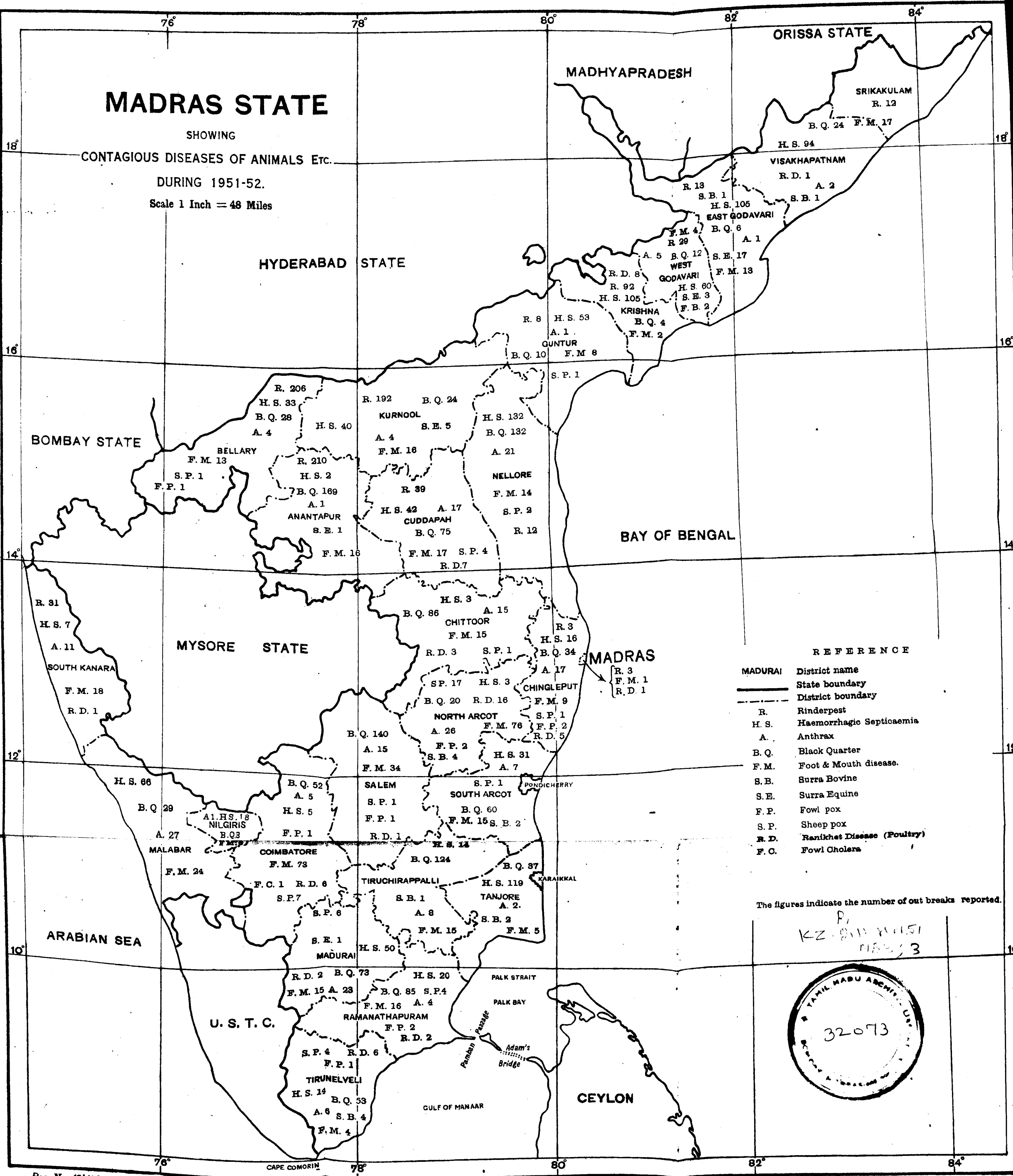


# MADRAS STATE

SHOWING  
CONTAGIOUS DISEASES OF ANIMALS ETC.

DURING 1951-52.

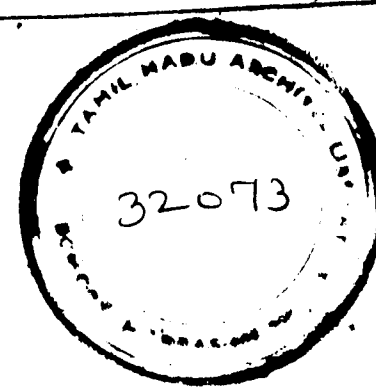
Scale 1 Inch = 48 Miles



## REFERENCE

|         |                            |
|---------|----------------------------|
| MADURAI | District name              |
| —       | State boundary             |
| - - -   | District boundary          |
| R.      | Rinderpest                 |
| H. S.   | Haemorrhagic Septicaemia   |
| A.      | Anthrax                    |
| B. Q.   | Black Quarter              |
| F. M.   | Foot & Mouth disease.      |
| S. B.   | Surra Bovine               |
| S. E.   | Surra Equine               |
| F. P.   | Fowl pox                   |
| S. P.   | Sheep pox                  |
| R. D.   | Ranikhet Disease (Poultry) |
| F. C.   | Fowl Cholera               |

The figures indicate the number of out breaks reported.



