylactic vaccinations against contagious diseases of animals were undertaken both in outbreaks and free areas and thus 10,493 animals were protected against various diseases during the period.

(x) *Tanjore district*.—There were 9 blocks covering the whole of Tanjore district at Kumbakonam, Mayuram (East and West), Papanasam (South and North), Sirkazhi, Vedaranyam, Tiruthuraiipoondi and Pattukkottai.

There were 44 breeding bulls and 11 bucks located in these areas for stud purposes. The 2 artificial insemination centres at Kumbakonam and Mayuram with the sub-centres each, continued to function well. The livestock improvement centre started in the

last year at Alathamabadi continued to function well with the Umbalchery and Murrah buffalo bulls. Two hundred and fifty-seven exotic birds and 827 eggs were distributed in villages for raising backyard units. A poultry farm at Kothangudy of Kumbakonam North Block was opened during the period. The poultry production centre at Saliyamangalam situated in the block areas continued to serve the needs of the people in that areas.

Ten thousand seven hundred and eighty-one ailing animals were treated and 1,144 castrations were performed in villages by the staff while on tour and in first aid centres as well. Prophylactic vaccinations were undertaken and thus 30,594 animals were protected.

(xi) *Ramanathapuram district*.—There were 10 blocks in the district at Srivilliputhur, Rajapalayam, Sivakasi, Singampuneri, Devakkottai, Kamuthi, Kalayarkoil, Tiruvadanai, Ariapatti and Virudhunagar.

In addition to the 34 breeding bulls and 35 rams located in these areas during last year, 4 breeding bulls and 13 rams were located during the period. One artificial insemination centre was opened by the department at the Veterinary Dispensary, Virudhunagar. In addition to the maintenance of poultry production centre at Malli, distribution of exotic birds and eggs in villages was undertaken and thus 114 birds and 974 eggs were supplied during the period.

There were 7 first aid centres functioning in these areas under the scheme in addition to the departmental institutions. Five thousand seven hundred and eighty-six cases were treated at these centres and while on tour also by the staff. Twenty-eight thousand six hundred and fifty-seven animals were protected against contagious diseases.

(xii) *Nilgiris district*.—There are 3 blocks in the district at Ootacamund, Coonoor and Gudalur.

There were 25 breeding bulls and 35 rams at stud located all over these areas. Cross-breeding scheme continued to function at Ootacamund for improving the local cattle by introducing foreign blood through artificial insemination. There were 15 poultry units in these areas. One hundred and forty-one exotic birds and 193 exotic eggs were supplied in rural areas for raising backyard units.

In addition to departmental institutions, there were 4 first aid centres. Nine thousand three hundred and eighty cases were treated and 375 castrations were performed at these centres and by the staff while on tour prophylactic vaccination were carried out and thus 17,631 animals were protected during the period.

CHAPTER XI—VETERINARY PUBLIC HEALTH.

100. The public health activities on veterinary aspect were partly under the purview of this department which consisted of inspection of milking yards and milch animals belonging to public institutions, inspection of meat at abattoirs and inspection of lethal

chambers maintained by municipalities. These activities were carried on through the Veterinary Assistant Surgeons of this department.

(a) *Inspection of milch animals.*—The general health of milch animals belonging to 53 co-operative milk supply unions and societies were examined by the staff during the period. The owners of these animals were also given advice on proper maintenance with judicious feeding and breeding.

The milking yards in the Government human hospitals and the animals brought there for milking were also inspected for their hygienic maintenance in good condition and general health. Thus 55 institutions were inspected during the year by the staff.

(b) *Inspection of meat.*—With a view to ensure the supply of good and hygienic meat for consumption, inspection of animals prior to slaughter and carcasses after slaughter, by the qualified veterinary personnel was insisted upon with the local boards and municipalities which maintained public abattoirs. Thus on a part-time basis 75 slaughter-houses maintained by panchayats and municipalities were under the supervision of Veterinary Assistant Surgeons.

The animals were examined ante-mortem for their fitness for slaughter. Thus 12,424 cattle, 191,444 sheep, 114,245 goats and 230 pigs were inspected ante-mortem and 318 cattle, 6,291 sheep and 11,593 goats were condemned as unfit for slaughter.

After the slaughter of animals, the carcasses were examined before passing the same as fit for consumption. As a result of these examinations, 11,230 carcasses either in whole or in parts were condemned as unfit for consumption during the period.

(c) *Lethal chambers.*—The various municipalities in the state maintain lethal chambers for the destruction of stray dogs, and thereby controlling the incidence of rabies in dogs and the risk of spread of this disease to human beings. This department through its staff provides for the technical advice, and inspection for the proper working and maintenance of these chambers. Thus during the period 43 lethal chambers in which 2,970 dogs were destroyed, were inspected and necessary advice and suggestions were given on the proper destructions of dogs and the upkeep of those lethal chambers.

CHAPTER XII—PROPAGANDA.

(i) Propaganda Unit.

101 Propaganda paves the way for progress and its importance is more so in this "Planning Era" of fixing targets and achieving progress in the plan period. The expansion of the department year after year in all angles was considerable and likewise much had been done on the side of educating the illiterate and conservative ryots of the rural parts to take up readily the modern methods in development, care and management of livestock. Besides attending to the various aspects like veterinary education, disease control and treatment, investigation and research, development of livestock, etc., attention was also focussed well upon the propaganda aspect with a

view to impress upon the ryots on the advantages and the need for adopting scientific and modern methods in animal husbandry, in the interest of the prosperity of the nation.

This aspect of work was carried on (i) in almost all the villages of the State through mass contact in village meetings or personal contacts with distributions of printed leaflets in regional languages during the course of routine tours by the technical personnel in this department and in National Extension Service and Community Projects schemes as well, (ii) through organizing exhibitions on the eve of all departmental functions like cattle shows, annual day celebrations, various conferences and in the leading Swadeshi and industrial exhibitions organized in different parts of the State, (iii) through audio-visual medium and (iv) through the conduct of livestock shows and calf rallies.

For the purpose, a small propaganda unit consisting of a Veterinary Assistant Surgeon and two artists, with the equipment for photography and audio-visual education was functioning during the period. The main functions of this unit were (i) to participate in leading exhibitions of the State, (ii) to prepare leaflets, charts, posters, maps, models, etc., for exhibitions and supply to district staff, and (iii) to screen educational films on animal husbandry in various parts of the State.

During the period, the following leaflets, posters, maps and photographs were prepared:—

(a) *Leaflets.*—Translation of the "Farm News Release" issued by Indian Council of Agricultural Research was undertaken and the following were translated and distributed to the departmental officers:—

Farm News Release Nos. 44, 49, 52, 55, 58, 62, 65, 85, 88, 91 and 97.

(b) *Posters, charts and maps.*—The following posters and charts were prepared during the period:—

(1) Plan of a model dairy	...	...	...	1
(2) Plan of Milking Shed	...	...	...	1
(3) District Maps showing bifurcated districts	...	...	...	13
(4) Graph showing the percentage of services in the different species	...	...	...	1
(5) Location of Artificial Insemination Centres in the State	...	...	...	1
(6) Map showing the Key Villages	...	...	...	2
(7) Kangayam, Sindhi, Statistics graphs	...	...	...	21
(8) Sheep charts	...	...	...	6
(9) Folders for Agricultural workshop seminar	...	...	...	4
(10) Milk posters	...	...	...	4
(11) Bifurcation of districts	...	...	...	5

The following models were also prepared for exhibition purposes:—

(1) Model of poultry farm with illumination arrangements in glass case	...	...	...	1
(2) Model of dairy farm with illumination arrangements in glass case	...	...	...	1
(3) Display stands with Celotax boards for graphs, maps, etc.	...	...	...	6

- (4) One display stand for transport photographs with illumination arrangements 2
- (5) Display stands for graphs on perspex sheets with illumination arrangements 2

Photographs were taken on the following events and places :—

- (1) District Cattle Show, Karaikudi.
- (2) Opening of the stockmen course at Orathanad.
- (3) Opening of the stockmen course at Pudukkottai.
- (4) Chinese Delegation's visit to Kangayam.
- (5) Gosamvardhana Day Celebrations, Madras.
- (6) District Cattle Show, Chingleput.
- (7) District Cattle Show, Madurai.
- (8) District Cattle Show, Salem.
- (9) Workshop Seminar, Coimbatore.
- (10) Umbalachery Tract, Tanjore.
- (11) Calf Rally, Coimbatore.
- (12) First Madras State Cattle Show.

(ii) *Livestock shows.*

102. During the period under report the First Madras State Cattle Show, the Second State Poultry Show, 9 district cattle shows, 39 one day cattle shows, 12 sheep shows and calf-rallies were conducted all over the State and thus the department had at all levels, viz., villages, districts and State, created an enthusiasm for the upkeep of species of domesticated livestock by the ryots.

(1) *One day cattle shows.*—These shows were commonly arranged at either taluk or firka or village level in various places of the State and usually as a part of the programmes during the celebrations like More Milk Day, Gosamvardhana Week, Pongal Weeks, etc., or at the time of local fairs, or festivals. Though termed as a "Cattle Show", all species of livestock, viz., cattle, sheep, goats, poultry, etc., were also included in the list of exhibits. Thus 39 cattle shows were held during the period of which 9 were conducted by agencies other than this department. These shows were organized with the enthusiastic co-operation and donations from the public, supplemented with the contributions to the tune of Rs. 100 to Rs. 200 from the Government. A total number of 8,753 animals belonging to various species of domesticated livestock participated in these shows. One thousand seven hundred and thirty-eight prizes were awarded to the best and well-kept ones to a value of about Rs. 7,500.

(2) *District cattle shows.*—During the period under report the programme of conducting cattle shows at district level as envisaged in the Second Five-Year Plan of the department was carried out in the following districts :—

Tirunelveli, Salem, Tiruchirappalli, Nilgiris, Tanjore, North Arcot, Chingleput, Madurai and South Arcot.

For these shows, the Government were pleased to sanction a sum of Rs. 2,000 for each show. These shows were organized with the co-operation of the public and their donations. In these

shows, a total number of 3,860 animals participated out of which 1,296 were awarded prizes to the tune of about Rs. 13,000.

(3) *First Madras State Cattle Show and Second State Poultry Show.*—Under Second Five-Year Plan, a cattle show at State level, first of its kind in India, was conducted for the benefit of the breeders and livestock-minded public in the State. The State Government was pleased to sanction a sum of Rs. 14,000 towards the conduct of the show. The Animal Husbandry Department with co-operation of the breeders and elites of the State organized the show on a grand scale with success during the period from 22nd to 25th March 1957. Encouragement for participation in the shows was given to the breeders and other participants affording railway concession for the transport of animals.

The show was inaugurated by Sri M. A. Manickavelu Naicker, Minister for Revenue, Madras State. On account of the huge number of prizes awarded, the prize distribution had to be done on two days (25th and 26th March 1957) in the presence of Sri M. Bhaktavatsalam, Minister for Agriculture, and Sri C. Subramaniam, Minister for Finance and Education, on 25th and 26th March respectively.

The following breeds of cattle, sheep and goats were scheduled for exhibition at the show :—

(a) Cattle—	(b) Sheep—	(c) Goats—
Sindhi.	Pellary.	Milch goats.
Gir.	Nilgiris.	Mutton type.
Kangayam.	Romney Marsh.	
Umbalachery.	Coimbatore.	
Punganur.	Mecheri.	
Hallikhar.	Mandya.	
Bargur.	Kilkaruvai.	
Ongole.		
Murrah.		
Exotic breeds.		

The services of the leading men (official and non-official) in Animal Husbandry were requisitioned to take up the task of judging the exhibits for award of prizes. A total number of 402 animals from all over the State belonging to both small and big breeds in the State and Government farms, participated in the show. Three hundred and six prizes by way of rolling silver cups, individual silver cups and medals and certificates were awarded in the show. The enthusiasm evinced on the part of the public could be judged from the fact that a good number of rolling cups were donated by them.

It is worthy of mention that "Students Judging Competition" was also organized taking advantage of the conduct of this show and the Final Year students of the Madras Veterinary College took part in team of four. The winner and runner-up teams were awarded Rolling Shields donated by the Madras Veterinary Association and the Veterinary Assistant Surgeon Services Association respectively.

The Kangayam cow from the Palavakottai Cattle Farm owned by Sri N. Nallasenanathi Sarkarai Manradaiar, Palavakottai, Erode, was adjudged the best animal in the show and was

awarded the supreme Championship prizes. The Murrah buffalo bull from the District Livestock Farm, Orathanad, was adjudged the best animal of the show among the opposite sex. A Sindhi cow belonging to the Livestock Research Station, Hosur Cattle Farm, won the special gold medal.

(4) *Poultry Show*.—In addition to the "One Day Cattle Shows" and "District Cattle Shows" wherein poultry exhibits also competed, the second Madras State Poultry Show was organized along with the First State Cattle Show in Madras during March 1957.

A good number of fine birds were exhibited from all over the State reflecting upon the enthusiasm and development of poultry keeping as an adjunct to agriculture, all over the State. In all, 386 birds belonging to 13 breeds of exotic varieties competed, of which 144 were awarded prizes comprising of cups and medals to the tune of Rs. 2,000. Six rolling cups and shields donated by elites of the city interested in poultry development were also awarded to the best exhibits in the show.

(5) *Sheep shows*.—During the period under report sheep shows were conducted in 12 centres of the State with the sanction of the Government. These shows were organized by the department with the Government contribution of Rs. 200 for each show supplemented with the public co-operation through donation. The following are the centres where these shows were organized:—

Name of place.	Name of district.
Vengambakkam	Chingleput.
Chinnasealem	South Arcot.
Gudalur	Tiruchirappalli.
Veppanthattai	
Mellachnidalaichen	
Siddireddipatti	Madurai.
Vedasandur	
Vettaikkaranpudur	Coimbatore.
Sulur	
Agondapalli	Salem.
Mocheri	
M. Reddipatti	Ramanathapuram.

In all, 8,654 animals, mostly in flocks participated in these shows out of which 664 were awarded prizes to the tune of about Rs. 2,000.

(6) *Calf rallies*.—In the key village scheme areas and areas where the artificial insemination work is in operation, these calf shows were arranged during the year with a view to overcome the general aversion among public against the artificial insemination and to create an enthusiasm for raising better calves to-day and thereby paving the way for the better cattle of the future.

A total number of 8,068 animals participated in 18 calf rallies-cum-cattle shows conducted during the year with the Government contributions and the donations from others. Three thousand, two hundred and seventy-eight prizes were awarded at a total cost of about Rs. 9,000. A sum of Rs. 6,734 was sanctioned by the Government towards the conduct of these rallies.

(7) "*Gosamvardhana Week*".—The Gosamvardhana Week which was organized for the first time in 1952 by the Central Council of Gosamvardhana in connection with Gopashtami, had since become an annual feature, and thus during the year under report, this week was celebrated between 3rd to 11th November 1956 all over the State. Throughout the State the celebration was gone through by holding cattle shows, exhibitions of cattle feed, equipments, fodder preservation, meetings for educative propaganda on proper management of cattle, breeding, feeding, and prevention of epidemics. During the year, a special emphasis was made on "Grow More Fodder" and "Produce More Milk". During the week 17 cattle shows were conducted by this department one in each of the Government livestock farms and districts at a total expenditure of Rs. 5,498 realized through Government contribution and public donations. A total sum of Rs. 4,000 was sanctioned by the Government for the purpose of the celebrations all over the State, of which 50 per cent was met by the Central Council of Gosamvardhana. A total number of 3,987 exhibits took part in these cattle shows, of which 1,077 were awarded prizes to the value of Rs. 3,703. Along with the cattle shows, public meetings and film shows were conducted at the various places besides the free distribution of milk to the poor folk and children on these days.

(8) *Agricultural Week celebrations*.—During the period of the active participation in the "Agricultural Week celebrations" during the Pongal season was exhibited by the department by arranging cattle shows, departmental exhibitions, public meetings, etc., all over the State. Thirteen cattle shows were conducted one in each of the districts and one in the Livestock Research Institute, Hosur and one at Anamalais through the local cattle society for which Government was pleased to sanction a sum of Rs. 3,300. A total number of 3,580 animals of various species participated in the show of which 661 were awarded prizes to the tune of Rs. 2,630.

(iii) Exhibitions.

103. Holding of exhibitions was one of the media utilized during the year for propagating the ideas on animal husbandry on modern economic lines and activities of the department, for which the function of the department was missed to be made use of for this purpose at all levels (viz.), village, taluk, district and State level. Exhibitions with posters, photos, models, museum specimens, samples and living specimens like poultry were arranged during the one-day district and State cattle shows, calf rallies, sheep shows, and Gosamvardhana, more milk day and Pongal week celebrations. In addition to the departmental functions, the fairs and functions of public interest were also well utilized. Thus the departmental exhibitions were held at the following places:—

- (1) Centenary Exhibition of the University of Madras at Guindy.
- (2) State cattle and poultry shows at Madras.
- (3) Industries and Agricultural Fair at Coimbatore.
- (4) Village Leaders Training Camp at Kamudhi.
- (5) Bathrakaliamman Festival at Sivakasi.
- (6) Hospital Day celebration at Chingleput.

(iv) *Film shows.*

104. Audio-visual method of propaganda was also adopted during the period with the kind co-operation of United States Information Service, Madras, who were kind enough to give on loan now and then a cine-projector with films. These shows on animal husbandry matters were organized in almost all the exhibitions in several cattle shows and during annual departmental celebrations like "Gosamvardhana Week", "More Milk Day", etc. Besides these, special shows were also arranged in rural parts exclusively for the benefit of ryots in the interior villages. Film shows were also organized during the following events also :—

(1) Inauguration of stockmen course centres at Orathanad and Pudukkottai.