# CONTENTS

|                                                           | PAGE |                                                                                                                           | PAGE |
|-----------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------|------|
| <b>I. Staff—</b>                                          |      | <b>IV. Livestock—cont.</b>                                                                                                |      |
| Administration .. .. .                                    | 1    | Propaganda .. .. .                                                                                                        | 33   |
| Gazetted Staff .. .. .                                    | 1    | Salvage of dry cows .. .. .                                                                                               | 3    |
| Other Staff .. .. .                                       | 1    |                                                                                                                           |      |
| <b>II. Education—</b>                                     |      | <b>Livestock Improvement—</b>                                                                                             |      |
| Courses of study .. .. .                                  | 1    | Government bulls and Rams distribution Scheme .. .. .                                                                     | 40   |
| Admissions .. .. .                                        | 1    | Trade in Livestock and Livestock Products. .. .. .                                                                        | 40   |
| Strength .. .. .                                          | 3    | Poultry Bearing and private Poultry Farms .. .. .                                                                         | 41   |
| Training .. .. .                                          | 3    | Village livestock improvement Scheme .. .. .                                                                              | 34   |
| Scholarships and stipends .. .. .                         | 3    | Poultry Improvement in the districts .. .. .                                                                              | 41   |
| Examinations .. .. .                                      | 4    | <b>V. Veterinary Institutions .. .. .</b>                                                                                 | 48   |
| Refresher course .. .. .                                  | 4    | <b>VI. Itinerating Staff .. .. .</b>                                                                                      | 51   |
| Hostel, Health and Athletics .. .. .                      | 4    | <b>VII. Diseases among Livestock—</b>                                                                                     |      |
| Miscellaneous .. .. .                                     | 5    | General .. .. .                                                                                                           | 51   |
| Hospital .. .. .                                          | 7    | Cattle diseases .. .. .                                                                                                   | 52   |
| Laboratory .. .. .                                        | 8    | Diseases of sheep and goats .. .. .                                                                                       | 55   |
| Special features .. .. .                                  | 12   | Diseases among other animals .. .. .                                                                                      | 56   |
| Ranikhet disease vaccine .. .. .                          | 14   | Diseases of poultry .. .. .                                                                                               | 56   |
| <b>III. Veterinary Biological and Research Institute—</b> |      | <b>VIII. Investigation and Research—</b>                                                                                  |      |
| Accommodation and equipment .. .. .                       | 14   | Madras Veterinary College .. .. .                                                                                         | 56   |
| Livestock and fodder .. .. .                              | 14   | Disease Investigation Staff .. .. .                                                                                       | 57   |
| Production of sera, virus and vaccines. .. .. .           | 15   | Scheme for the investigation into the diseases of poultry .. .. .                                                         | 59   |
| Experiments and Research .. .. .                          | 16   | Scheme for the investigation into the diseases of sheep and goats .. .. .                                                 | 64   |
| Laboratory .. .. .                                        | 18   | Madras Helminthiasis Scheme .. .. .                                                                                       | 67   |
| Sale of biological products .. .. .                       | 19   | Kangayam Cattle Improvement Scheme. .. .. .                                                                               | 67   |
| Cost of production .. .. .                                | 19   | Madras Sheep Breeding Scheme .. .. .                                                                                      | 68   |
| <b>IV. Livestock —</b>                                    |      | Scheme for the collection and collation of information on indigenous veterinary medicines from ancient literature .. .. . | 69   |
| Administration .. .. .                                    | 19   | <b>IX. Rural Welfare .. .. .</b>                                                                                          | 70   |
| Livestock in Farms .. .. .                                | 19   | <b>X. Miscellaneous—</b>                                                                                                  |      |
| Livestock Research Station, Hosur .. .. .                 | 21   | Criminal poisoning and malicious injury. .. .. .                                                                          | 71   |
| Livestock Research Station, Lam, Guntur .. .. .           | 23   | The Prevention of Cruelty to Animals Act. .. .. .                                                                         | 71   |
| Dairy-cum-Bull Farm, Visakhapatnam .. .. .                | 23   | Forest Livestock .. .. .                                                                                                  | 71   |
| Combined Sheep and Cattle Farm, Kurukuppi .. .. .         | 25   | Meat Inspection .. .. .                                                                                                   | 71   |
| District Livestock Farm, South Kanara .. .. .             | 25   | Lethal chambers .. .. .                                                                                                   | 71   |
| District Livestock Farm, Malabar .. .. .                  | 26   | Propaganda .. .. .                                                                                                        | 72   |
| Cattle shows and Exhibition .. .. .                       | 47   | Glanders Inspection .. .. .                                                                                               | 72   |
| Season and crops .. .. .                                  | 38   | <b>XI. Post-War Development Schemes—</b>                                                                                  |      |
| <b>Poultry Development—</b>                               |      | Veterinary Aid .. .. .                                                                                                    | 73   |
| Livestock Research Station, Hosur .. .. .                 | 27   | Livestock Improvement Schemes .. .. .                                                                                     | 73   |
| Livestock Research Station, Lam .. .. .                   | 28   | Training Abroad .. .. .                                                                                                   | 73   |
| Poultry Research Station, Madras .. .. .                  | 29   | Information and Publicity .. .. .                                                                                         | 73   |
| Poultry Production Centre, Madras .. .. .                 | 30   | Animal Husbandry Statistical Work .. .. .                                                                                 | 73   |
| District Poultry Farms .. .. .                            | 31   | <b>XII. Finance .. .. .</b>                                                                                               | 74   |
| Poultry Units in Veterinary Institutions .. .. .          | 32   | <b>XIII. Programme of Work .. .. .</b>                                                                                    | 75   |
| Sheep Farming and Development .. .. .                     | 34   | Tables .. .. .                                                                                                            | 75   |
| Artificial Insemination of cattle .. .. .                 | 33   |                                                                                                                           |      |

# ADMINISTRATION REPORT OF THE MADRAS ANIMAL HUSBANDRY DEPARTMENT FOR THE YEAR 1951-52.

## I. STAFF.

### ADMINISTRATION.

I continued to be in charge of the Department throughout the year under report.

2. *Gazetted staff.*—During the year, the Government accepted the proposal of the Director of Animal Husbandry for the creation of two posts of Deputy Directors of Animal Husbandry (on Rs. 800—100/2—1,000. scale) to assist him in the administration of the Animal Husbandry Department, one to be designated as Deputy Director of Animal Husbandry (Livestock) to be in charge of livestock matters and the other to be designated as Deputy Director of Animal Husbandry (Veterinary) to be in charge of matters other than livestock. The Government, however, did not accept the proposal of the Director of Animal Husbandry that the post of the Joint Director of Animal Husbandry should be continued in lieu of one of the posts of Deputy Directors so long as Major T. Murari continued to hold that post. They did not also consider it necessary to keep on the post of the Livestock Development Officer which was held in abeyance. The post of Deputy Director of Animal Husbandry (Livestock) was sanctioned as a permanent measure in lieu of the post of the Livestock Development Officer which was ordered to be abolished with effect from the date on which the post of the Deputy Director (Livestock) was filled up. The two posts of Deputy Directors of Animal Husbandry (Livestock) and (Veterinary) were filled up with effect from 19th June and 18th August 1951 respectively.

3. The following two posts were also sanctioned for the department and filled up during the year :—

(1) Superintendent, District Livestock Farm, Pudukkottai.

(2) Research Officer, Veterinary Biological and Research Institute, Ranipet.

The post of the Research Officer for the scheme of collecting and collating information regarding indigenous drugs used in Veterinary Medicine from old Sanskrit manuscripts, which was financed by the Indian Council of Agricultural Research, ceased to function from 1st April 1952. Thus the sanctioned strength of gazetted officers in the department stood at 66 on 31st March 1952 (vide Table IX) as against 62 of the previous year.

4. *Other staff.*—The sanctioned strength of the Veterinary Assistant Surgeons on 31st March 1952 was 467 as detailed in Table IX.

## II. EDUCATION.

### MADRAS VETERINARY COLLEGE.

5. *Courses of study.*—The courses of study were the same as those of the last year, viz. (1) B.V.Sc. Degree course, (2) Veterinary and Livestock Inspectors' course and (3) Refresher course.