(2) Visit of Chinese Delegation at Kangayam.

(3) Extension lectures at Annamalai University, Chidambaram, by the Director of Animal Husbandry, Madras.

CHAPTER XIII—STATISTICS.

105. *Study on the birth weight of calves of Sindhi and Kangayam breeds with particular reference to their variation from calving to calving.*—The above study was undertaken with a view to find out the influence of sex of calf, breed and also the age of the dam on the birth weight of calves.

Sindhi.—In the case of Sindhi breed 987 records were studied and the data on birth weight of calves were collected, tabulated and analysed. The number of records studied for each calving and the average birth weight of calves are given below :—

TABLE No. I.—Data on birth weight of calves classified for each calving.

Order of calving.	Number of individuals.	Average birth weight in lb.	Standard error.
I	262	45	0.443
II	257	46	0.363
III	163	46	0.446
IV	123	46	0.348
V	104	47	0.325
VI	78	46	0.300

Overall weighed average : 46 lb.

Practically there is no variation in birth weight of calves from calving to calving. It may also be pointed out that the birth weight of calves remains more or less stationary in the latter calvings of the cows. Thus it can be said that the age of the cow does not in any way influence the birth weight of calves born.

The data on birth weight collected above was further studied and analysed with a view to find out the influence of sex on this character. Five hundred and sixteen calf history sheets of bull

calves and 480 calf history sheets of heifer calves were examined and the average birth weight was tabulated monthwar, as indicated below :—

TABLE No. II.—Data on birth weight (sex-war).

Months.	Bulls.		Heifers.	
	Number of individuals.	Average birth weight in lb.	Number or individuals.	Average birth weight in lb.
January	29	47	45	45
February	36	47	37	44
March	40	46	33	44
April	42	45	37	43
May	50	46	40	46
June	36	46	36	44
July	47	47	38	46
August	54	47	52	45
September	44	48	41	46
October	41	48	39	46
November	50	47	34	46
December	47	47	43	46

Weighed average for bull calf : 46.75 lb. Heifer calf : 45.03 lb.

Students' 't' test was applied to find out whether there is any variation in birth weight between bull calves and heifer calves, on the assumption that dams, calved in a particular month are subject to the same amount of environmental factors. A highly significant result was obtained indicating that the male calves average heavier than female calves, by about 1.67+0.23 at birth. Hence it may be concluded that sex of calf has influence on the birth weight of calves.

Incidentally with a view to find out the conformity of the observed ratio of sex calves to the expected, sex ratio of 1:1 X2 test of significance was applied and the calculated X2 value was not significant indicating thereby that the observed ratio of sex of calves, namely, 516:480 was absolute conformity with the expected ratio of 1:1 as per the theory of inheritance.

Kangayam.—In the case of Kangayam breed, 1,427 records were studied for birth weight and the data were tabulated and analysed. The number of records studied for each calving and the average birth weight of calves are given in the following table :—

TABLE No. III.—Data on birth weight classified on each calving.

Order of calving.	Number of individuals.	Average birth weight in lb.	Standard errors.
I	369	44	0.368
II	254	45	0.335
III	269	45	0.232
IV	160	46	0.328
V	139	46	0.382
VI	123	46	0.360
VII	95	46	0.443
VIII	78	45	0.501

Overall weighed average : 45 lb.

From the above table it may be seen that there is practically little variation between calving to calving in respect of birth weight of calves. Therefore the same conclusion as for Sindhi

namely, that the age of the dam does not have any influence on the birth weight of calves is also observed in Kangayam also.

The data on birth weight were again studied to assess the influence of sex on the birth weight of calves as in the case of Sindhi. The average birth weight data were classified monthwar as given in the following table:—

TABLE No. IV.—Data on the birth weight (sex-war.)

Months.	Bulls.		Heifers.	
	Number of individuals.	Average birth weight in lb.	Number of individuals.	Average birth weight in lb.
January	60	46	60	45
February	53	46	60	43
March	68	44	58	43
April	70	45	64	43
May	87	45	59	45
June	64	46	57	45
July	68	46	65	46
August	99	46	69	45
September	61	45	64	45
October	63	46	54	45
November	50	46	49	45
December	52	46	54	45

Weighed average birth weight for bull calf—45.58 lb.

Weighed average birth weight for heifer calf—44.58 lb.

As in the case of Sindhi 't' test was applied to the above data and the result was highly significant indicating thereby the existence of variation in birth weight between a bull calf and a heifer calf. In other words it may be concluded as in the case of Sindhi that bull calves average is heavier than heifer calves at birth by 1.00+0.25 lb. This conclusion lends support to the belief that sex of calf has got decisive influence on birth weight of calves.

Having studied the records of Sindhi and Kangayam for birth weight of calves, it was considered necessary to assess the influence of breed on the birth weight. Accordingly two sample 't' test was applied to the data and the results and their interpretation are given below:—

It was found that 't' value was not significant indicating thereby the little difference in birth weight of calves between the two breeds of Kangayam and Sindhi. In other words, the breed does not have any influence on birth weight of calves, so far as Sindhi and Kangayam are concerned.

The above study is useful in revealing the significance of the factors like sex, breed and age of the cows on the birth weight of calves.

106. Study on the gestation period of cows of Sindhi and Kangayam at the Livestock Research Station, Hosur, and its variation with the order of lactation—Sindhi.—One thousand eight hundred and seventy-nine records of Sindhi were studied for gestation

period and the data of average gestation period were classified under each lactation as indicated in the following table:—

TABLE No. V.—Data on gestation period (lactationwar).

Order of lactation.	Number of individuals studied.	Average gestation period in days.
I	513	281
II	441	282
III	316	283
IV	233	282
V	173	282
VI	124	282
VII	79	283

Overall average gestation period: 282 + 0.52 days.

From the above table it may be seen that there is little variation in gestation period from lactation to lactation. In other words, it can be said that the order of lactation does not have significant influence on the gestation period.

Kangayam.—In the case of Kangayam breed 2,111 records were studied for the character of gestation period and the data on average gestation period were classified for each lactation as indicated in the following table:—

TABLE No. VI.—Kangayam—Data on gestation period (lactationwar).

Order of lactation.	Number of individuals studied.	Average gestation period in days.
I	619	284
II	483	284
III	371	284
IV	283	285
V	232	285
VI	183	285
VII	141	285
VIII	97	286

Overall average gestation period

It may be seen from the above table, that there is practically no variation at all in gestation period from calving to calving, as in the case of Sindhi. In other words it may be said that the order of lactation does not have any influence whatsoever on the gestation period of the respective dams.

107. Correlational study on the relationship between the calving interval and milk yield of the succeeding lactation in respect of Sindhi and Kangayam breeds—Sindhi.—With the object of studying the extent of relationship between the calving interval and the milk yield of the succeeding lactation, data on the number of days in milk and the corresponding number of days dry, pertaining to the first lactation, were tabulated and made use of for calculating the calving interval in respect of 311 cows. Similarly data on milk yield of the second lactation of all the 311 cows were tabulated. A correlation table was formed with the above data of calving interval and the milk yield of the second lactation, with a view to

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study the correlation of these two factors. The correlation coefficient was highly significant thereby indicating the strong association between calving interval and the succeeding lactation yield. Having found out this correlation highly significant, it was considered necessary to find out the nature of the underlying relationship between these two varieties and also the extent of dependence of one variety, namely, milk yield on the other variety, namely, calving interval. Consequently the study of regression was taken up and the regression coefficient was calculated and found to be highly significant. Assuming a linear relationship between the two factors, the regression equation was formed as indicated below:—

$$Y = \bar{y} + b_{yx} (x - \bar{x})$$

Where Y is equal to the quantity of expected milk yield for the succeeding lactation and $\bar{y}$ is equal to the average milk yield of the lactation. b_{yx} is equal to the regression coefficient of milk yield on the calving interval. y is the milk yield and x is the calving interval.

$\bar{x}$ is the average calving interval since $\bar{y} = 3660$, $b_{yx} = 2.45$ and $\bar{x} = 527.5$ the equation becomes $y = 2367.62 + 2.45 x$ where x = the calving interval in days.

From the above equation it is quite possible to forecast the milk yield of a particular lactation from the preceding period of calving interval; but the application of this equation has got certain limitations depending on the economic factors such as feeding and management.

108. *Study on the first lactation yields of cows calved in different months of a year to find out the variability in milk yield.*—On the whole 472 lactation records of Sindhi were studied and the first lactation yields of cows born in different months of a year were collected and analysed. The average monthly yields of cows together with the standard error and the coefficient of variation are given below for all the 12 months in a year:—

TABLE NO. VII.—Average first lactation yields of Sindhi cows calved in different months.

Months.			Number of individuals.	Average yield in lb.	Standard error.	Coefficient of variation.
January	..	..	29	3,660.8	272.5	40.2
February	..	..	37	3,788.4	204.5	32.9
March	..	..	44	3,874.1	161.4	27.5
April	..	..	37	3,594.2	218.7	37.1
May ..	..	..	36	3,691.5	186.8	30.4
June ..	..	..	29	3,656.9	185.3	27.4
July ..	..	..	36	3,430.4	192.3	33.6
August	..	..	30	4,048.6	248.5	33.8
September	..	..	49	3,441.7	180.4	36.7
October	..	..	62	2,997.1	166.9	44.0
November	..	..	39	3,881.1	247.2	39.5
December	..	..	44	3,104.0	165.1	35.1

From the above table it may be seen that the milk yield is highest in the month of August and the lowest in October. There appears to be much variation between months with respect to milk yield indicating the influence of season on the performance of cows.

109. *Study on the daily individual milk yield of Sindhi and Kangayam breeds and its variation from month to month from the date of calving—Sindhi.*—Particulars of individual daily milk yield of cows were collected from cattle yard milk record sheets in respect of 117 cows and the data were classified monthwar from the date of calving and analysed. The results obtained in the analysis are given below:—

TABLE NO. VIII.—Daily individual average milk yield of Sindhi cows.

Number of month from calving.	Number of individual.	Average monthly yield in lb.	Average yield (daily) in lb.
First month	112	430.0	14.3
Second month	112	453.8	15.1
Third month	111	440.0	14.7
Fourth month	110	407.1	13.6
Fifth month	108	373.2	12.4
Sixth month	107	346.3	11.5
Seventh month	105	313.1	10.4
Eighth month	99	264.9	8.8
Ninth month	84	211.9	8.1
Tenth month	55	245.4	8.2

From the above table it may be seen that the highest daily milk yield is 15.1 lb. (second month) and the lowest yield is 8.1 (9th month). It may be interesting to note that the peak individual yield is reached in the second month of calving and thereafter there is a gradual decrease up to the eighth month of calving. There is actually no difference in yield between the ninth and the tenth months of calving. Further analysis reveals that in the first four months from date of calving, the cow gives approximately half of the total milk yield which she can give for the complete lactation (vide Graph I).

Kangayam.—In the case of Kangayam breed, similarly the data of individual daily milk yield were collected in respect of 116 cows and the data were tabulated and analysed. The results of analysis are given in the following table:—

TABLE NO. IX.—Daily individual average milk yield of Kangayam cow.

Number of month from calving.	Number of individuals studied.	Average monthly milk yield.	Daily individual milk yield.
First month	99	214.8	7.2
Second month	112	233.2	7.8
Third month	111	217.2	7.2
Fourth month	108	201.2	6.7
Fifth month	107	188.5	6.3
Sixth month	104	170.0	5.7
Seventh month	97	138.0	4.6
Eighth month	73	132.3	4.4
Ninth month	29	118.6	4.0

From the above table it may be seen that the highest daily milk yield is 7.8 lb. (second month) and the lowest yield is 4.0 lb. (ninth month). The results obtained in this breed are also in accordance with the results of Sindhi (vide Graph II).

110. *Study on fat percentage of milk with special reference to its variation from date of calving.*—Particulars of fat percentage of milk in respect of 117 Sindhi cows were collected from cattle yard milk record sheets and the data tabulated monthwar and analysed. The average fat percentage obtained for each month from date of calving is given in the following table along with the number of individuals studied :—

TABLE NO. X.—Fat percentage of milk—sindhi breed.

Number of months from calving.	Number of individuals studied.	Fat percentage.
First month	84	3.7
Second month	106	3.9
Third month	101	4.1
Fourth month	99	4.4
Fifth month	102	4.5
Sixth month	98	4.7
Seventh month	101	4.6
Eighth month	101	4.6
Ninth month	85	4.7
Tenth month	81	4.9

A cursory examination of the above table reveals that the lowest fat percentage is 3.7 (first month) and the highest is 4.9 (tenth month). From the first month of calving there is a gradual increase in fat percentage up to the sixth month of calving and then there is a slight decrease in the seventh month and eighth month and again there is an upward trend in the ninth month and tenth month of calving, the maximum fat percentage being reached in the tenth month.

The above study will be useful to study the trend in fat percentage from month to month from the date of calving.

111. *Correlational and regression studies on the association between the daily milk yield of First Lactation month and that of total lactation yield in respect of Sindhi and Kangayam breeds—Sindhi.*—With a view to find out the possibility of predicating the total lactation yield of a cow from its performance in the first month of calving, particulars of milk yield for the first month of calving and the total lactation yield were collected in respect of 80 Sindhi cows and the data analysed statistically. First of all in order to find out the possible relationship between these two factors, the correlation coefficient was calculated and found to be 0.8210 which was highly significant. This result indicated that there is a strong associations between these two factors, namely, first month yield and the total lactation yield. Subsequently the regression coefficient was worked out and found to be 0.8993 which was highly signi-

ficant by 't' test. Assuming the regression to be linear, the regression equation was formed as given below :—

$$(Y = \bar{y}) = b_{yx} (x - \bar{x})$$

$$Y = \bar{y} + b_{yx} (x - \bar{x})$$

$$Y = 13.00 + 0.8993 (x - 14.58)$$

$$Y = 0.8993 x - 0.11$$

$$\bar{Y} = 269.79 - 33.00$$

where Y = the expected daily average yield for a lactation and Y = the expected lactation yield and is got by multiplying Y by 300 (lactation length) and x = the daily yield in the first month of lactation.

From this equation it is possible to forecast the total lactation yield of a cow from its daily yield in the first month of lactation. This factor is of great economic importance because a breeder can easily assess the milking potentialities of a cow for the particular lactation on the basis of its daily yield in the first month of lactation (vide Graph III).

Kangayam.—Similarly for Kangayam breed also data of daily milk yield in the first month of lactation and the total lactation yield were collected in respect of 89 cows and analysed. Correlational study revealed that the calculated coefficient of the value of 0.8390 was significant. Subsequently regression study revealed the regression coefficient also to be highly significant. With this regression coefficient the regression equation was formed as indicated below :—

$$Y = \bar{y} + b_{yx} (x - \bar{x})$$

$$Y = 6.39 + 0.8465 (x - 7.39)$$

$$Y = 0.8465 x + 0.13$$

$$Y = 253.95x + 39$$

where Y stands for the expected daily average for the lactation yield.

Y stands for the expected lactation yield and is got by multiplying Y by 300 and x stands for the daily average yield in the first month of the lactation.

From this equation, as in the case of Sindhi it is quite possible to forecast the lactation yield of a Kangayam cow from its daily milk yield in the first month of lactation (vide Graph IV).

112. *Tabulation of veterinary data pertaining to the incidence of contagious and infectious diseases in various districts in the State during the year 1956-57.*—In order to have an idea about the disease position in the State, data on the incidence of infectious and contagious diseases that affect the livestock of the State were compiled districtwar for the year 1956-57 as indicated below :—

Graphs V and VI show the daily average milk yield for the lactation period and the calving interval for Kangayam and Sindhi breeds of cattle at Livestock Research Station, Hosur.

TABLE No. XI.—Showing the number of outbreaks and the incidence of mortality among livestock of the State during 1956-57.

Dist. etc.	(1)	Black quarter.		Haemorrhagic Sep.		Anthrax bovines.		Surra bovines.		Foot and Mouth.		Sheep pox.		Rinderpest.		Anthrax Sheep.		(Sheep) Foot and Mouth.		Goat pox.		Ranikhet Disease.		Fowl pox.	
		O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.	O.	D.
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)												
Madras ..	..	2	2	6	17	1	1	1	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput ..	..	42	139	131	677	7	35	1	..	8	77	10	360	..	..	..	..	..	..	..	..	..	..	..	..
South Arcot ..	..	59	289	136	601	9	63	2	12	1	..	1	5	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	..	87	344	41	197	16	72	17	50	5	9	8	88	..	..	..	..	..	..	..	..	..	..	..	..
Tanjore ..	..	27	85	117	642	..	..	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tiruchirappalli ..	..	172	674	92	361	1	3	1	7	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Madurai ..	..	43	110	52	207	1	8	2	2	7	7	7	22	10	68	3	19	3	12	..	..	..	..	..	..
Ramanathapuram ..	..	68	324	35	194	..	..	4	10	..	..	7	55	3	47	26	432	..	..	..	..	..	..	..	..
Tirunelveli ..	..	45	175	30	146	1	15	1	..	9	..	2	..	10	266	13	225	1	3	..	..	..	..	..	..
Coimbatore ..	..	29	97	6	22	1	2	..	..	5	1	6	27	4	42	1	19	..	..	..	..	..	..	..	..
Nilgiris ..	..	7	12	2	5	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erode ..	..	28	81	1	4	3	5	..	..	13	13	12	36	3	10	..	..	..	..	..	..	..	..	..	..
Salem ..	..	59	191	3	24	4	17	1	4	6	6	11	73	3	19	2	6	..	..	..	..	..	..	..	..