6. (a) *Admissions.*—The number of admissions remained the same as that of the previous year, viz., 80. During this year, for the purposes of selection of students, the State was divided into four regions, viz. (1) Coastal Andhra, (2) Rayalaseema, (3) Tamil and (4) West Coast, and the candidates into three categories, viz. (1) Scheduled Castes and Scheduled Tribes, (2) Socially and Educationally Backward classes and (3) Others. Of the 80 seats, 3 were set

aside for demobilized personnel, 3 for women students, 7 for students belonging to the neighbouring States and 5 for students, of foreign countries, leaving the remaining 62 seats for the students of this State. Of this 15 per cent was allotted to the Scheduled Castes and Scheduled Tribes and 25 per cent to the Socially and Educationally Backward classes. Seventy-five students could only be admitted. Five seats were utilized by the neighbouring States and one by a foreign student, as shown below :—

|                       |    |    |    |    |    |   |
|-----------------------|----|----|----|----|----|---|
| Orissa                | .. | .. | .. | .. | .. | 3 |
| Coorg                 | .. | .. | .. | .. | .. | 1 |
| Travancore and Cochin | .. | .. | .. | .. | .. | 1 |
| Ceylon                | .. | .. | .. | .. | .. | 1 |
| Total                 |    |    |    |    |    | 6 |

Only two women candidates were admitted during this year and no demobilized personnel utilized the seats reserved for them.

The number of students of this State admitted during the year and the regions and categories to which they belonged were as follows :—

| Region.         | Scheduled castes and scheduled tribes. | Socially and educationally backward classes. | Other communities. | Total. |
|-----------------|----------------------------------------|----------------------------------------------|--------------------|--------|
| Coastal Andhra  | ..                                     | 3                                            | 15                 | 18     |
| Rayalaseema     | ..                                     | 3                                            | 5                  | 8      |
| Tamil districts | 1                                      | 13                                           | 25                 | 39     |
| West Coast      | ..                                     | ..                                           | 4                  | 4      |
| Total           | 1                                      | 19                                           | 49                 | 69     |

The tuition fee was raised from Rs. 120 to Rs. 200 each per annum and the registration fee from Rs. 2 to Rs. 5 this year. In spite of such enhancement, there was sufficient number of applications, viz., 238 for 62 seats.

(b) *Veterinary and Livestock Inspectors' Course.*—The number of students to be admitted to the course remained unchanged, viz., 50 as in the last year. The procedure for the selection of students for admission to the B.V.Sc. Degree course was adopted for this course also. The regions and categories to which the selected students belonged are shown below :—

| Region.         | Scheduled castes and scheduled tribes. | Socially and educationally backward classes. | Other communities. | Total. |
|-----------------|----------------------------------------|----------------------------------------------|--------------------|--------|
| Coastal Andhra  | ..                                     | 3                                            | 8                  | 11     |
| Rayalaseema     | ..                                     | 1                                            | 1                  | 2      |
| Tamil districts | 3                                      | 8                                            | 17                 | 28     |
| West Coast      | ..                                     | 2                                            | 3                  | 5      |
| Total           | 3                                      | 14                                           | 29                 | 46     |

No demobilized personnel applied for admission to the course.

7. *Strength.*—The number of students at the end of March 1952 was as detailed below :—

(1) *B.V.Sc. Degree Course.*—

|                                  |    |    |    |     |
|----------------------------------|----|----|----|-----|
| First year—Preliminary           | .. | .. | .. | 83  |
| Second year—Intermediate, Part I | .. | .. | .. | 80  |
| Third year—Intermediate, Part II | .. | .. | .. | 77  |
| Fourth year—Final                | .. | .. | .. | 74  |
| Total                            |    |    |    | 314 |

(2) *Veterinary and Livestock Inspectors' Course.*—

|             |    |    |    |    |    |
|-------------|----|----|----|----|----|
| First year  | .. | .. | .. | .. | 43 |
| Second year | .. | .. | .. | .. | 41 |
| Total       |    |    |    |    | 84 |

8. *Training.*—The students of all the classes of the B.V.Sc. course obtained the required practical training in Animal Husbandry at the Livestock Research Station, Hosur Cattle Farm, as well as at the Dairy-cum-Bull Farm, Visakhapatnam. The students of the III and IV year classes were given practical training in the different clinics and laboratories of the College.

The students of the I and II year of the Veterinary and Livestock Inspectors' course were divided into batches, and deputed in turns for practical training in the different sections of the Livestock Research Station, Hosur Cattle Farm, besides 3 months' training in Pharmacy Hospital and Laboratories of the Madras Veterinary College.

9. *Scholarships and stipends*—(a) *Scholarships (B.V.Sc. Degree Course).*—Scholarships were awarded to 50 per cent of the students of the B.V.Sc. Degree course subject to a maximum of 25 in each class, as in the previous years. The award of scholarships to the first-year class was based on the performance of the students in the first Terminal Examinations. The scholarships were distributed as below :—

| Class.   | Scheduled. | Backward. | Others. | Total. |
|----------|------------|-----------|---------|--------|
| I year   | 1          | 11        | 13      | 25     |
| II year  | ..         | 5         | 19      | 24     |
| III year | ..         | 4         | 21      | 25     |
| IV year  | ..         | 4         | 21      | 25     |
| Total    | 1          | 24        | 74      | 99     |

Besides, 16 students were recipients of scholarships awarded by the Harijan Welfare Department, Madras and by the Scheduled Castes, Scheduled Tribes and the Backward Classes Scholarship Board of the Government of India.

(b) *Stipends—Veterinary and Livestock Inspectors' Course.*—As usual, all the students of the Veterinary and Livestock Inspectors' course were paid stipends. The amount of stipend was Rs. 30 each per mensem for all the students except Harijan students in whose case it was Rs. 35 each per mensem.

10. *Examinations—(a) B.V.Sc. Degree Course.*—The results of the B.V.Sc. Annual and Supplementary examinations held in June, October and December 1951 are shown below:—

| Year of the Examination.                   | Number appeared. |           | Number passed. |           |
|--------------------------------------------|------------------|-----------|----------------|-----------|
|                                            | Whole.           | By parts. | Whole.         | By parts. |
| <i>Annual—June 1951.—</i>                  |                  |           |                |           |
| Final (New Regulation) .. ..               | 72               | 5         | 21             | 5         |
| <i>Supplementary—October 1951.—</i>        |                  |           |                |           |
| 1. Preliminary (New Regulation) ..         | 3                | 39        | ..             | 27        |
| 2. Intermediate, Part I (New Regulation).  | 7                | 54        | ..             | 41        |
| 3. Intermediate, Part II (New Regulation). | 4                | 49        | 2              | 48        |
| 4. Final (Old Regulation) .. ..            | 2                | 7         | ..             | 6         |
| <i>Supplementary—December 1951.—</i>       |                  |           |                |           |
| 5. Final New Regulation) .. ..             | 3                | 48        | ..             | 46        |

During the year under report, a total number of 93 students passed the B.V.Sc. Final examinations. It is a record-breaking event being the largest number of B.V.Sc. students passed out in any single year in the history of the college.

(b) *Veterinary and Livestock Inspectors' Course.*—The Annual and Supplementary examinations relating to this course were held in June and November 1951 and the results were as follows:—

|                       | Number appeared. | Number passed. |
|-----------------------|------------------|----------------|
| <i>Annual—</i>        |                  |                |
| I Year class .. ..    | 46               | 23             |
| II Year class .. ..   | 65               | 46             |
| <i>Supplementary—</i> |                  |                |
| I Year class .. ..    | 23               | 19             |
| II Year class .. ..   | 18               | 18             |

A total number of 64 students of the Veterinary and Livestock Inspector's course passed their final examinations and were awarded the "Diploma in Animal Husbandry."

11. *Refresher Course.*—Eighteen Veterinary Assistant Surgeons, in three batches of six each at a time, were deputed for the Refresher Course during the year under report. As in the last year, they underwent training in the Departments of Physiology, Parasitology, Pathology and Bacteriology at the Madras Veterinary College, besides Animal Husbandry training at the Livestock Research Station, Hosur.

A batch of five B.S.Sc. students of the Madras Medical College was given a course of lectures on "Diseases of animals communicable to human beings" by the Principal, Madras Veterinary College.

12. *Hostel, Health and Athletics—(a) Hostel B.V.Sc. Degree Course.*—The provision of adequate accommodation for the students in the hostel continued to be a problem. Two hundred and sixty students including the Veterinary Assistant Surgeons deputed to undergo the Refresher course, were accommodated this year. The students of the Veterinary and Livestock Inspector's course were also accommodated in the hostel during their stay in the College from May to June 1951. As usual, there were two messes, one vegetarian and the other non-vegetarian. The average monthly mess charges ranged from Rs. 34-8-0 to Rs. 40 per student. Coat stands were fixed in the new block as well as in the hostel annexe. Government sanctioned the purchase of an iron safe at a cost of Rs. 500 for the hostel. Eleven Cuddaph slab benches were provided in the gardens of the hostel. The telephone installed last year was made good use of

by the students. Amenities provided for in-door games, such as Ping-pong, Carrom, Chess, etc., were also availed of by the students. The radio continued to function satisfactorily. The tone and discipline of the students were uniformly good throughout the year.

(b) *Veterinary and Livestock Inspectors' Course.*—The students were accommodated in the temporary sheds and quarters at the Hosur Cattle Farm as was done during the last year. The construction of new hostel buildings at the farm was completed and they were taken over on the 1st of April 1952. A common vegetarian mess was run by the students under the guidance and control of the Additional Lecturer. The discipline of the students, both in classes and hostel, was good.

(c) *Health.*—The health of the students continued to be satisfactory. The medical inspection of the B.V.Sc. students was conducted by Dr. Hegde.