O=Outbreak, D=Death.

CHAPTER XIV—FINANCE.

113. The total receipts and expenditure of the departmental during 1st November 1956 to 31st March 1957 are given below:—

RS.

Receipts	...	...	...	...	8,58,939.00
Expenditure	...	...	...	...	27,31,837.00

The details of expenditure are given in Table No. VIII annexed to this report.

CHAPTER XV—PROGRAMME OF WORK.

114. (A) The progress achieved in respect of programme outlined in the Administration Report of 1955-56 during the year under report has been detailed below:—

(a) *Education.*—(i) The admission to Stockmen course was increased from 100 to 200 by opening two more centres at Pudukkottai and Orathanad with 50 candidates in each of the centres.

(ii) The number of admissions to the B.V.Sc. degree course was increased from 100 to 120.

(iii) The Animal Nutrition and Animal Genetics Departments were strengthened further through purchase of equipment to provide facilities for full-fledged research and teaching in these subjects. The Research Officer, Research Assistant and two Assistants in the Animal Nutrition Department were posted during the year.

(iv) Construction of additional block (three-storeyed) in the Madras Veterinary College was sanctioned and the work was commenced.

(v) Construction of additional block for the hostel was sanctioned and the work was started.

(b) *Livestock.*—(i) Four more key village centres were opened and two additional key villages were added to each of the centres existing already.

(ii) Three artificial insemination centres were opened in the veterinary institutions at Virudhunagar, Tirunelveli and Vellore.

(iii) The soil conservation work in the entire area of Livestock Research Station, Hosur, was commenced.

(iv) Improvement to the existing farms was undertaken.

(1) At Livestock Research Station, Hosur, drilling operations were commenced for sinking bore-hole wells to facilitate the mixed farming.

(2) One store-room and rest-house were built at District Livestock Farm, Orathanad.

(3) A cattle farm was opened in Kanadukathan area of Ramanathapuram district.

(4) A sheep breeding and research station was opened at Chinnasalem, South Arcot district.

(5) Four more key village centres were opened and two additional key villages were added to each of the centres already in existence.

(6) Three artificial insemination centres in the veterinary hospitals at Virudhunagar, Tirunelveli and Vellore.

(7) Five supplementary extension centres for the utilization bulls produced in key village areas were established in Chingleput, Madurai, North Arcot and South Arcot districts.

(8) Three poultry breeding centres were established in key village areas.

(9) Nine poultry extension centres were started in and around National Extension Service areas.

(10) The private poultry breeders and associations were selected for the payment of subsidy up to a maximum of Rs. 850 each under the subsidy scheme for the encouragement to the private poultry breeders and associations.

(11) Two goshalas by private agencies were developed through payment of subsidy.

(12) Cattle shows at State level and in each of the districts were conducted.

(13) Cattle colonisation scheme at Madras City was implemented and preliminary work was started.

(c) *Veterinary aid.*—(i) Two mobile units were organized for carrying out advanced preventive inoculations, in Tanjore and Chingleput districts.

(ii) Purchase of 12 microscopes was sanctioned for supply to the veterinary institutions.

(iii) Purchase of two deep freeze dryers was sanctioned under the scheme for the increased productions Freeze-dried Rinderpest vaccine.

(iv) Ten additional stockmen were appointed to assist the Touring Veterinary Assistant Surgeons, in their field work.

115. (B) Programme of work proposed to be implemented during the year 1957-58 has been detailed below :—

(a) *Education.*—(i) Execution of the construction work of additional block to the Madras Veterinary College through Public Works Department.

(ii) Execution of the construction work of additional block to the Madras Veterinary College Hostel through Public Works Department.

(iii) Strengthening of Animal Nutrition and Animal Genetics Departments at the Madras Veterinary College.

(iv) Continuance of the scheme of increased strength in Stockmen Course.

(v) Continuance of the scheme of increased strength in B.V.Sc. Course.

(b) *Livestock.*—(1) Opening of four more key village artificial insemination centres is envisaged.

(2) Under the scheme of establishing artificial insemination centres in urban areas, three centres are to be opened.

(3) Under the scheme for the utilization of bulls from key villages, eight supplementary extension centres have to be started in non-key village areas.

(4) Under calf-subsidy schemes 700 calves were to be subsidised.

(5) Under the scheme for poultry development in key village areas, four centres have to be taken up.

(6) Under the All-India Poultry Development Scheme four poultry extension centres are scheduled to be started.

(7) Ten poultry breeders or associations are to be enlisted for subsidy under the scheme of subsidising the private breeders or association.

(8) Continuance of the two goshalas developed during the current year.

(9) Conduct of one cattle show at State level and six shows at district levels.

(10) Three borehole wells to be sunk and three tanks to be silted in Livestock Research Station, Hosur, under Mixed Farming Scheme.

(11) Completion of soil conservation work in Livestock Research Station, Hosur, commenced during the current year.

(12) Improvements to the District Livestock Farm, Orathanad, by constructing additional bull sheds, stalls, overhead tanks, etc.

(13) Construction of buildings, location of animals, supply of equipments, etc., in District Livestock Farm, Kanadukathan, Ramanathapuram district, started in the current year.

(14) Steps for the opening of sheep farm in Chingleput to be continued.

(15) Electrification of Livestock Research Station, Hosur.

(16) Construction of buildings, establishment of technical and administrative personnel in Madhavaram Milk Colony under Cattle Colonization Scheme of Madras City Milk Plan.

(17) Acquisition of Machuvadi Reserve Forest area under the scheme for expansion of District Livestock Farm, Pudukkottai, and shifting of animals other than dairy stock.

(18) Scheme for ascertaining the cost of milk production in Madras.

(c) *Veterinary aid.*—(i) Establishment of two mobile units for carrying out advance preventive inoculations.

(ii) Appointment of additional stockmen to assist touring Veterinary Assistant Surgeons in their field work.

(iii) Purchase of microscopes for supply to the veterinary institutions.

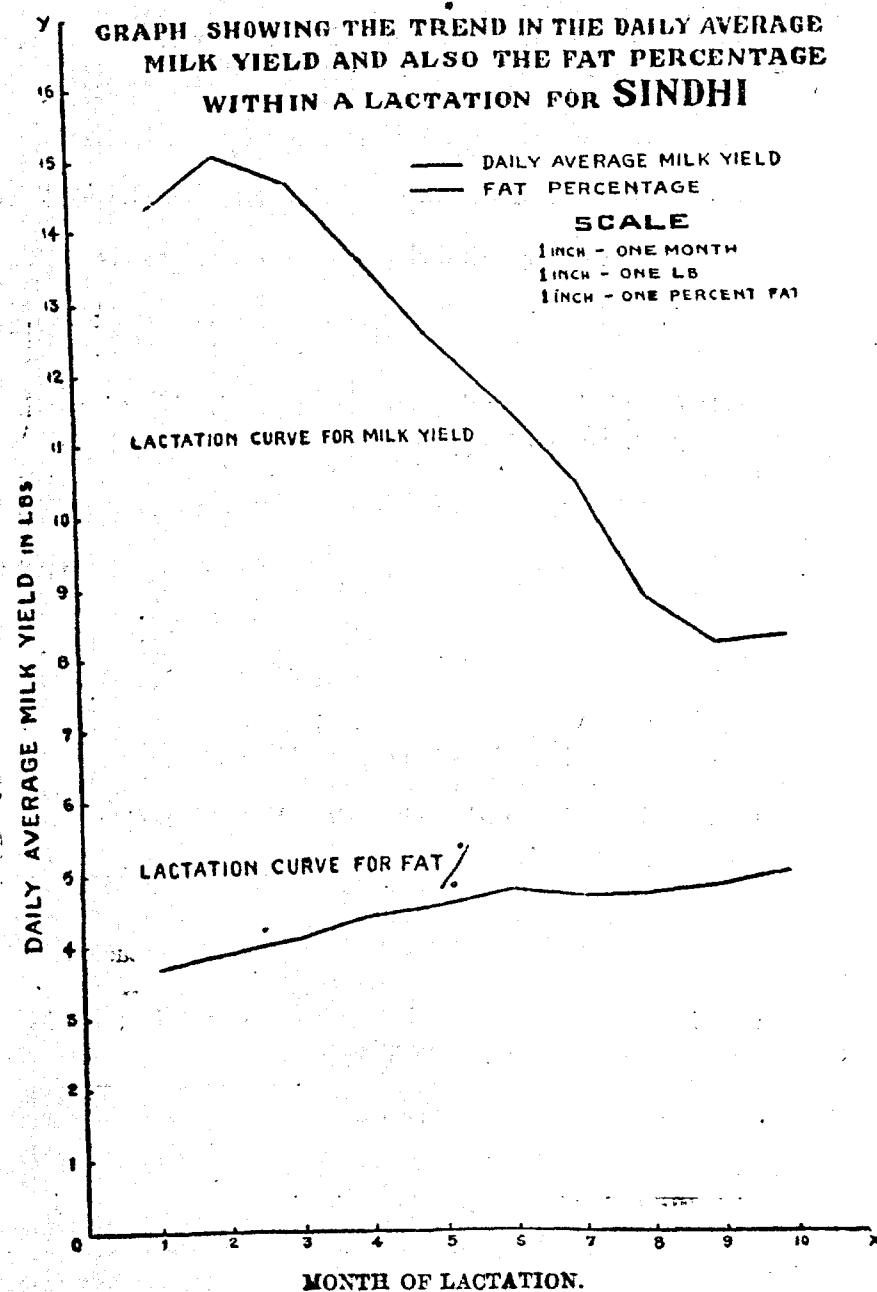
(iv) Electrification of veterinary institutions.

(v) Increase in the production of Freeze Dried Rinderpest vaccine.

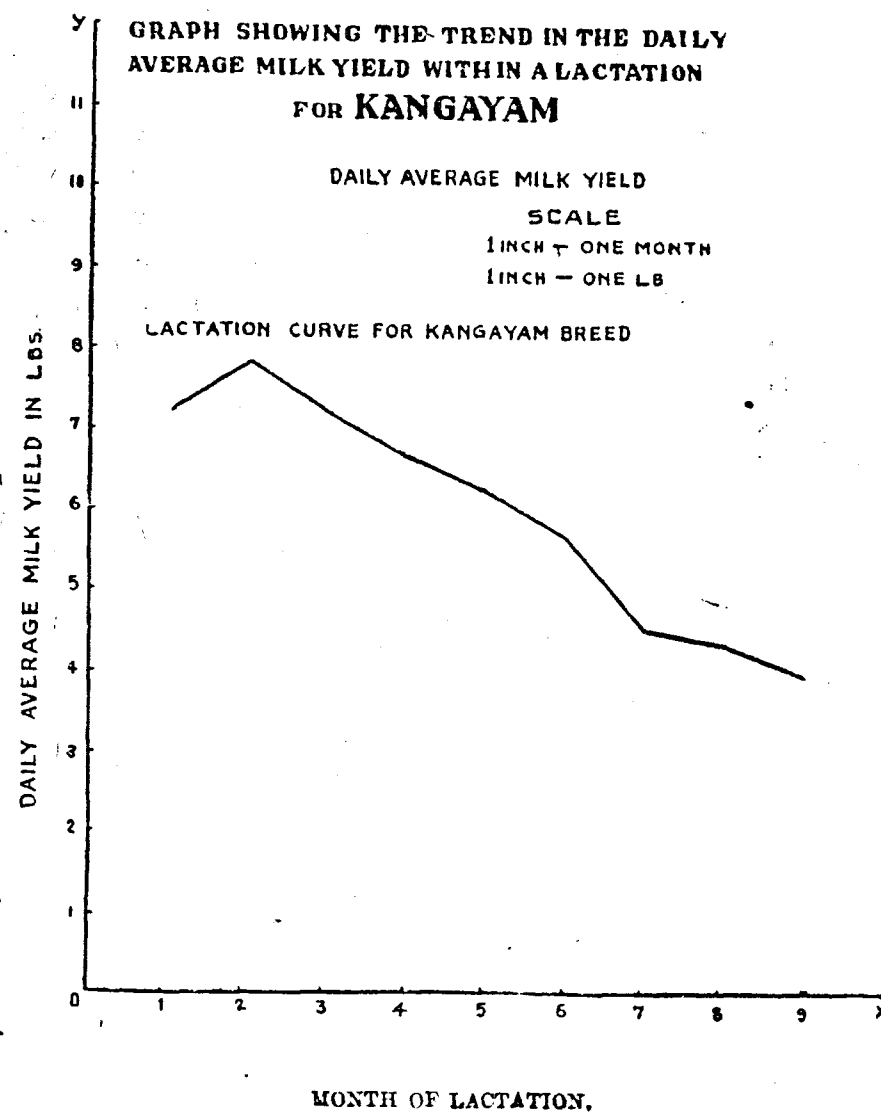
(vi) Scheme for the investigation of incidence and control of Mastitis among cattle in Madras State.

(vii) Scheme for the survey and control of Brucellosis among cattle in Madras State.

GRAPH I.



GRAPH II.

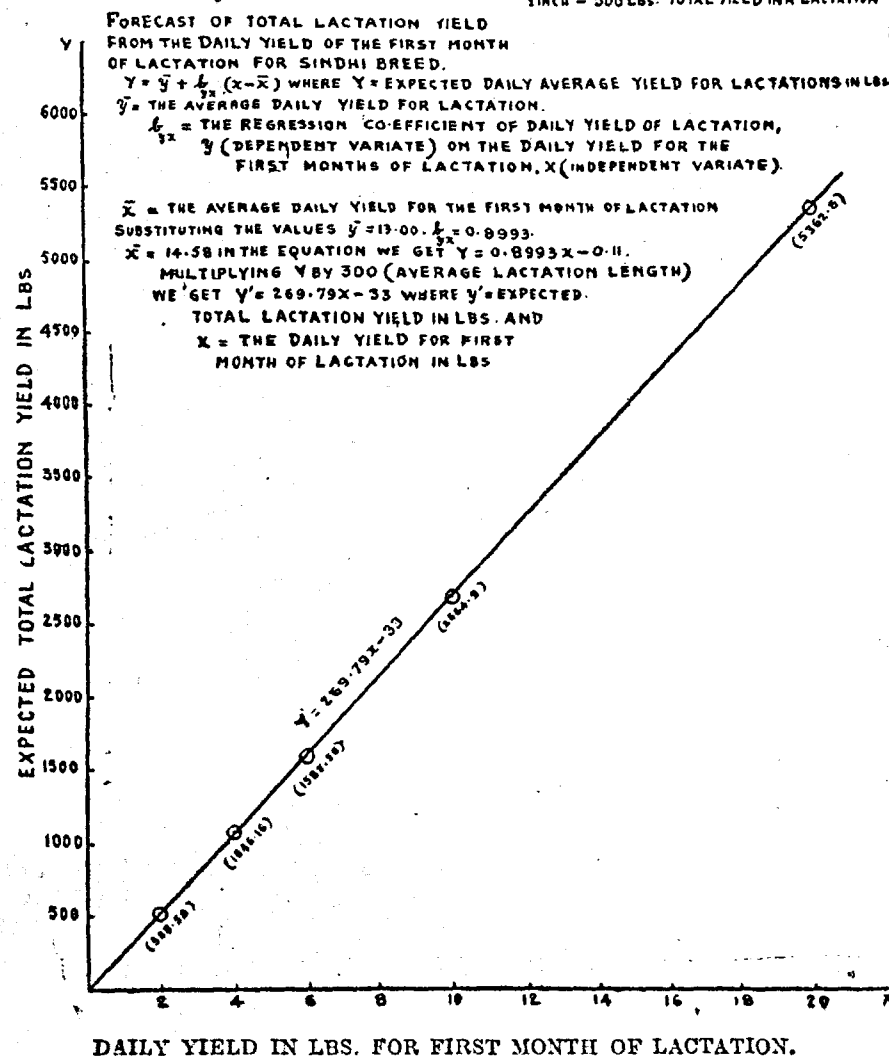


GRAPH III.