(d) *Athletics.*—Sri I. D. Mantramurti, Lecturer in Hygiene, continued to be the Sports Secretary during the year under report. The College took part in all the games and athletics except Cricket in the League competitions and earned recognition. Four students of the College represented the Madras University teams in Foot-ball and Hockey. One of the students of the fourth year was the custodian of the Madras University Foot-ball XI for the second year in succession. Two athletes took part successfully in the Madras State Olympic Games representing the University, of whom one won the second place in Pole Vault. He also represented Madras in the XV Indian Olympics. A boxing ring was constructed during the year. The lady students of the College for the first time took part in the Inter Collegiate competitions for women, and acquitted themselves well. The College Day and Annual Sports were held on 17th January 1952 under the distinguished presidency of His Excellency the Maharaja of Bhavnagar, Governor of Madras, who distributed the prizes and trophies to the winners and runners-up.

Facilities to play Cricket, Foot-ball, Volley-ball, Badminton and Tennikoit were fully availed of by the students of the Veterinary and Livestock Inspector's Course.

Considering the relatively small strength of the College, its contribution to University sports and Olympic Games was creditable and deserves special mention.

13. *Miscellaneous—(a) Association.*—The Madras Veterinary College Association continued to serve the students of this College. Apart from conducting meetings and film shows, it took part in Inter-Collegiate dramatic contests and the fortnightly quiz programmes of the All-India Radio. The inaugural address of the Association was delivered by Dr. S. Datta, Director, Indian Veterinary Research Institute, Mukteswar. Papers on clinical and other topics were read by the students under the auspices of the Association. Educational and professional films were screened in the College with the kind courtesy of the Imperial Chemical Industries, Madras, and British Information Service, Madras. This feature of visual education is considered useful. The titles of the films exhibited are given below:—

- (1) Hygiene on the farm.
- (2) Contagious abortion.
- (3) Tuberculosis.
- (4) Sterility in cattle.
- (5) Liver Fluke in Great Britain.
- (6) Anavenol K.
- (7) Tsetse fly.
- (8) Coccidiosis in poultry.
- (9) Conquest of germ.
- (10) The story of D.D.T.
- (11) "Taken for granted".

The College Annual Number was published with interesting articles contributed by both the students and the staff.

(b) *Student's bus*.—The bus was fully utilized by the students for their visits to the Milk Supply Union, slaughter houses, Poultry Research Station, Teynampet, etc., on educational excursions and sports activities.

(c) *Buildings*.—The extensions to the Physiology and Hygiene laboratories and the conversion of the two rooms into a single hall have been completed, and the laboratory fittings were in progress. The improvements to the Pharmacology laboratory were in progress. The sinking of a well and the construction of a R.C.C. reservoir with pumping set are expected to be taken up urgently. Conversion of the Veterinary and Livestock Inspectors' shed into a canine clinic and the alterations to the injection room of the Anatomy department and extension to the library are yet to be taken up.

(d) *Visiting Committee*.—The Board of Honorary Visitors was reconstituted by Government with Dr. T. Satakopan, M.D., as President. The members of the Board continued to visit the hospital, and record their remarks in the Visitors' Book.

(e) *Visitors*.—Among notable visitors to the College, Dr. Ernest S. Tierkel, World Health Organization Rabies Consultant, Geneva, was one, and he has remarked as follows:—

"I am sincerely impressed by a first-class well-organized Veterinary School".

(f) *Inspection of Police animals*.—The quarterly inspection of the City Police horses was conducted, as usual, and necessary professional advice was given. The dogs belonging to the City Police were treated and necessary professional advice regarding their proper care, housing and management was given.

(g) *Professional papers contributed—Anatomy*.—The following papers were contributed by the members of the staff of the Madras Veterinary College during the year:—

(1) "Vena Hemiazygos in the ox—an abnormality"—Sent for publication in the Indian Veterinary Journal.

(2) "Radiographic study of the ossification of skeleton of the three fetuses of the Indian elephant"—Sent for publication in the Journal of Anatomical Society of India, Calcutta.

*Animal Husbandry*.—(1) "Our Cattle Problem"—Published in the Madras Veterinary College Annual Number, 1951-52.

*Bacteriology*.—(1) Bacteriology of normal pregnant and non-pregnant uteri and their associated Fallopian tubes and cervixes of cows—Presented at the 39th session of the Indian Science Congress held at Calcutta.

(2) Hydrogene-ion concentration of uterine fluids of the cow—Presented at the 39th session of the Indian Science Congress held at Calcutta.

(3) Incidence of Bovine Mastitis—Study of Bacteriology, Pathology and control of this disease of an All-India basis—Published in the Madras Veterinary College Annual Number, 1951-52.

*Chemistry*.—1. Note on "Potato pyrophosphatase"—Published in Current Science, April 1951.

*Physiology*.—(1) "Blood Groups in Sheep" (Part II)—Published in Indian Veterinary Journal, Volume 28, No. 3, November 1951.

(2) "A simple apparatus for the starling's heart—lung preparation"—Published in the Indian Journal of Medical Research, Volume 38, No. 4, October 1950.

*Surgery*.—"Turkeys and Turkey Rearing"—Published in the Madras Veterinary College Annual Number, 1951-52.

(h) *Conferences and inspections*.—The Principal was deputed to attend the 39th session of the Indian Science Congress held at Calcutta between 2nd January 1952 and 8th January 1952 at which he presented to the Medical and Veterinary Science Section two articles on "Studies on Bovine Endometritis", viz.,

(1) "Bacteriology of normal pregnant and non-pregnant uteri and their associated Fallopian tubes and cervixes of cows", and (2) "Hydrogene-ion concentration of uterine fluids of the cow."

At the request of the Bombay University, the Government were pleased to permit the Principal, Madras Veterinary College to inspect the Bombay Veterinary College and send a report regarding the question of its affiliation to the Bombay University. This was done in February 1952.

14. (a) *Hospital—Cases treated, operations, etc.*—The cases treated, operations and castrations performed during the three years ending 1951-52 are tabulated below:—

Table I—Cases treated.

|                                  | 1949-50. | 1950-51. | 1951-52. |
|----------------------------------|----------|----------|----------|
| In-patients—                     |          |          |          |
| Bovines .. .. .                  | 276      | 261      | 130      |
| Equines .. .. .                  | 84       | 94       | 73       |
| Others .. .. .                   | 430      | 399      | 442      |
| Out-patients—                    |          |          |          |
| Bovines .. .. .                  | 3,152    | 3,358    | 3,073    |
| Equines .. .. .                  | 151      | 133      | 175      |
| Others .. .. .                   | 4,352    | 3,998    | 4,775    |
| Total .. .. .                    | 8,445    | 8,243    | 8,668    |
| Daily average attendance .. .. . | 106.1    | 99.4     | 95.9     |

Table II—Operations.

|                 | 1949-50. |        | 1950-51. |        | 1951-52. |        |
|-----------------|----------|--------|----------|--------|----------|--------|
|                 | Major.   | Minor. | Major.   | Minor. | Major.   | Minor. |
| Bovines .. .. . | 114      | 157    | 235      | 102    | 270      | 30     |
| Equines .. .. . | 6        | 7      | 15       | 1      | 18       | 4      |
| Others .. .. .  | 10       | 121    | 17       | 118    | 21       | 123    |
| Total .. .. .   | 130      | 285    | 267      | 221    | 309      | 157    |

Table III.—Castrations.

|                 | 1949-50. | 1950-51. | 1951-52. |
|-----------------|----------|----------|----------|
| Bovines .. .. . | 16       | 8        | 9        |
| Equines .. .. . | 11       | 4        | 4        |
| Others .. .. .  | 11       | 17       | 22       |
| Total .. .. .   | 38       | 29       | 35       |

The following table shows the medical and surgical cases treated in the wards of the College hospital during the year:—

|                                    | Bovines. | Equines. | Others. | Total. |
|------------------------------------|----------|----------|---------|--------|
| Medical cases.                     |          |          |         |        |
| Bacterial and viral disease        | 35       | 2        | 151     | 188    |
| Protozoan diseases                 | 17       | 1        | 68      | 86     |
| Nasal granuloma                    | 4        | ..       | ..      | 4      |
| Diseases of the respiratory system | 47       | 13       | 60      | 120    |
| Do. digestive system               | 1,345    | 36       | 2,252   | 3,633  |
| Do. circulatory system             | 10       | 2        | 34      | 46     |
| Do. urinary system                 | 4        | 1        | 128     | 133    |
| Do. nervous system                 | 12       | 1        | 19      | 32     |
| Do. generative system              | 72       | 1        | 42      | 115    |
| Do. locomotor system               | 47       | 2        | 39      | 88     |
| Do. mammary gland                  | 139      | ..       | ..      | 139    |
| Do. skin (parasitic)               | 7        | 1        | 54      | 62     |
| Do. skin (non-parasitic)           | 26       | 7        | 510     | 543    |
| Rabies                             | 3        | ..       | 87      | 90     |
| Anti-rabic treatment               | 13       | ..       | 142     | 155    |
| Carcasses received for postmortem  | 16       | ..       | 213     | 229    |
| Diseases of unknown origin         | 7        | ..       | 185     | 192    |
| General diseases                   | 74       | 42       | 182     | 298    |
| Total .. .. .                      | 1,878    | 109      | 4,166   | 6,153  |