GRAPH SHOWING THE REGRESSION LINE OF TOTAL
LACTATION YIELD ON THE FIRST MONTHS DAILY MILK
YIELD FOR **SINDHI**

SCALE

1 INCH = 2 LBS. DAILY MILK YIELD FOR FIRST
MONTH OF LACTATION.
1 INCH = 500 LBS. TOTAL YIELD IN LACTATION

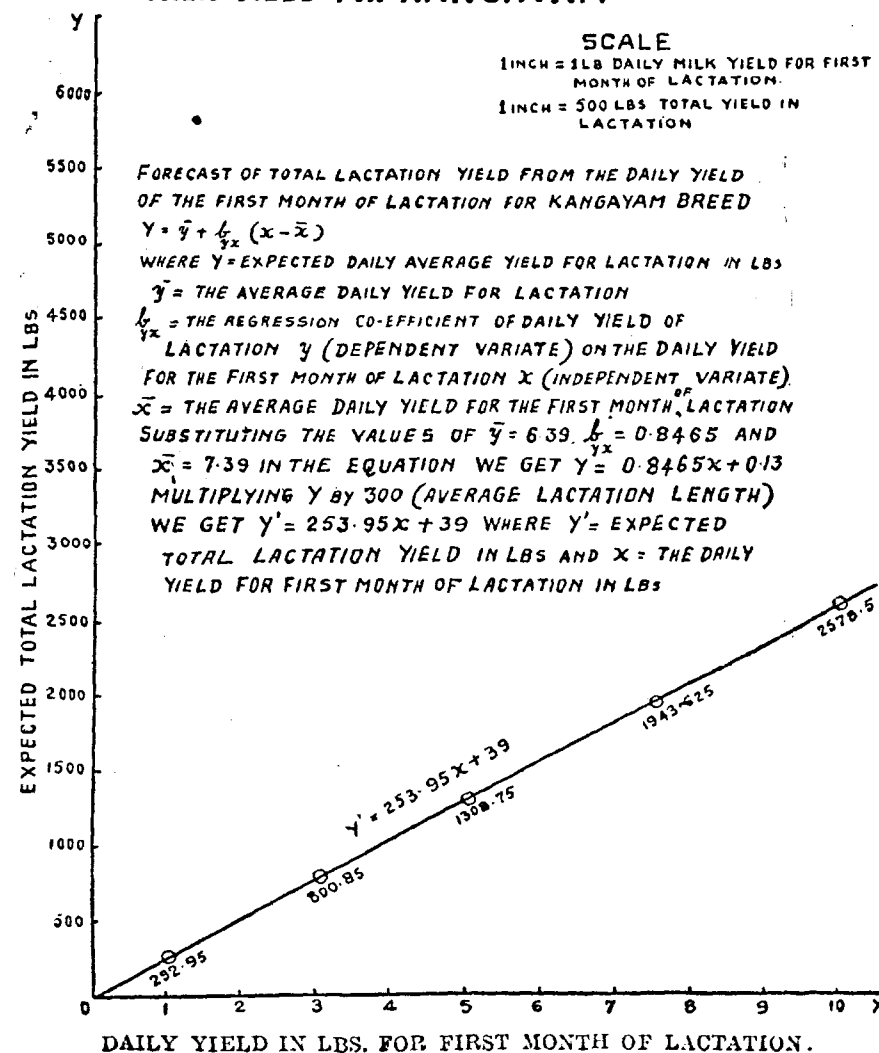


GRAPH IV.

GRAPH SHOWING THE REGRESSION LINE OF TOTAL
LACTATION YIELD ON THE FIRST MONTHS DAILY
MILK YIELD FOR **KANGAYAM**

SCALE

1 INCH = 1 LB. DAILY MILK YIELD FOR FIRST
MONTH OF LACTATION.
1 INCH = 500 LBS. TOTAL YIELD IN
LACTATION



GRAPH V.

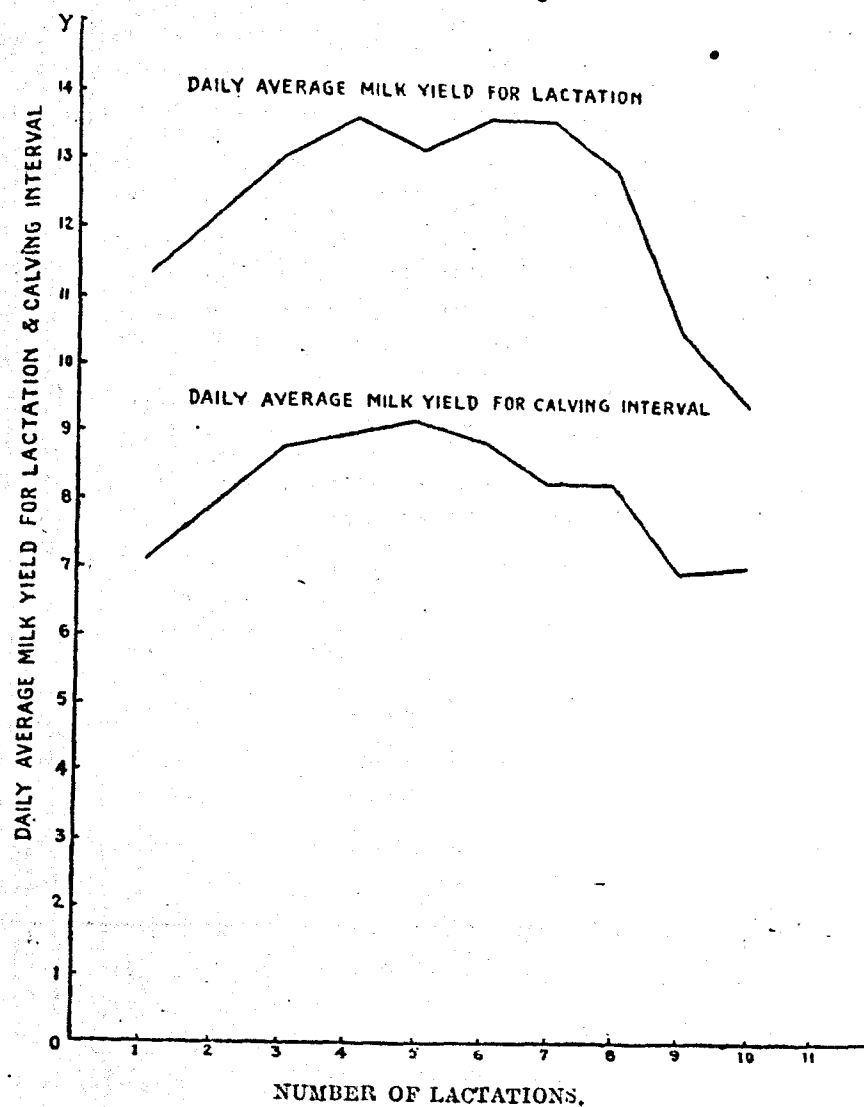
GRAPH SHOWING THE TREND IN THE DAILY AVERAGE MILK YIELD FOR LACTATION AND CALVING INTERVAL FOR SCINADHI COWS.

SCALE.

1 inch—one lactation.

1 inch—1 lb. daily average milk yield for lactation.

1 inch—1 lb. daily average milk yield for calving interval.



GRAPH VI.

GRAPH SHOWING THE TREND IN THE DAILY AVERAGE MILK YIELD FOR LACTATION AND CALVING INTERVAL FOR KANGAYAM COWS.

SCALE

1 inch—one lactation

1 inch—1 lb. daily average

milk yield for lactation.

1 inch—1 lb. daily average milk

yield for calving interval.

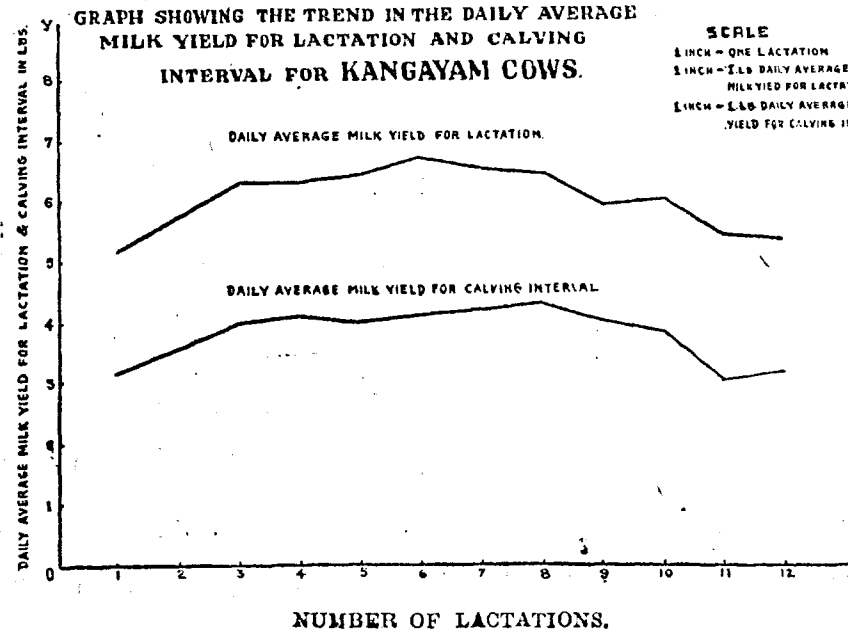


TABLE I.—Statistics of mortality from contagious diseases and other causes among livestock in the Madras State during the period from 1st November 1956 to 31st March 1957.

[illegible]

	Goats.					Dogs.				
	Anthrax.	Goat-pox.	Pleuro-pneumonia.	Foot and Mouth.	Scabies.	Other contagious and parasitic diseases.	Total.	Other causes.	Other contagious and parasitic diseases.	Total.
	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)
1st November 1956 to 31st March 1957—Attacks.	81	20	:	:	:	:	101	2	5	5
1st November 1956 to 31st March 1957—Deaths.	81	2	:	:	:	:	83	2	5	5
1955-56—Attacks	322	54	:	:	:	:	376	:	16	16
1955-56—Deaths	322	39	:	:	:	:	361	:	16	16

TABLE II.—Summary of results of preventive inoculations in the Madras State during the period from 1st November 1956 to 31st March 1957.

Serial number and name of the disease against which inoculations were undertaken.	Month of inoculation.	Source of product.	(3)	Institute of Veterinary Preventive Medicine, Ranipet. Do.	(4)	Number of out breaks in which inoculations were undertaken.	(5)	Number of villages affected in these out breaks.	(6)	Population of the affected villages.	Number of animals which died uninoculated in the course of out breaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.		
1 Rinderpest	..	Vaccine alone in free areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Haemorrhagic Septicæmia.	..	Vaccine alone in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
3 Black-quarter	..	Vaccine alone in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4 Anthrax (cattle)	..	Spore vaccine in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 Anthrax (sheep)	..	Vaccine alone in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6 Sheep-pox	..	Vaccine alone in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7 Enterotoxæmia	..	Clostridium Welchii Anaculture in affected areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE II.—Summary of results of preventive inoculations in the Madras State during the period from 1st November 1956 to 31st March 1957—cont.

Serial number and name of the disease against which inoculations was undertaken.	Month of inoculation.	Source of product.	Number of out-breaks in which inoculations were undertaken.			Number of villages affected in these out-breaks.			Population of the affected villages.			Number of animals which died uninoculated in the course of out-breaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
8 Goat pox ..	..	Vaccine alone in Institute Veterinary Preventive Medicine, Ranipet.	..	..	..	2	2	280	..	..	..	..	..	..	..	..	..	..	..	..
9 Rarikhet disease ..	..	Vaccine alone in Institute Veterinary Preventive Medicine, Ranipet.	..	..	..	10	10	1,005	..	..	..	..	..	..	..	..	..	..	..	..
10 Fowl pox ..	..	Vaccine alone in free areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	Vaccine alone in Institute Veterinary Preventive Medicine, Ranipet.	..	..	..	4	4	2,130	..	..	..	..	..	..	..	..	..	..	..	..
..	..	Vaccine alone in free areas.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grand total for 1st November 1956 to 31st March 1957	..	..	816	812	297,790	2,978	1	892	393,285	..	..	..	..	..	..	..	..	..	..	..
Grand total for 1955-56	..	..	3,796	3,821	1,593,858	16,468	..	3,627	1,706,924	..	..	..	..	..	..	..	..	..	..	..

TABLE III.—Statement showing the number of animals treated and castrated at Veterinary Hospitals and Dispensaries in the State of Madras during 1st November 1956 to 31st March 1957.

Year.	Number of Veterinary Institutions.			Number of Veterinary Assistants employed.			Number of in-patients treated.			Number of out-patients treated.			Total number of cases supplied with medicine but not brought to institutions.			Castrations performed.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1st November 1956 to 31st March 1957.	107	109	1,496	42	155	1,693	97,654	1,437	34,452	133,543	135,236	1,450	19,811	54	4,091	23,956	..	..
1955-56	103	105	4,372	76	308	4,756	177,518	3,639	74,135	255,292	260,048	1,630	35,127	52	10,882	46,061	..	..
1954-55	94	101	5,050	141	2,230	7,421	166,053	3,550	74,544	244,147	251,368	1,646	32,111	40	10,983	43,134	..	..

TABLE IV.—Statement showing the number of animals treated and castrated by the touring Veterinary Assistant Surgeons during the period from 1st November 1956 to 31st March 1957.

Year.	Number of Veterinary Assistant Surgeons.			Number of villages visited by the Veterinary Assistant Surgeons.			Castrations performed.			Treated for contagious.			Treated for non-contagious.			Total number of castrations performed and cases treated.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1st November 1956 to 31st March 1957.	68	3,979	11,971	..	1,743	13,714	1,036	..	..	116	1,152	43,538	580	12,679	58,777	73,643	..	..
1955-56	95	11,553	33,794	28	5,843	39,665	4,740	..	..	444	5,184	103,556	827	17,043	121,426	166,275	..	..
1954-55	92	13,223	32,268	3	5,030	37,301	13,559	..	..	931	14,391	98,424	710	24,227	123,361	175,555	..	..

TABLE V (a).—Statement showing the number of approved breeding bulls at stud in the State of Madras during the period from 1st November 1956 to 31st March 1957.

Districts.	Present on 1st November.			Obtained during the period.			Average price.			Casualties, transfers, removals, etc., during the period.		
	G.	LB.	O.	Number.		O.	G.	LB.	O.	G.	LB.	O.
				(5)	(6)	(7)	(8)	(9)	(10)			
(1)												
Madras	15	..	17	1	..	1	..	..	..	..	..	2
Chingleput	29	..	6	43	..	3	..	..	..	..	..	..
North Arcot	14	..	16	6	..	2	..	..	..	2	..	..
South Arcot	15	4	6	1	..	1	800	..	600	3	..	8
Tanjore	32	8	110	1	..	10	..	..	1,000	2	..	2
Tiruchirappalli	25	1	115	1	..	11	600	..	800	2	..	4
Madurai	40	3	78	70	..	8	..	..	..	2	1	..
Ramanathapuram	22	..	23	2	6	3	..	..	..	..	..	..
Tirunelveli	23	4	22	3	..	4	..	..	600	2	..	..
Coimbatore	13	60	34	..	..	2	..	..	..	..	..	..
Nilgiris	7	1	15	..	..	..	..	..	..	..	..	1
Erode	43	109	130	..	1	49	..	..	..	2	7	32
Salem	17	16	89	50	3	6	..	..	..	2	..	19
Kanyakumari	5	..	5	..	..	..	..	..	..	..	..	..
Grand total	306	212	606	143	10	140	..	..	..	15	8	70
1955-56	311	194	460	152	70	232	..	..	..	97	68	112
1954-55	232	210	383	183	59	237	..	..	..	85	75	136

A.H.—21A

Districts.	Number of approved bulls at stud.				Net cost for issues and maintenance of stud bulls.	Population of cows over three years according to census.	Number of bulls.				Number of cows covered during the period.
	Balance on hand on 31st March 1957.						Required to be maintained.	Short of requirements.			
	G.	LB.	O.	Total.							
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)		
Madras	16	..	16	32	9,392 11 4	13,093	131	115	~940		
Chingleput	72	..	9	81	609 0 0	213,297	2,133	2,092	414		
North Arcot	18	..	16	34	4,420 9 9	255,173	2,552	2,518	1,093		
South Arcot	16	4	7	27	1,968 15 3	350,196	3,502	3,475	496		
Tanjore	30	8	112	150	2,243 7 9	131,800	1,318	1,281	4,199		
Tiruchirappalli	24	1	124	149	13,930 0 0	474,393	4,744	4,688	1,555		
Madurai	120	2	82	204	38,333 2 6	207,576	2,075	1,871	3,680		
Ramanathapuram	24	6	26	56	5,816 12 9	223,257	2,232	2,176	1,035		
Tirunelveli	23	4	26	53	3,970 10 0	144,459	1,441	1,391	1,775		
Coimbatore	13	66	36	115	14,873 0 0	42,628	426	316	3,496		
Nilgiris	7	1	14	22	..	50,000	500	478	296		
Erode	41	103	147	291	18,669 13 6	275,495	2,755	2,464	5,879		
Salem	68	19	76	163	11,178 1 3	371,972	7,320	7,157	4,057		
Kanyakumari	..	..	5	10	1,755 14 9	29,780	298	288	107		
Grand total	434	254	696	1,387	1,27,197 2 10	2,783,119	31,436	30,310	29,029		
1955-56	366	196	630	1,192	1,51,214 12 9	3,760,614	39,603	38,417	56,787		
1954-55	330	194	464	988	1,48,437 3 7	4,099,100	40,991	40,003	47,066		

G. = Government.

LB. = Local bodies.

O. = Others.

G. = Government.

LB. = Local bodies.

O. = Others.

TABLE V (b).—Statement showing the number of approved buffalo bulls at stud in the State of Madras during the period from 1st November 1956 to 31st March 1957.

Districts.	Obtained during the period.						Average price.			Casualties, transfers, removals, etc., during the period.		
	Present on 1st November.			Number.			Average price.			Casualties, transfers, removals, etc., during the period.		
	G.	LB.	O.	G.	LB.	O.	G.	LB.	O.	G.	LB.	O.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Madras ..	3	..	4	3	..	..	..	..	..	..	..	..
2 Chingleput ..	12	..	1	6	..	..	..	..	..	..	..	..
3 North Arcot ..	5	..	4	4	..	..	..	..	..	..	..	1
4 South Arcot ..	7	..	4	1	..	..	800	..	600	..	..	..
5 Tanjore ..	1	..	27	4	..	1	..	..	1,000	..	..	4
6 Tiruchirappalli ..	4	..	52	1	..	7	750	..	750	..	..	2
7 Madurai ..	25	..	12	31	1	..	..	..	..	..	1	1
8 Ramanathapuram ..	6	..	6	..	..	7	..	..	..	..	..	..
9 Tirunelveli ..	11	..	10	4	..	6	..	..	..	1	..	..
10 Coimbatore ..	2	..	10	..	..	..	100	..	..	..	..	..
11 Nilgiris ..	1	..	..	3	..	..	..	..	..	3	..	..
12 Erode ..	13	..	5	3	..	1	..	..	..	1	..	1
13 Salem ..	5	..	9	15	..	..	..	..	..	..	..	..
14 Kanyakumari ..	..	..	..	..	..	..	..	..	..	..	..	..
Grand total ..	95	..	144	75	1	22	..	..	..	5	1	12
1955-56 ..	66	..	118	55	..	41	..	..	..	11	..	22
1954-55 ..	45	..	66	42	..	64	..	..	..	17	..	14

District.	Number of approved bulls at stud Balance on hand on 31st March 1957.				Net cost for issue and maintenance of stud bulls.	Population of cows over three years according to census.	Number of bulls.		Number of cows approved during the year.
	G. (14)	LB. (15)	O. (16)	Total (17)			Required to be maintained. (20)	Short of require- ments. (21)	
1 Madras ..	6	..	4	10	RS. A. P.	(19)	(20)	(21)	(22)
2 Chingleput ..	18	..	1	19	1,218 0 0	13,129	131	121	..
3 North Arcot ..	9	..	3	12	.....	97,526	975	956	..
4 South Arcot ..	8	..	4	12	769 0 0	69,337	693	681	..
5 Tanjore ..	5	..	26	31	991 15 0	59,774	598	586	311
6 Tiruchirappalli ..	5	..	55	60	3,700 0 0	111,949	1,119	1,101	451
7 Madurai ..	56	1	10	67	9,410 8 0	2,06,621	2,066	2,006	1,148
8 Ramanathapuram.	6	..	12	18	6,029 8 0	76,630	766	699	1,172
9 Tirunelveli ..	14	..	16	30	1,367 10 0	76,419	764	746	341
10 Coimbatore ..	2	..	10	12	3,980 0 0	86,042	860	830	739
11 Nilgiris ..	1	..	..	1	.....	29,618	296	286	..
12 Erode ..	15	..	5	20	18,699 13 6	12,000	120	119	..
13 Salem ..	20	..	8	28	11,178 1 3	37,399	374	354	..
14 Kanyakumari ..	..	..	..	..	.....	103,629	1,306	1,278	3,227
Grand total ..	165	1	154	320	57,344 7 9	1,007,663	10,068	9,763	7,349
1955-56 ..	110	..	137	247	40,637 7 11	1,160,683	11,605	11,372	13,919
1954-55 ..	70	..	116	186	18,296 11 0	1,27,182	12,718	12,532	9,176

G = Government. LB = Local Bodies. O = Others.

G = Government.

LB = Local Bodies.

O = Others.

TABLE V (c).—Statement showing the number of horses and donkeys at stud in the State of Madras during the period from 1st November 1956 to 31st March 1957.

District.	Obtained during the period.																	Population.		Animals covered.	
	Present on			Numbers.			Average price.			Casualties, transfers, removal, etc.			Balance on 31st Octo- ber 1956.			Mare, Donkeys- (15)	(16)	Mare, Donkeys (20)	(21)		
	G.	L.B.	O.	G.	L.B.	O.	G.	L.B.	O.	G.	L.B.	O.	G.	L.B.	O.					Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)					
Hour Cattle Farm	..	7	..	..	..	..	..	..	..	..	..	..	..	7	..	7	nll.	..	22	..	
Colabaore	..	3	..	..	..	..	..	..	..	..	..	..	..	3	..	3	nll.	..	50	..	
Etode ..	..	11	..	..	..	..	..	..	..	..	..	..	..	11	..	11	*21301	..	70	..	
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0			156	..	
1955-56	..	6	..	..	..	..	..	..	..	..	..	..	..	6	..	6	*21,301	..	..	..	
1954-55	..	0	..	..	..	..	..	..	..	1	..	..	..	..	..	6	*21,361	..	195	..	

G = Government. LB = Local Bodies. O = Others.
*Population of mares in the State.

G = Government, L.B. = Local Bodies, O = Others.

*Population of mares in the State.

TABLE VI (a).—Livestock fairs in the Madras State during the period from 1st November 1956 to 31st March 1957.

Table V (a) 1920-21										Table V (b) 1920-21									
Total number of stock present.										Sale and sale price.									
										Cows.									
										Bullocks.									
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TABLE VIII.—Cost of Animal Husbandry Department in the State of Madras during the period from 1st November 1956 to 31st March 1957.

Major Head.	Expenditure for 1st November 1956 to 31st March 1957.		
	State. RS.	Local bodies.	Total. RS.
1 Director and District Administration.	1,66,151	..	1,66,151
2 Subordinate Veterinary Establishment,	1,38,545	..	1,38,545
3 Hospitals and Dispensaries ..	2,64,724	..	2,64,724
4 Veterinary Education and Research.	3,78,649	..	3,78,649
5 Other charges	1,46,321	..	1,46,321
6 Breeding Operations	16,35,682	..	16,35,682
7 Works	96	..	96
8 Charges in England	4,669	..	4,669
Total ..	27,34,837	..	27,34,837

TABLE IX.—Strength of staff and how distributed in the State of Madras during the period from 1st November 1956 to 31st March 1957.

Description. (1)	Whether paid from State, Central or Local Fund. (2)	Gazetted Officers.		Subordinate staff.	
		Scale of pay. (3) RS.	Number. (4)	Scale of pay. (5) RS.	Number. (6)
Head of Department ..	State	.. 1,200-1,450	1	..	..
Deputy Director of Animal Husbandry (Livestock).	Do.	.. 800-1,000	1	..	..
Deputy Director of Animal Husbandry (Veterinary).	Do.	.. Do.	1	..	..
Deputy Director of Animal Husbandry (Key Villages).	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Principal, Madras Veterinary College, Madras.	State	.. Do.	1	..	..
Regional Sterility Officer, Madras.	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Superintendent, Institute of Veterinary Preventive Medicine, Ranipet.	State	.. Do.	1	..	..
Superintendent, Livestock Research Station, Hosur Cattle Farm.	Do.	.. 260-700	1	..	..
Professor in Physiology ..	Do.	.. 420-700	1	..	..
Professor in Anatomy ..	Do.	.. Do.	1	..	..
Professor in Surgery ..	Do.	.. Do.	1	..	..
Professor in Pathology ..	Do.	.. Do.	1	..	..
Professor in Medicine ..	Do.	.. Do.	1	..	..
Professor in Pharmacology ..	Do.	.. Do.	1	..	..
Professor in Hygiene ..	Do.	.. Do.	1	..	..
Professor in Animal Genetics ..	Do.	.. Do.	1	..	..
Professor in Animal Nutrition ..	Do.	.. Do.	1	..	..
Professor in Biology ..	Do.	.. Do.	1	..	..
Lecturer in Chemistry ..	Do.	.. 260-700	1	..	..
Lecturer in Animal Husbandry, Agriculture College, Coimbatore.	Do.	.. Do.	2	..	..
Research Officer, Helminthiasis Scheme, Madras Veterinary College.	Do.	.. Do.	1	..	..
Veterinary Disease Investigation Officer (Cattle), Ranipet.	Do.	.. Do.	1	..	..
Veterinary Disease Investigation Officer (Poultry), Ranipet.	Do.	.. Do.	1	..	..
Veterinary Disease Investigation Officer (Sheep and Goat), Ranipet.	Do.	.. Do.	1	..	..
Lecturer in Agriculture, Madras Veterinary College.	Do.	.. Do.	1	..	..
Lecturer in Flaying ..	Do.	.. Do.	1	..	..
Lecturer in Bacteriology ..	Do.	.. Do.	1	..	..
Lecturer in Parasitology ..	Do.	.. Do.	1	..	..
Lecturer in Stockmen Course ..	Do.	.. Do.	4	..	..
Additional Lecturer for Physiology.	Do.	.. Do.	1	..	..
Additional Lecturer for Anatomy.	Do.	.. Do.	1	..	..

TABLE IX.—*Strength of staff and how distributed in the State of Madras during the period from 1st November 1956 to 31st March 1957—cont.*

Description.	Whether paid from State, Central or Local Funds.	Gazetted Officers.		Subordinate staff.	
		Scale of pay.	Number.	Scale of pay.	Number.
		(3) RS.	(4)	(5) RS.	(6)
Additional Lecturer in Animal Husbandry, Madras Veterinary College.	State	260-700	1	..	..
District Veterinary Officers ..	Do.	Do.	17	..	..
Superintendent, Livestock Research Stations other than Hosur Cattle Farm.	Do.	Do.	3	..	..
Poultry Development Officer, Madras.	Do.	Do.	1	..	..
Animal Husbandry Statistician.	Do.	Do.	1	..	..
Special Officer, Freeze Dried Vaccine, Institute of Preventive (Veterinary) Medicine.	Do.	Do.	1	..	..
Inspector of Livestock, Coimbatore.	Do.	235-325	1	..	..
Superintendent, Kangayam Cattle Improvement Scheme, Palayamkottai.	Partly by State and partly by I.C.A.R.	260-700	1	..	..
Special Officer, Artificial Insemination, Madras.	State	Do.	1	..	..
Research Officer, Institute of Veterinary Preventive Medicine, Ranipet.	Do.	Do.	1	..	..
Assistant Research Officer, Cattle Breeding.	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Sheep and Goat Development Officer, Madras.	State	Do.	1	..	..
Research Officer, Virus Vaccine, Institute of Veterinary Preventive Medicine, Ranipet.	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Special Officer for Milk ..	State	Do.	1	..	..
Inspector of Key Villages, Kangayam.	Partly by State and partly by Government of India.	Do.	1	..	..
Personal Assistant to Director of Animal Husbandry (non-technical).	State	300-700	1	..	..
Research Officer, Animal Nutrition, Madras Veterinary College.	Do.	260-700	1	..	..
Research Officer, Mastitis ..	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Special Officer, Cattle Colonization Scheme.	State	300-700	1	..	..
Accounts Officer, Animal Husbandry Department.	Do.	200-400	1	..	..
Research Officer, Brucellosis, Institute of Veterinary Preventive Medicine, Ranipet.	Partly by State and partly by I.C.A.R.	260-700	1	..	..
Sheep Shearing Farm, Chinnasaalem.	State	Do.	1	..	..
Field Officer, Milk Costing Scheme.	Partly by State and partly by I.C.A.R.	Do.	1	..	..
Sheep Breeding Officer, Ootacamund.	Do.	Do.	1	..	..

TABLE IX.—*Strength of staff and how distributed in the State of Madras during the period from 1st November 1956 to 31st March 1957—cont.*

Description.	Whether paid from State, Central or Local Funds.	Gazetted Officers.		Subordinate staff.	
		Scale of pay.	Number.	Scale of pay.	Number.
		(3) RS.	(4)	(5) RS.	(6)
Veterinary Assistant Surgeons in Veterinary Institutions.	State	..	..	120-5-200-10-250	103
Veterinary Assistant Surgeons in touring billets and veterinary dispensaries.	Do.	..	..	Do.	86
Veterinary Assistant Surgeons in Disease Investigation.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons in Institute of Veterinary Preventive Medicine, Ranipet.	Do.	..	..	Do.	18
Veterinary Assistant Surgeons in Madras Veterinary College.	Do.	..	..	Do.	44
Veterinary Assistant Surgeons in Livestock Farms.	Do.	..	..	Do.	16
Veterinary Assistant Surgeons in key village and key farm centres.	Partly by State and partly by Government of India.	..	..	Do.	36
Veterinary Assistant Surgeons in artificial insemination centres.		..	..	Do.	9
Veterinary Assistant Surgeons in Sheep Development.	State	..	..	Do.	2
Veterinary Assistant Surgeons in Poultry Development.	Do.	..	..	Do.	1
Veterinary Assistant Surgeons in Cross Breeding Scheme, Ootacamund.	Do.	..	..	Do.	11
Veterinary Assistant Surgeons in clinical laboratories.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon, Statistical Section.	Do.	..	..	Do.	2
Veterinary Assistant Surgeon, office of the Director of Animal Husbandry, Madras, Goshala Development Scheme.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon in Propaganda Unit.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon in Glanders Inspection.	Do.	..	..	Do.	1
Veterinary Assistant Surgeon in Forest Department.	Do.	..	..	Do.	3
Veterinary Assistant Surgeon in King Institute, Guindy.	Do.	..	..	Do.	2
Veterinary Assistant Surgeons in Community Projects and National Extension Service and Basic Agriculture Training School.	Do.	..	..	Do.	114
Veterinary Assistant Surgeon in Quarantine Station.	Do.	..	..	Do.	..
Veterinary Assistant Surgeon in Mobile Unit.	Do.	..	..	Do.	2

TABLE IX.—Strength of staff and how distributed in the State of Madras during the period from 1st November 1956 to 31st March 1957—cont.

Description.	(1)	Whether paid from State, Central or Local Funds.	(2)	Gazetted Officers.		Subordinate staff.	
				Scale of pay.	Number.	Scale of pay.	Number.
				(3) RS.	(4)	(5) RS.	(6)
Veterinary and Livestock Inspectors—							
District work	..	State	..	..	..	90-3-120-4-160.	20
Disease investigation	..	Do.	..	..	..	Do.	1
Livestock farms	..	Do.	..	..	..	Do.	5
Sheep Section	..	Do.	..	..	..	Do.	2
Artificial insemination centres.	cen-	Do.	..	..	..	Do.	10
Key villages and key farm centres.		Partly by State and partly by Government of India.	..	..	..	Do.	48
Cross Breeding Scheme	..	I.C.A.R.	..	..	..	Do.	5
Community Projects and National Extension Service Scheme.		Partly by State and partly by Central.	..	..	..	Do.	51
Madras Veterinary College, Madras.		State	..	..	..	Do.	2
Stockmen—							
District work	..	State	..	..	..	60-3-105	34
Livestock farms	..	Do.	..	..	..	Do.	4
Sheep Section	..	Do.	..	..	..	Do.	2
Artificial Insemination centres.	cen-	Do.	..	..	..	Do.	11
Key village and key farm centres.		Partly by State and partly by Central.	..	..	..	Do.	114
Cross Breeding Scheme	..	I.C.A.R.	..	..	..	Do.	1
Quarantine Station	..	Rinderpest Control Committee.	..	..	..	Do.	2
Community Projects and National Extension Service.		State and Central.	..	..	..	Do.	31
Compounders and Stockmen compounders—							
District work	..	State	..	..	..	35-1-60	87
Livestock farms	..	Do.	..	..	..	Do.	8
Artificial insemination centres.	cen-	Do.	..	..	..	Do.	1
Community Projects and National Extension Service.		State and Central.	..	..	..	Do.	2
Madras Ministerial Service—							
Senior Superintendent	..	State	..	..	..	190-10-240	1
Junior Superintendent	..	Do.	..	..	..	140- 5-190	10
Office Manager	..	Do.	..	..	..	115- 5-140	3
Accountants	..	Do.	..	..	..	80-3-95-5-110	9
Upper Division Clerks, First Grade.		Do.	..	..	..	80-3-95-5-125	27
Upper Division Clerks, Second Grade.		Do.	..	..	..	80-3-95-5-110	26
Lower Division Clerks	..	Do.	..	..	..	45-3-60-2-90	40
Typists	..	Do.	..	..	..	45-3-60-2-90 + 10 special pay.	28
Steno-typists	..	Do.	..	..	..	Do.	3

TABLE IX.—Strength of staff and how distributed in the State of Madras during the period from 1st November 1956 to 31st March 1957—cont.

Description.		Whether paid from State, Central or Local Funds.	Gazetted Officers.		Subordinate Staff.		
			Scale of pay.	Number.	Scale of pay.	Number.	
			(3) RS.	(4)	(5) RS.	(6)	
(1)		(2)					
<i>Madras Ministerial Service—cont.</i>							
Clerk-cum-Typists	..	State	..	..	..	45-3-50- 2-90	1
Store-keepers	..	Do.	..	..	..	Do.	5
<i>Government Milk Factory, Madras—</i>							
Manager	..	State	..	..	..	175-5-190- 10-250.	1
Supervisor	..	Do.	..	..	..	100-5-150- 10-200.	1
Assistant Supervisor	..	Do.	..	..	..	60-4-100.	1
Electrical Foreman	..	Do.	..	..	..	150-10-240	1
Electrician	..	Do.	..	..	..	90-5-120	1
Wireman	..	Do.	..	..	..	35-5-55- 1-60	1
Boilerman	..	Do.	..	..	..	Do.	1
Assistant Boilerman	..	Do.	..	..	..	24-1-32- 1-35	1
Compressor	..	Do.	..	..	..	35-2-55- 1-60	2
Tinker	..	Do.	..	..	..	Do.	1
Van Driver	..	Do.	..	..	..	45-1-50	4
Van Mechanic	..	Do.	..	..	..	40-1-50	1
Van Cleaner	..	Do.	..	..	..	15-1-20	1
Van Attender	..	Do.	..	..	..	24-1-35	4

TABLE X.—Working of the Veterinary College in Madras State during the period from 1st November 1956 to 31st March 1957.

Veterinary College or School.	Length of course.	Admitted during the year.			Under instructions at the end of the year.		Educational qualifications of the students admitted.		
		Scholarship holders.	Others.	Passed final examination.	Failed in final examination.	Ordinary course.	Failed students.	Intermediate and above.	Matriculate.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madras Veterinary College.	Four years and one term.	9	111	68	5	301	178	120	Nil.
		(4 Madras and 5 Andhra).							

TABLE X (a).—Training classes for stockmen and compounders during the period from 1st November 1956 to 31st March 1957.

Name of centre.	Stockmen (a) Compounder (b).	Length of course.	Basic qualifications required.	Number of students admitted.	Number of students passed.	Grade or pay.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madras Veterinary College Stockmen Course Centre at Livestock Research Station, Hosur Cattle Farm.	(a)	11 months	S.S.L.C. declared eligible for University studies.	100	91—June 1957	Rs. 60—120
	(b)	Do.	Do.	..	Examination in August 1957 as the course was started in September 1956.	..
Madras Veterinary College Stockmen Course Centre at District Livestock Farm, Pudukottai.	(a)	Do.	Do.	50	..	60—120
	(b)	....	....	..	Examination in September 1957 as the course started in November 1956.	..
Madras Veterinary College Stockmen Course Centre at District Livestock Farm, Orathanad.	(a)	11 months	S.S.L.C. declared eligible for University studies.	50	..	60—120
	(b)	....	....	..	..	..

TABLE XI (a).—Statement showing the location and other particulars of livestock in the State of Madras during the period ending 31st March 1957.

Cattle and buffaloes.

Name and address of Farm.	Area of the Farm.		Purpose of the farm and herd (breeding, experimental or dairy, etc.)	Breeds.		Strength of the herd.		Number of sires issued during the period.				Lactation average.	
	Total.	Under cultivation.		(5)	(6)	(7)	(8)	Period under report.	Last year.	Year before last.	LB.	Days in milk.	Days dry.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Livestock Research Station, Hosur Cattle Farm P.O.	ACS, 1,616-41	ACS, 1,187-07 including pasture lands.	To produce pedigree bulls for supply to the districts and to carry out livestock research.	Scindhi .. Kangayam .. Gir ..	..	74	106	62	51	86	4,083-3	298-6	91-0
				Cross Breed ..	..	30	72	40	33	56	1,768-7	262-4	97-0
				Halikar ..	..	9	24	..	16	7	6,043-0	336-0	..
				Murrah Buffaloes ..	..	3	16	7	9	5	..	..	..
				Sahiwal ..	..	14	..	..	1	3	..	..	..
				Umblachery ..	..	2	77	..	..	..	301-8	185-0	..
District Livestock Farm, Orathanad.	280-00	167-00	To improve the livestock of the district and to supply Umblachery bulls to public.	Scindhi .. Kangayam ..	..	10	49	..	..	..	3,851-1	313-4	1-8
				Murrah ..	..	3	54	..	..	..	3,906-8	295-0	..
				Kangayam ..	..	6	..	..	..	..	..	..	..
District Livestock Farm, Pudukottai.	9-26	5-98	To improve the livestock of the district and to run a small scale dairy farm.	Scindhi .. Graded Scindhi .. Kangayam .. Murrah .. Gir ..	..	5	13	2	..	..	4,133-0	330-0	187-0
					..	18	27	..	..	..	1,248-0	276-0	148-0
					..	3	46	2	..	..	..	..	..
					..	3	..	..	..	..	..	..	..

TABLE XI (b).—Statement showing the location and other particulars of Livestock Farms in the State of Madras during the year ending 31st March 1957.

Sheep.

Name and address of the farm.	Area of the farm.		Purpose of the farm.	Breed.			Strength of the flock in each breed.			Number of rams issued during the period.			Average wool yield for the period.		
	Total.	Under cultivation.		(5)	(4)	(3)	Rams.	Ewes.	Lambs.	Period report.	Last year.	Year before last.	Rams.	Ewes.	Lambs.
(1)	(2)	(3)	(4)	(5)	(4)	(3)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Livestock Research Station, Hosur Cattle Farm P.O., (Salem district).	1,646-41	ACS, 1,187-07	1. To supply Ram for grading in the Villages.	Bellary	..	..	3	7	2	..	..	..	1 lb. 6 oz.	1 lb. 11 oz.	1 lb. 8 oz.
			(a) To improve the quantity of wool of local breeds.	Bikanir	..	..	20	61	24	..	..	..	1 lb. 7 oz.	0-9 oz.	1 lb. 7 oz.
			(b) To improve the mutton quality with Mandya Breed.	Mandya	..	..	18	77	46	25	..	..	0-12 oz.	0-7 oz.	0-15 oz.
Dunsandle Sheep Farm, Ootaca-mund.	600-00	1885	To improve the Nilgiris sheep and cross-breeding	Nilgiris	..	..	41	331	152	24	31	8	1-5 lb.	1-3 lb.	0-96 lb.
			Romney Marsh Rams.	Romney Marsh	..	..	10	..	93	..	..	..	..	..	..
				Romney Marsh X Nilgiri Cross.	..	..	..	..	..	..	..	..	..	..	..

TABLE XI (c).—Statement showing the location and other particulars of Livestock farms in the State of Madras during the year ending 31st March 1957.

Goats—Nil.

TABLE XI (d).—Statement showing the location and other particulars of livestock farms in the State of Madras during the period from 1st November 1956 to 31st March 1957.

Poultry.

Name and address of the farm.	Area of the farm.		Purpose of the farm and flock.	Breed.	Number of birds in each breed.			Number of cockrels issued for breeding during the period.			Number of hatching eggs sold during the period.			Average egg yield per hen for the period.
	Total.	Under cultivation.			Cocks.	Hens.	Chicks.	Period report.	Last year.	Year before last.	Period under report.	Last year.	Year before last.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Livestock Research Station, Hosur.	1,646-41	ACS, 1,187-07	To supply hatching eggs and breeding stock of various exotic poultry demonstration units, National Extension service and Community Projects, etc., and carry out research on poultry husbandry.	White Leg-horn, Rhode Island Red, Black Minorca.	10	78	525	10	7	8	..	..	..	61-8
					13	139	983	13	9	8	1,016	690	1,176	67-6
					2	18	179	2	2	5	..	..	..	53-1
Poultry Research Station, Madras.	9-92	50 cents.	To do research work on poultry and to supply of birds and eggs to the public and all schemes in the State (ii) To Train out persons in Practical Poultry Husbandry.	White Leg-horn, Rhode Island Red, Black Minorca.	30	3,179	92	..	..	..	..	..	..	52-8
					25	1,275	69	..	..	..	..	..	..	52-2
					1	224	5	410	26	72	2,137	4,401	1,010	65-6
					1	20	19	..	..	..	..	..	..	11-6
					4	92	17	..	..	..	..	..	..	47-9
					4	35	12	..	..	..	..	..	..	27-4
					10	39	125	16	..	2	619	446	632	57-0
District Livestock Farm, Orathand.	278-5	176-0	To supply of eggs, birds, etc., to public, National Extension Service and Community Projects	White Leg-horn, Rhode Island Red.	9	36	46	14	..	1	417	273	455	54-0

TABLE XII.—Performance of cows at the District Livestock Farm, Pudukkottai, as at the end of the period from 1st November 1956 to 31st March 1957 classified according to sires.

Particulars.	Kangayam.											
	First lactation.				Second lactation.				Third lactation.			
	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Daughter of Bull No. 554.	1	1,277.0	300	8.0	211	..	..	..	..	..	..	..
Dam of 73 (861)	..	1	1,892.5	309	..	230	1	3,017.5	35	16.0	90	1
Daughter of Bull No. 612.	1	990.5	192	7.0	74	..	..	..	..	..	..	..
Dam of 88 (809)	..	1	642.0	182	..	153	1	328.0	83	..	293	1
Daughter of Bull No. 727.	1	1,376.0	242	7.5	92	..	..	..	..	..	..	..
Dam of ..	1	1,420.0	326	..	112	1	1,467.0	204	11.5	46	1	1,470.5
Daughter of Bull No. 631.	..	..	..	..	..	..	..	..	..	..	..	..
Daughter of Bull No. 891.	..	..	..	..	..	..	..	..	..	..	..	..
Daughter of Bull No. 606.	..	..	..	..	..	..	..	..	..	..	..	..
Dam of 88 (809)	..	..	..	..	..	..	..	..	..	..	..	..
Dam of ..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE.—NRA = Number of records averaged.
AYM = Average yield of milk.
ADM = Average days in milk.
APY = Average of peak yield.
ASP = Average service period.

TABLE XII.—Performance of cows at the District Livestock Farm, Orathanad, as at the end of the period from 1st November 1956 to 31st March 1957 classified according to sires.

Particulars (prelwar).												
	First lactation.				Second lactation.				Third lactation.			
	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Sire No. Sc. 102—	1	4,762.0	334	..	137	1	3,240.0	329	11.4	..	..	..
Daughter ..	1	6,161.0	315	..	..	1	1,097.0	15	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 519—	1	5,129.0	285	15.0	259	1	3,727.0	327	..	80	1	3,526.0
Daughter ..	1	4,331.5	325	..	..	1	3,521.0	294	16.6	..	..	..
Dam ..	..	..	..	..	..	..	1	4,311.0	268	..	..	..
Sire No. Sc. 341—	1	3,575.0	360	..	341	1	3,521.0	294	16.6	..	..	..
Daughter ..	1	4,732.0	318	..	..	1	4,311.0	268	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 430—	1	2,182.5	307	..	72	1	2,933.5	259	..	..	..	..
Daughter ..	1	3,918.5	343	..	..	1	5,610.0	273	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 102—	..	..	..	..	..	..	..	..	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 311—	..	..	..	..	..	..	..	..	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..
Sire No. Sc. 430—	..	..	..	..	..	..	..	..	..	..	..	..
Dam ..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE.—NRA = Number of records averaged. AYM = Average yield of milk. ADM = Average days in milk. APY = Average of peak yield. ASP = Average service period.

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of 1956-57

classified according to sires.

Scindhi Breed.

Particulars.	First lactation.						Second lactation.						Third lactation.					
	NRA	AYM	ADM	APY	ASP	(1)	NRA	AYM	ADM	APY	ASP	(11)	NRA	AYM	ADM	APY	ASP	(16)
Daughters of— Bull No. 149 Their dams	2 2	4,041 4,002	305 322	N.A. N.A.	482 170	.. ..	2 2	6,592 4,888	N.A. N.A.	338 256	246 253	2 2	2 2	5,549 4,954	N.A. N.A.	282 253	244 378	..
Daughters of— Bull No. 160 Their dams	1 1	4,825 5,809	334 367	N.A. N.A.	304 229	.. ..	1 1	10,460 3,166	N.A. N.A.	424 226	307 167	1 1	1 1	9,486 N.A.	N.A. N.A.	444 N.A.	441 97	..
Daughters of— Bull No. 236 Their dams	7 6	4,310 4,139	337 358	N.A. N.A.	316 289	.. ..	7 6	4,259 3,545	N.A. N.A.	276 278	164 129	7 6	7 6	5,667 3,222	N.A. N.A.	296 280	213 202	..
Daughters of— Bull No. 238 Their dams	1 1	4,666 3,711	320 326	N.A. N.A.	417 306	.. ..	1 1	1,681 3,424	N.A. N.A.	91 307	153 217	1 1	1 1	5,095 3,150	N.A. N.A.	299 258	282 100	..
Daughters of— Bull No. 261 Their dams	1 1	2,607 6,492	319 423	N.A. N.A.	375 606	.. ..	1 1	3,251 3,084	N.A. N.A.	259 385	91 227	1 1	1 1	3,638 3,942	N.A. N.A.	279 403	245 334	..
Daughters of— Bull No. 270 Their dams	2 2	6,918 3,718	330 330	N.A. N.A.	136 124	.. ..	2 2	5,913 3,417	N.A. N.A.	323 326	163 259	2 2	2 2	4,941 90	N.A. N.A.	320 40	185 230	..
Daughters of— Bull No. 201K Their dams	1 1	3,630	342	N.A.	268	..	1	3,942	N.A.	316	98	1	1	3,121	N.A.	301	190	..
Daughters of— Bull No. 222C Their dams	1 1	3,239	298	N.A.	399	..	1	3,659	N.A.	281	125	1	1	2,439	N.A.	221	231	..
Daughters of— Bull No. 282 Their dams	1 1	4,634	313	N.A.	181	..	1	4,045	N.A.	306	204	1	1	5,738	N.A.	28	333	141
Daughters of— Chapion Their dams	1 1	4,134	324	N.A.	347	..	1	4,112	15.5	314	277	1	1	5,325	N.A.	404	147	..
Daughters of— Bull No. 102 Their dams	11 10	3,095 3,745	284 323	12/4 N.A.	140 272	..	8 9	3,109 3,880	17.4/5 N.A.	284 336	141 231	7 8	7 8	3,650 3,543	23/2 17/1	291 272	110 244	..
Daughters of— Bull No. 139 Their dams	2 1	3,629 4,205	355 345	N.A. N.A.	429 353	..	2 1	5,117 4,282	N.A. N.A.	332 314	207 128	2 1	2 1	6,436 4,528	N.A. N.A.	348 338	220 254	..
Daughters of— Bull No. 255 Their dams	18 17	3,580 4,393	296 338	17.2/5 N.A.	213 390	..	15 17	3,447 4,217	14.8/3 N.A.	264 284	115 214	10 16	10 16	3,953 4,217	16.9/4 N.A.	305 293	110 260	..
Daughters of— Bull No. 282 Their dams	11 10	3,707 3,900	365 310	N.A. N.A.	206 217	..	11 9	3,031 4,112	14.3 N.A.	268 319	139 224	10 8	10 8	3,937 4,136	22.5 N.A.	300 301	130 137	..

NRA. = Number of records averaged.
AYM. = Average yield of milk.
ADM. = Average days in milk.

APY. = Average of peak yield.
ASP. = Average service periods.
N.A. = Not available.

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of 1956-57
classified according to sires—cont.

Sindhi Breed—cont.

Particulars.	Fourth lactation.				Fifth lactation.				Sixth lactation.						
	NRA. (17)	AYM. (18)	ADM. (19)	APY. (20)	ASP. (21)	NRA. (22)	AYM. (23)	ADM. (24)	APY. (25)	ASP. (26)	NRA. (27)	AYM. (28)	ADM. (29)	APY. (30)	ASP. (31)
Daughters of—															
Bull No. 149	2	6,516	N.A.	339	243	2	6,160	N.A.	351	144	2	6,434	N.A.	348	110
Their dams	2	3,946	N.A.	274	813	2	4,103	N.A.	264	113	1	2,470	N.A.	297	319
Daughters of—															
Bull No. 160	1	1,678	35	126	53	1	11,318	N.A.	394	100	1	5,469	N.A.	327	350
Their dams	1	6,739	N.A.	398	483	1	7,086	14.5	349	202	1	5,469	N.A.	327	350
Daughters of—															
Bull No. 236	7	5,730	23.5/2	276	140	6	5,049	33.3/3	268	161	6	6,798	28.5/3	312	82
Their dams	6	4,786	N.A.	332	333	6	3,708	N.A.	299	373	5	4,726	N.A.	306	293
Daughters of—															
Bull No. 238	1	4,652	N.A.	322	286	1	3,999	18	300	148	1	3,499	16	293	136
Their dams	1	3,391	N.A.	239	59	1	1,997	N.A.	184	222	1	3,167	N.A.	304	..
Daughters of—															
Bull No. 291	1	4,626	24	288	301	1	3,663	11	262	112	..	..	..	..	..
Their dams	1	2,143	N.A.	245	..	..	..	..	..	..	..	..	..	..	..
Daughters of—															
Bull No. 270	2	6,608	N.A.	302	265	2	5,077	30.1	326	105	2	5,443	N.A.	333	150
Their dams	2	3,839	N.A.	295	190	2	3,869	N.A.	299	237	1	3,815	N.A.	324	211
Daughters of—															
Bull No. 20K	1	3,998	N.A.	288	213	1	4,329	N.A.	334	218	1	4,174	N.A.	308	123
Their dams	..	..	..	..	..	..	Not available.	..	..	..	..	..	..	..	..
Daughters of—															
Bull No. 222C	1	3,845	22.5	238	471	1	3,659	N.A.	326	54	..	..	..	..	..
Their dams	..	..	..	..	..	..	Not available.	..	..	..	..	..	..	..	..
Daughters of—															
'Nanda'	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams	..	..	..	..	..	..	Not available.	..	..	..	..	..	..	..	..
Daughters of—															
'Chapion'	..	..	..	..	..	..	Not available.	..	..	..	..	..	..	..	..
Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of—															
Bull No. 102	3	3,870	14.5/7	305	184	2	2,264	N.A.	213	40	..	..	..	..	..
Their dams	8	4,489	16.2	295	149	8	4,229	18/3	271	135	7	4,374	18.2	297	122
Daughters of—															
Bull No. 139	2	4,416	N.A.	273	151	2	5,641	N.A.	297	146	2	5,036	N.A.	359	251
Their dams	1	3,383	N.A.	266	73	1	4,584	N.A.	394	291	1	3,318	N.A.	326	186
Daughters of—															
Bull No. 255	9	4,176	21.9/5	319	134	7	4,200	22.4	293	89	3	2,107	118.5/1	154	76
Their dams	15	3,616	20.2/2	290	187	14	4,577	31.5/3	325	144	13	4,542	28/3	311	183
Daughters of—															
Bull No. 282	8	3,321	1.499/5	291	138	6	3,943	17.5/3	280	74	4	4,047	18/1	283	80
Their dams	9	3,754	N.A.	287	207	6	3,760	13/1	298	154	6	3,749	15.3/2	305	204

NRA. = Number of records averaged.
AYM. = Average yield of milk.
ADM. = Average days in milk.

APY. = Average of peak yield.
ASP. = Average service period.
N.A. = Not available.

NRA. = Number of records averaged.
AYM. = Average yield of milk.
ADM. = Average days in milk.

APY. = Average of peak yield.
ASP. = Average service period.
N.A. = Not available.

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of 1956-57
classified according to sires—cont.

Particulars.	Seventh lactation.					Eighth lactation.					Ninth lactation.				
	NRA (32)	AYM. (33)	ADM. (34)	APY. (35)	ASP. (36)	NRA (37)	AYM. (38)	ADM. (39)	APY. (40)	ASP. (41)	NRA (42)	AYM. (43)	ADM. (44)	APY. (45)	ASP. (46)
Daughters of— Bull No. 149 Their dams	1 1	5,687 3,713	23 N.A.	293 325	165 63	1 1	5,137 2,937	158 315	N.A. N.A.	70 ..	.. ..	.. ..	.. ..	.. ..	.. ..
Daughters of— Bull No. 160 Their dams	1 1	8,463	N.A.	352	478	1	6,905	475	N.A.	58	..	..	..	..	..
Daughters of— Bull No. 236 Their dams	4 4	5,749 3,693	41/3 13/1	310 312	85 212	2 4	4,941 3,817	109 187	N.A. 12.5/1	73 111	3	2,017	N.A.	210	58
Daughters of— Bull No. 238 Their dams	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	1	..	..	..	..
Daughters of— Bull No. 291 Their dams	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..	..
Daughters of— Bull No. 270 Their dams	1 1	7,765 2,819	35 N.A.	317 288	96 88	1 1	6,888 90	393 59	N.A. N.A.	99 ..	..	..	..	..	..
Daughters of— Bull No. 201K Their dams	1 1	4,083	N.A.	303	129	1	4,861 Not available.	113	N.A.	92	..	..	..	..	..
Daughters of— Bull No. 222C Their dams	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..	..
Daughters of— Bull No. 282 Their dams	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	..	..	..	..	..

NRA. = Number of records averaged.
AYM. = Average yield of milk.
ADM. = Average days in milk.

APY. = Average of peak yield.
ASP. = Average service period.
N.A. = Not available.

Daughters of— Champion Their dams	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..
Daughters of— Bull No. 102 Their dams	.. ..	3,829	N.A.	307	103	3	4,359	102	33/2	157	2	7,058	23.5/2	365	158
Daughters of— Bull No. 139 Their dams	.. ..	5,629 3,293	25/2 N.A.	324 268	149 110	2 1	5,396 3,977	122 120	22.5/1 N.A.	118 270	1 1	4,055 225	N.A. N.A.	294 19	238 76
Daughters of— Bull No. 255 Their dams	.. ..	4,446 3,626	N.A. 25/2	296 298	121 139	.. 8	2,594	158	N.A.	190	3 .6	2,017 2,111	N.A.	210 299	58 111
Daughters of— Bull No. 282 Their dams	.. ..	3,381 2,579	N.A. 15/1	308 212	94 54	.. 2	3,395	132	N.A.	235	.. 2	3,654	N.A.	322	273

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm as at the end of 1956-57 classified according to sires—cont.

Seindhi Breed—cont.

Particulars.	Tenth lactation.					Eleventh lactation.					Twelfth lactation.				
	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP	NRA	AYM	ADM	APY	ASP
Daughters of— Bull No. 149 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 160 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 236 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 238 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 261 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 270 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 20K Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 222C Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Nanda, Their dam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Chapion, Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 102 Their dams	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of— Bull No. 139 Their dams	..	1 3,592	..	342	262	..	92	N.A.	17	..	..	..	..	..	..
Daughters of— Bull No. 235 Their dams	..	5 1,409	..	155	38	..	92	N.A.	17	..	..	..	..	..	..
Daughters of— Bull No. 282 Their dams	..	2 3,365	..	334	106	..	2,725	N.A.	314	139	1 2,260	N.A.	293	..	..

NRA. = Number of records averaged.
AYM. = Average yield of milk.
ADM. = Average days in milk.

APY. = Average of peak yield.
ASP. = Average of service periods.
NA. = Not available.

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of 1956-57

classified according to sires—cont.

Scindhi breed—cont.

Particulars.	First lactation.					Second lactation.					Third lactation.					Fourth lactation.				
	NRA	AVM	APV	ADM	ASP	NRA	AVM	APV	ADM	ASP	NRA	AVM	APV	ADM	ASP	NRA	AVM	APV	ADM	ASP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Daughters of Bull No. 333.	9	3,540	14-3/2	318	101	7	3,591	15-1/6	321	146	4	4,210	14-1	324	118	1	3,167	NA	234	59
Their dams..	8	3,215	NA	291	213	8	3,831	NA	256	136	6	3,780	NA	303	237	6	3,352	23-5/2	246	88
Daughters of Bull No. 399.	3	3,384	13-1	318	121	3	4,013	18-1	316	99	2	4,534	20-3/2	327	151	1	3,113	4-1/1	294	44
Their dams..	3	4,337	NA	347	230	3	4,216	NA	337	267	3	4,091	NA	317	167	3	3,510	NA	247	167
Daughters of Bull No. 430.	1	3,586	16	322	151	1	3,983	NA	363	193	..	..	..	..	..	..	..	..	..	..
Their dams..	1	3,453	NA	299	97	1	1,160	NA	261	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 491.	3	3,052	NA	245	166	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	3	4,325	NA	309	236	3	2,513	NA	181	147	3	5,314	15-1	300	159	3	5,647	NA	232	124
Daughters of Bull No. 481.	5	2,836	9-1	219	99	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	5	2,915	NA	273	233	5	3,273	15-8/2	273	149	5	3,131	14-1	263	19	4	2,647	NA	252	107
Daughters of Bull No. 503.	2	4,038	NA	356	183	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	2	3,192	NA	326	163	2	3,087	NA	504	116	2	3,319	24-1	2,277	94	2	3,527	16-5/2	201	138
Daughters of Bull No. 508.	1	4,467	NA	359	62	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	1	3,085	NA	311	170	1	3,873	NA	251	60	1	3,927	NA	269	29	1	4,173	18-0	232	83
Daughters of Bull No. 510.	9	3,378	NA	283	155	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	9	3,543	NA	290	255	9	4,810	15-5/1	308	106	9	3,980	NA	280	224	8	4,563	22-5/1	249	198
Daughters of unknown sires.	2	3,105	NA	321	207	2	4,910	19-2	318	100	2	5,318	NA	334	111	..	..	..	..	..
Their dams..	2	4,885	NA	392	232	2	3,648	NA	339	238	2	411	NA	52	67	2	3,325	NA	297	135
Daughters of Bull No. T.	12	4,205	NA	354	140	11	2,420	NA	294	122	1	NA	NA	NA	28	1	4,124	NA	273	114
Their dams..	12	3,329	NA	307	219	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 420.	2	3,751	NA	315	113	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams..	2	3,532	NA	329	481	2	3,580	NA	302	108	2	3,440	NA	269	79	2	3,245	NA	240	104
Daughters of Bull No. 516.	1	2,630	NA	266	82	1	2,822	NA	255	59	..	..	..	..	..	..	..	..	..	..
Their dams..	1	4,754	NA	385	103	1	3,702	NA	322	164	1	5,342	NA	385	234	1	4,463	NA	384	196

Particulars.	Fifth lactation.					Sixth lactation.					Seventh lactation.					Eighth lactation.				
	NRA. (22)	AVM. (23)	APV. (24)	ADM. (25)	ASP. (26)	NRA. (27)	AVM. (28)	APV. (29)	ADM. (30)	ASP. (31)	NRA. (32)	AVM. (33)	APV. (34)	ADM. (35)	ASP. (36)	NRA. (37)	AVM. (38)	APV. (39)	ADM. (40)	ASP. (41)
Daughters of Bull No. 333.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	6	3,612	26-8/2	255	111	2	5,063	NA	292	76	1	149	NA	26	61	1	3,052	NA	298	75
Daughters of Bull No. 339.	1	4,631	NA	300	63	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	3	3,913	NA	313	169	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 430.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 431.*	3	5,091	NA	293	112	3	6,059	30-2	291	85	2	5,917	26	287	56	..	..	..	..	..
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 481.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	2	3,563	14-1	245	89	2	3,635	14-5/1	319	132	1	3,703	NA	335	100	1	3,218	NA	292	62
Daughters of Bull No. 503.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	2	4,208	NA	290	83	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 508.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	5,552	18-5	383	174	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 510.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	8	3,945	NA	307	126	6	4,138	NA	278	120	4	5,563	30-3/3	293	111	4	5,279	NA	307	87
Daughters of unknown sires.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their Dams ..	2	3,971	NA	342	157	2	3,383	NA	351	142	1	2,722	NA	361	70	..	..	..	..	..
Daughters of Bull No. T.	4	3,324	23	273	107	1	2,949	20-5	260	126	1	3,808	NA	293	83	..	..	..	..	..
Their Dams ..	6	4,472	NA	307	187	5	5,273	43-1	803	136	5	4,763	25-2	289	104	3	2,944	NA	237	69
Daughters of Bull No. 420.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	2	3,250	14-3/1	293	256	1	3,387	NA	313	249	1	3,827	NA	251	99	1	2,838	NA	296	82
Daughters of Bull No. 516.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	2,946	NA	286	63	1	3,913	NA	334	216	1	3,539	NA	340	231	1	4,337	NA	394	280

TABLE XII.—Performance of cows at Livestock Research Station, Hosur Cattle Farm, as at the end of 1956-57 classified according to sires—cont.

Scindhi Breed—cont.																			
Particulars.	Ninth lactation.			Tenth lactation.			Eleventh lactation.			Twelfth lactation.			ASP						
	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.		APY.	ADM.				
Daughters of Bull No. 333.	(42)	..	..	..	..	..	..	..	..	..	..	..	..	..	(61)				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 399.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 430.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 431.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 481.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 503.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 508.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 510.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of unknown sires.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Daughters of Bull No. 160.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
Their dams ..	2	2,792	NA	242	38	1	2,875	NA	279	106	1	2,725	NA	314	139	1	2,780	NA	293
Daughters of Bull No. 420.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	2,582	NA	279	178	1	2,875	NA	279	106	1	2,725	NA	314	139	1	2,560	NA	293
Daughters of Bull No. 516.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	3,736	NA	378	299	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Nov.—NRA. = Number of records averaged. AYM. = Average yield of milk. APY = Average of peak yield. ADM = Average days in milk. ASP = Average service periods. NA = Not available.

NOTE.—NRA. = Number of records averaged. AYM. = Average yield of milk. APY. = Average of peak yield. ADM. = Average days in milk. ASP. = Average service periods. NA = Not available.

GIR BREED.

Particulars.	First lactation.						Second lactation.						Third lactation.						Fourth lactation.						
	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.
(1) Daughters of Priya- than.	2	3,302	NA	329	100	2	2,386	18-5/1	188	220	2	6,621	NA	358	151	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	3,175	NA	195	120	2	4,254	NA	229	142	2	3,135	NA	188	73	1	121	NA	48	..	..	..	..	..	..
Daughters of unknown sires.	10	4,850	NA	359	250	11	4,800	22-2/2	311	179	10	4,834	20-6/2	294	89	8	5,480	20-3/3	346	166	..	..	..	..	..
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 1.	4	3,342	18-5/2	275	143	1	4,675	20-5	334	129	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	2	5,545	NA	383	206	3	3,858	NA	248	158	3	4,309	24/1	287	98	1	1,754	NA	199	86	..	..	..	..	..
Daughters of Bull No. 2.	10	2,891	14-2/4	300	206	3	5,426	20/1	343	156	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Their dams ..	10	3,524	NA	292	165	8	2,902	NA	240	137	7	2,535	NA	244	69	6	3,231	21/1	277	133	..	..	..	..	..

Particulars.	Fifth lactation.						Sixth lactation.						Seventh lactation.						Eighth lactation.						
	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.	NRA.	AYM.	APY.	ADM.	ASP.
Daughters of unknown sires.	5	6,716	29-1/4	356	103	3	6,051	NA	344	141	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 1.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	1	2,144	NA	278	72	1	2,536	20	203	116	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Daughters of Bull No. 2.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Their dams ..	3	3,749	25/1	289	124	1	2,250	20	204	86	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

NOTE.—(1) NRA.—Number of records averaged. AYM = Average yield of milk. APY = Average days in milk. ADM = Average days in milk. ASP = Average service periods.

(2) Under peak yield 14-2/4 indicates that 14-2 lb. is the average of 4 animals only the peak yield of rest of the animals being not available.

NOTE.—(1) NRA. = Number of records averaged. AYM. = Average yield of milk. APY. = Average of peak yield. ADM. = Average days in milk. ASP. = Average service periods. NA = Not available.

(2) Under peak yield 14.2/4 indicates that 14.2 lb. is the average of 4 animals only the peak yield of rest of the animals being not available.

Statement showing the receipts and disposal of birds in poultry demonstration units for the period from 1st November 1956 to 31st March 1957.

Location of unit.	Breed.	Stock on 1st Nov. 1956.	Received by hatch.	Received from outside.	Sold for breeding.	Sold for table.	Transfers.	Loss due to deaths, destructions, etc.	Stock on 31st March 1957.	Receipts.	Expenditure.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Kancheepuram ..	R.I.R. ..	15	20	..	1	..	..	2	32	69 12	87 12
2 Kaliyampoondi ..	R.I.R. ..	7	8	..	2	..	..	6	7	61 19	45 25
3 Tirukalkunram ..	R.I.R. ..	17	..	..	..	..	..	4	13	27 06	42 10
4 Cuddalore ..	W.L.H. ..	18	..	..	3	..	..	1	14	126 25	116 37
5 Kallakuruchi ..	W.L.H. ..	30	14	..	1	8	..	7	28	50 06	103 06
6 Tiruvannamalai ..	B.M. ..	29	14	3	..	2	..	7	28	65 72	149 42
7 Pallapatti ..	W.L.H. ..	25	16	..	..	..	..	16	25	142 50	183 56
8 Kodaikanal ..	R.I.R. ..	24	..	..	..	..	..	..	22	..	..
9 Athoor ..	R.I.R. ..	22	..	..	..	..	..	..	24	..	..
10 Tirumalayanpuram ..	W.L.H. ..	6	..	..	..	..	6	..	31	..	..
11 Alanganallur ..	R.I.R. ..	20	15	1	2	..	1	2	21	..	..
12 Tallakulam ..	W.L.H. ..	21	..	..	..	..	..	..	21	..	..
13 Periyakulam ..	B.M. ..	31	5	6	16	..	..	4	22	..	..
14 Melur ..	W.L.H. ..	25	..	..	..	..	..	3	22	..	..
15 Chatrapatti ..	W.L.H. ..	38	..	..	..	..	..	5	29	205 37	147 50
16 Vellore ..	W.L.H. ..	62	80	..	4	..	..	27	96	261 25	225 95
17 Varichur ..	B.M. ..	31	4	..	19	..	..	5	30	178 75	170 00
18 Erode ..	W.L.H. ..	15	..	..	..	..	..	3	12	61 75	72 45
19 Dharapuram ..	W.L.H. ..	10	..	..	..	..	..	5	14	55 00	74 53
20 Tiruppur ..	R.I.R. ..	8	14	..	..	..	..	5	17	18 87	37 05
		86	211	53	168	..	9	38	135	363 91	418 62
		125	242	6	105	..	83	11	174	606 25	388 31
		61	44	5	57	..	2	..	51	153 25	302 25

21 Malayanpalayam ..	W.L.H. ..	42	33	..	15	..	15	2	43	127 22	196 62
22 Kavandapady ..	W.L.H. ..	24	58	..	29	..	3	1	58	101 33	333 62
23 Pollachi ..	R.I.R. ..	36	23	..	8	..	..	8	43	279 62	231 94
24 Ooty ..	W.L.H. ..	6	9	..	..	..	..	2	13	51 19	76 56
25 Padukkottai ..	W.L.H. ..	7	6	11	..	..	..	4	20	31 12	152 62
26 Nagapattinam ..	R.I.R. ..	8	..	..	..	..	..	..	18	..	..
27 Tanjore ..	B.M. ..	65	85	..	46	..	11	18	75	524 75	286 31
28 Tirunelveli ..	R.I.R. ..	367	14	..	11	..	..	5	35	..	..
29 Cheranmahadevi ..	R.I.R. ..	38	12	..	9	..	..	12	29	..	..
30 Devakkottai ..	W.L.H. ..	56	31	..	8	..	..	37	42	82 19	123 78
31 Nagercoil..	R.I.R. ..	9	21	..	..	..	..	9	21	71 47	304 17
	W.L.H. ..	14	..	..	..	..	..	..	14	..	..
	Total ..	1,060	988	85	495	10	130	249	1,238	..	..

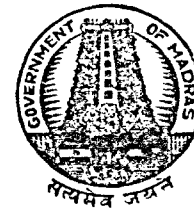
N.B.—Details on Desi Birds maintained in a few of the above units for "Natural Incubation" have not been shown.

Location of unit.	Breed or poultry.	Balance of eggs on 1st November 1956.	Number of eggs.					Set for hatching.	Broken and fed to chicks.	Transferred.	Balance of eggs on 31st March 1957.
			Received from outside.	Collected.	Sold for hatching.	Sold for table.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
1 Kancheepuram	R.I.R.	1	..	361	191	103	48	10	..	10	
2 Kaliyampoondi	R.I.R.	2	..	35	20	..	14	3	..	..	
3 Thirukalikunram	R.I.R.	3	..	253	150	37	..	11	43	15	
4 Cuddalore	W.L.H.	19	..	391	361	14	20	11	..	4	
5 Tiruvannamalai	W.L.H.	3	..	488	141	231	98	21	..	..	
6 Kallakuruchi	B.M.	9	..	274	153	57	40	26	..	7	
7 Pallapatty	R.I.R.	16	..	466	355	100	..	..	..	27	
8 Kodaikanal	W.L.H.	7	..	195	144	42	..	1	..	15	
9 Athoor	R.I.R.	43	..	829	654	190	16	2	..	10	
10 Tirumakurayam.	W.L.H.	36	..	617	120	309	..	2	..	222	
11 Alanganallur	B.M.	9	..	378	167	181	10	..	..	29	
12 Tallakulam	W.L.H.	15	..	546	337	196	27	1	..	..	
13 Periakulam	W.L.H.	8	..	862	753	..	25	..	92	..	
14 Melur	B.M.	16	..	1,300	844	126	130	142	..	74	
15 Chatrapatti	W.L.H.	8	..	807	660	110	12	17	..	16	
16 Vellore	W.L.H.	19	..	494	..	494	..	..	..	19	
17 Varichur	W.L.H.	9	..	252	212	16	15	3	..	15	
18 Erode	W.L.H.	7	..	105	52	47	11	..	..	2	
19 Dharepuram	W.L.H.	26	223	851	358	164	487	45	..	46	
20 Tiruppur	W.L.H.	57	..	423	304	364	494	42	250	26	
21 Malayampalayam.	R.I.R.	12	..	724	131	399	164	3	..	39	
22 Kavandapady	W.L.H.	5	..	836	118	410	129	50	103	28	
23 Pollachi	R.I.R.	16	..	467	226	30	80	72	75	..	
24 Ooty	R.I.R.	46	..	1,033	944	24	69	37	..	5	
	W.L.H.	..	..	233	169	21	33	1	..	9	

25 Pudukkottai	W.L.H.	7	..	237	55	133	9	1	..	46	
26 Nagapattinam	R.I.R.	..	..	63	26	27	7	..	..	3	
27 Tanjore	B.M.	11	..	1,170	1,008	42	125	6	..	..	
28 Tirunelveli	R.I.R.	3	..	440	348	..	35	23	25	12	
29 Choramahadevi	R.I.R.	4	..	192	68	13	54	28	30	3	
30 Devakkottai	W.L.H.	3	17	285	80	11	112	20	67	15	
31 Nagarcil	R.I.R.	..	..	357	299	22	34	..	..	2	
	W.L.H.	..	..	315	284	31	..	..	..	..	
Total		420	240	17,199	9,732	3,964	2,198	578	688	699	

MADRAS, }
19th August 1957.

D. PATTABHIRAMAN,
Director of Animal Husbandry.



FOOD AND AGRICULTURE DEPARTMENT

G.O. No. 3848, 19th December 1957

Administration Report—1956-57—Animal Husbandry Department—
Recorded with remarks.

READ—the following paper :—

Letter from the Director of Animal Husbandry, dated 19th August 1957,
D. Dis. No. 15037-B-5/57.

Order—No. 3848, Food and Agriculture, dated 19th December 1957.

The report of the working of the Madras Animal Husbandry Department for 1956-57 submitted by the Director of Animal Husbandry has been considered by Government and it is recorded with the following remarks :—

I. *Policy.*—General principles of the livestock policy of the State continued to be designed for the development and care of livestock from all angles and on scientific lines. Activities has been directed towards selective breeding with a view to keep up pedigree of various breeds and at the same time to improve the milk yielding capacity along with other qualities of the breeds in the various farms. In the field, the special emphasis during the year was on the upgrading of local stock through the Key Village Scheme in the Kangayam tract. This year also saw the launching of the Second Five-Year Plan Schemes.

II. *States Reorganization.*—This year saw the reorganization of States which affected the Animal Husbandry Department like any other department. The State lost two big livestock farms, namely, the District Livestock Farm, Koila, South Kanara, and the District Livestock Farm, Malabar, and also the District

Poultry Farm, Cannanore. The Kanyakumari district and Shenkottah taluk have come over to the Madras State bringing in one Key Village Centre. The administration report itself consists of two parts. The first part gives an account of the composite State and covers the period from 1st April to 31st October 1956. The second part covers the administration of the residuary State and the period from 1st November 1956 to 31st March 1957.

III. *Administration.*—The Animal Husbandry Department underwent an expansion during the year. The number of gazetted posts on 31st October 1956, i.e., on the eve of reorganization was 79 as against 63 at the commencement of the year, i.e., on 1st April 1956. Consequent on reorganization, four posts were transferred to Kerala and Mysore. However two gazetted posts were created after reorganization and the total gazetted strength on 31st March 1957 was 77. There were 455 Veterinary Assistant Surgeons at the close of the year as against 452 in the previous year. Due to the increase in the volume of work, the districts of Tanjore, Tiruchirappalli, Madurai and Coimbatore were bifurcated for the purpose of administration during this year. The Nilgiris district which was till then under the control of the District Veterinary Officer, Coimbatore, was placed under a separate District Veterinary Officer. The growing activities of the department with increasing expenditure have necessitated internal audit. The post of an Accounts Officer with a full-fledged audit section was therefore created during the year.

IV. *Special training for officers.*—Some members of the staff of the department were deputed abroad for advanced training and post-graduate courses. Dr. B. Satyendra Rao continued to be in New Zealand for the training in dairy and cattle improvement. Dr. K. L. Shunmugasundaram was deputed to attend the seminar on milk distribution and sanitation at Denmark and the International Dairy Congress at Rome during the period. Dr. T. Ananthapadmanabhan was deputed to United Kingdom under the Colombo Plan for training in Animal Breeding and Livestock Development.

V. *Veterinary education.*—The admission to the B.V.Sc. course was increased from 100 to 120 during the year and selection of candidates was made by a committee specially constituted for the purpose. Candidates from Andhra, Mysore and Coorg were admitted to the B.V.Sc. course according to the agreed apportionment of seats. One foreign student from Malaya was admitted. The students undertook educational tours during the year and took active part in extra-curricular activities and in games and sports during this year. The College Students' Social Union continued its activities in the slum areas and distributed milk powder, etc., to the poor children. The Finance Minister laid the foundation stone for the three storeyed building of the college. A post-graduate course in Parasitology was run at the college. As regards the Stockmen's course two new centres were opened this year, one at Pudukkottai and another at Orthanad. The three months' course in Flaying was continued this year too and several butchers were trained in the art of flaying. Advanced research

studies were undertaken by the members of the staff and some of the scholars. The Government of India awarded two research scholarships of the value of Rs. 200 per month for research in Animal Nutrition and Pharmacology. The Government however observe that more members of the staff should undertake research work than was the case in the year under review. The Government are glad to find that the college hospital has been functioning satisfactorily and commands a large daily attendance.

VI. *Institute of Veterinary Preventive Medicine, Ranipet.*—The Government find that the institute has been doing quite useful work. Certain improvements were carried out to the quarters in the institute and a bore-well was sunk for augmenting the water-supply. It is gratifying to note that all the vaccines and sera required for the protection of livestock have been manufactured in the State except very few products like, Johnin, Mallein, etc., which were got from the Indian Veterinary Research Institute, Muktesar. Large quantities of Rinderpest vaccine and Ranikhet vaccine were supplied to the neighbouring State of Andhra, Travancore-Cochin, Hyderabad and even to Sourashtra. The institute participated in the University Centenary Exhibition held at Guindy.

VII. *Livestock.*—The Government are glad to find that the livestock farms have been working satisfactorily and are in a position to supply adequate stock to the public for upgrading local stock. During the year as a result of reorganization of States two farms, viz., the District Livestock Farm, Koila, South Kanara, and the District Livestock Farm, Thiruvazhankunnu (Malabar), were lost to Madras State as also the District Poultry Farm, Cannanore. During the course of the year, one livestock farm was opened in Ramanathapuram district and preliminary work was done on it. The Livestock Research Station, Hosur, has been growing in importance and is now a centre of advanced scientific activities ranging from Animal Genetics and Nutrition to Farm Management. The dairy units attached to the farms have also been running satisfactorily. The Livestock Farms at Pudukkottai and Orthanad were also strengthened and are now fulfilling their main purpose as demonstration centres on cattle rearing and fodder production on economic and scientific lines, besides developing the local breeds like Umblacherry. The Director of Animal Husbandry is requested to see that the milk yield of the farm animals is improved. He is also requested to explore ways and means of reducing expenditure and avoiding wastage. The Government find that considerable progress has been made towards improving the quality of the stock of sheep and goats. The Sheep Farm at Ootacamund, the Sheep Breeding Station and Livestock Research Station, Hosur, have been functioning satisfactorily. The Ootacamund farm is meant for improving the Bellary sheep. At the Ootacamund Sheep Farm, extensive investigations have also been undertaken for establishing suitable grasses which can withstand the weather condition in that locality. The Government are also glad to find that the Wool Analysis Laboratory, Ootacamund, and the Sheep Demonstration Units at Coimbatore have been functioning satisfactorily. These units have been conducting extensive

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propaganda on better production, clean harvesting of wool, deworming, deticking and scientific gradation of wool. They have also been doing the much-needed work of training the shepherds. This year a Sheep Breeding Research Station, was also opened at Chinnasalem for carrying out breeding experiments with local black woolly sheeps with Bikanir rams and for carrying out research into general problems relating to sheep husbandry. The Government are glad to find that this research station has made considerable headway and has also evoked very favourable response from the public. The Government are also glad to observe that the District Collectors have been taking interest in Livestock improvement and have been granting money for award of prizes at cattle shows out of their discretionary grants.

VIII. Poultry.—The work of poultry development was undertaken through the Poultry Research Station, Teynampet, the Poultry sections in the Livestock Farms at Hosur and Orthana and poultry demonstration units in the various veterinary institutions. This year as a result of reorganization of States, the District Poultry Farm, Cannanore, was lost to Madras State. The Government regret to note that mortality in the Poultry Research Station, Teynampet, has increased greatly. The percentage of hatchability and performance of the birds was neither good and even the percentage of layers among the total poultry population was very low. The number of poultry diseases like Avian Leucosis, fowl-pox, etc., have claimed a large number of victims. Though the Director of Animal Husbandry has stated that the increase in mortality was due to high susceptibility of the imported stock, the Government feel that preventive and precautionary measures should be strengthened in all poultry units and that there should be stricter supervision. The Director of Animal Husbandry is requested to pay special attention to poultry development. The Government are also glad to find, apart from the Government poultry units, a number of private poultry farms have been functioning satisfactorily, with Government aid and technical advice of the department.

IX. Veterinary Health Services.—The different kinds of cattle diseases were treated at the departmental veterinary institutions. As a result of reorganization of States, 15 veterinary institutions were transferred to Kerala and Mysore States and 5 veterinary institutions were taken over along with the Kanyakumari district and Shenkottah taluk. At the end of the year, there were 108 institutions including 34 veterinary hospitals, 74 veterinary dispensaries excluding the 4 veterinary institutions maintained by the Madras Corporation. The Government are glad to find that in all the departmental institutions, 320,687 morbid cases were treated as against 251,568 cases treated last year and 55,367 castrations were performed this year as against 43,134 castrations performed last year. A number of veterinary institutions were electrified and some were equipped with refrigerators and microscopes. To facilitate disease investigation, 12 clinical laboratories were functioning, one in each district. The Government find that some veterinary institutions were closed for want of Veterinary Assistant Surgeons. The Government hope that with

the increase in the admission of students to the B.V.Sc. course the shortage of hands will be greatly reduced. It is a matter of congratulation that the Animal Husbandry Department has by constant vigil and intensive prophylactic measures kept this State absolutely free from the curse of Rinderpest.

As a result of reorganization of States, 9 minor veterinary dispensaries and 10 veterinary first-aid centres and 4 touring billets were lost to Madras State. In all these veterinary dispensaries and in the villages, 136,638 cases were treated as against 126,610 cases treated last year and 31,271 castrations were performed as against 39,665 castrations performed last year.

Apart from this, 15 quarantine stations were maintained in the border districts for protecting the incoming cattle. Two veterinary mobile units in Tanjore and Chingleput were also functioning for dealing with sudden outbreaks of cattle diseases and their efficacy has been very well demonstrated by a fall in the number of outbreak reports from these districts.

X. Disease Investigation and Research.—The Government find that the department has been undertaking field investigation on livestock on a fairly large scale. Apart from this, intensive research has been carried out at the Institute of Veterinary Preventive Medicine, Ranipet, into several livestock diseases and their prophylactic aspects. Research work has also been carried out in the basic sciences like, Anatomy, Nutrition, Parasitology, Bacteriology, Pathology, etc., in the various departments of the Veterinary College. The Disease Investigation Officers for Cattle, Sheep and Poultry continued their investigations both in the field and in the laboratory. Encouraging results were obtained from these institutions.

XI. Animal Husbandry Extension.—It is seen that in the National Extension Service areas Animal Husbandry activities were increased and a lot of propaganda was carried on for better maintenance of livestock, sheep and poultry. The aspects of dairy husbandry were emphasized and modern methods of maintenance of cows were explained and the economic benefits of co-operative cattle breeding and dairy societies were stressed. Due to paucity of personnel, certain blocks did not have Animal Husbandry Extension Officers. The Government trust that Animal Husbandry Extension activities will be greatly developed and intensified in the future.

XII. Veterinary Public Health.—Veterinary public health is within the purview of Animal Husbandry and the Public Health Departments. The Animal Husbandry staff have been examining the health of milch animals belonging to several co-operative milk units. During the period qualified Veterinary Surgeons carried out the inspection of meat meant for human consumption in several slaughter-houses maintained by the panchayat boards and the municipalities. The Government also find that the Animal Husbandry Department has been rendering technical advice in the maintenance of lethal chambers and the control of rabies in dogs.

XIII. Propaganda.—Apart from extension work, the Animal Husbandry Department has been carrying out extensive propaganda emphasizing the various aspects of livestock breeding and control of diseases. Meetings were held in villages and personal contacts were made during the tours of officers. Printed leaflets in regional languages were also distributed. Exhibitions like cattle shows, calf rallies and poultry shows were held throughout the State. The first State Cattle Show was held in the last week of March 1956. More Milk Day was also organized in November all over the State. The Animal Husbandry Department also participated in the University Centenary Exhibition at Guindy and the Industries and Agricultural Fair at Coimbatore. The Government would like the propaganda to be intensified and systematized.

XIV. Statistics.—The Statistical Section has also been doing useful work in preparing vital statistics about the livestock population of the State, contagious and non-contagious diseases, number of inoculations, number of animals slaughtered, etc. The Statistical Section has also taken up the maintenance of herd bulls and also a number of pedigree breeding bulls distributed under the various schemes. The Statistical Section has also been carrying out the work on certain interesting problems like the rate of birth of calves, period of gestation, the calving interval, lactations and the composition of milk.

XV. Revenue and Expenditure.—The total receipts and expenditure of the department during the year are given below:—

	1955-56.	1956-57.
	RS.	RS.
Receipts	6,85,705	13,13,067
Expenditure	41,95,254	53,14,654

The Government are glad to observe that the receipts have greatly increased during the course of this year. The Government trust that it would be possible to increase the receipts of this department still further.

Plan Schemes.—The Director of Animal Husbandry has discussed the progress of Plan schemes in the chapter on the "Programme of work". It would be better if the Plan schemes are arranged in the order in which they are found in the final draft of the Second Five-Year Plan. The Director of Animal Husbandry is requested to discuss the progress of each scheme in detail in future with reference to physical targets and the amount spent.

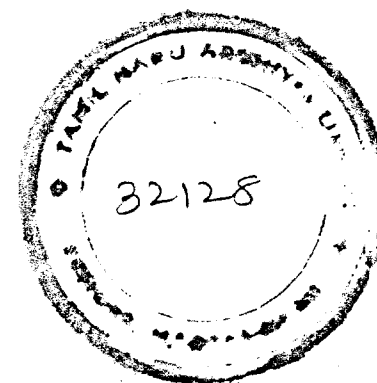
General.—The working of the Animal Husbandry Department during the year under review was in general satisfactory. The Government trust that the department will meet the challenge of the times and implement the schemes included in the Second Five-Year Plan with energy and enthusiasm.

(By order of the Governor)

P. K. HANUMANTHA RAO,
Additional Deputy Secretary to Government.

To the Director of Animal Husbandry, Madras.

- .. Secretary to the Government of India, Ministry of Food and Agriculture, New Delhi.
- .. Secretary, Indian Council of Agricultural Research, New Delhi.
- .. Director of Agriculture, Madras.
- .. Commissioner of Food Production, Madras.
- .. Joint Development Commissioner, Madras.
- .. Registrar of Co-operative Societies, Madras.
- .. Board of Revenue.
- .. Controller of Stationery and Printing, Madras.
- .. Public (Rural Development Projects) Department.
- .. Public (Information and Publicity) Department.
- .. Industries, Labour and Co-operation Department.
- .. Chief Secretary, Kerala State, Trivandrum.
- .. Chief Secretary, Mysore State, Bangalore.



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