## ADMINISTRATION REPORT OF THE

| Surgical cases.                         | Bovines. | Equines. | Others. | Total. |
|-----------------------------------------|----------|----------|---------|--------|
| Abscess and wound, etc. . . . .         | 233      | 61       | 343     | 637    |
| Tumour, cyst, etc. . . . .              | 57       | 1        | 96      | 154    |
| Hernia, prolapse, etc. . . . .          | 43       | 1        | 15      | 59     |
| Disease of bones . . . . .              | 37       | 13       | 74      | 124    |
| Do. horns . . . . .                     | 75       | ..       | ..      | 75     |
| Do. articulation . . . . .              | 50       | 6        | 9       | 65     |
| Do. muscles, tendons, etc. . . . .      | 18       | 9        | 42      | 69     |
| Do. vessels, nerves . . . . .           | ..       | 1        | ..      | 1      |
| Do. glands . . . . .                    | ..       | ..       | 10      | 10     |
| Do. foot . . . . .                      | 14       | 6        | 72      | 92     |
| Do. ear, nose, throat, etc. . . . .     | 94       | 13       | 191     | 298    |
| Do. eye . . . . .                       | ..       | 10       | ..      | 10     |
| Urinary and generative system . . . . . | 260      | 7        | 81      | 348    |
| Docking . . . . .                       | 6        | ..       | 31      | 37     |
| Castration . . . . .                    | 9        | ..       | ..      | 9      |
| Received for destruction . . . . .      | ..       | 7        | 87      | 94     |
| Test for pregnancy . . . . .            | 429      | ..       | ..      | 429    |
| Post-mortem . . . . .                   | ..       | 4        | ..      | 4      |
| Total ..                                | 1,325    | 139      | 1,051   | 2,515  |

(b) *Radiology*.—During the year, radiographs of 68 cases were taken as against 54 cases in the previous year. Of these, 41 cases were charged and the rest were free of charge for diagnostic purposes. Fourteen cases were treated with ultra-violet ray therapy. The use of X-Ray diagnosis and ultra-violet therapy is becoming popular.

(c) *Shoeing Forge*.—The number of horses shod and feet repaired including bullocks were 567 as against 638 in the previous year. Most of the horses shod and repaired belonged to the Madras City Police. The students were given training in the art of scientific shoeing.

(d) *Fees*.—The number of cases admitted in the College hospital and amount of fees realized during the past three years are given below :—

| Year.           | Number of cases admitted. | Fee realized. |
|-----------------|---------------------------|---------------|
|                 |                           | RS. A. P.     |
| 1949-50 .. .. . | 8,445                     | 12,689 0 7    |
| 1950-51 .. .. . | 8,243                     | 16,531 2 0    |
| 1951-52 .. .. . | 8,668                     | 17,057 14 2   |

The College hospital which was much handicapped for want of an operation theatre for small animals was provided with one during the year. This theatre is contiguous to the canine in-patient ward and is equipped with modern anæsthetic apparatus and other appliances including shadowless lamps. The work was executed utilizing funds out of the grant of a special allotment of Rs. 13,200 for modernizing the hospital.

15. (a) *Laboratory*.—There has been an increase in the number of specimens received for examination in the College laboratories. The number of specimens received during the year for examination in the departments of Bacteriology, Pathology, Parasitology and Clinical Laboratories was 12,044 as against 11,308 in the last year. The sources from which the specimens were received are shown below :—

|                                                                                                         |        |
|---------------------------------------------------------------------------------------------------------|--------|
| 1 From the staff of the department in the field .. .. .                                                 | 6,473  |
| 2 From the wards and laboratories of the Madras Veterinary College .. .. .                              | 3,698  |
| 3 Livestock Research Stations and farms of the department .. .. .                                       | 1,535  |
| 4 Veterinary Investigation Officer, Ranipet, including Assistant Disease Investigation Officers .. .. . | 217    |
| 5 Corporation of Madras .. .. .                                                                         | 26     |
| 6 Agricultural department, Madras .. .. .                                                               | 20     |
| 7 Forest department, Madras .. .. .                                                                     | 13     |
| 8 Co-operative department, Madras .. .. .                                                               | 5      |
| 9 Private sources .. .. .                                                                               | 57     |
| Total ..                                                                                                | 12,044 |

The following table shows the results of examination of the specimens :—

| Serial number. | Description.                              | Number of specimens positive. |
|----------------|-------------------------------------------|-------------------------------|
| 1              | Adenocarcinoma .. .. .                    | 3                             |
| 2              | Adono-chondro-fibroma .. .. .             | 1                             |
| 3              | Adenoma .. .. .                           | 7                             |
| 4              | Agyptionella pullorum .. .. .             | 2                             |
| 5              | Anæmic changes .. .. .                    | 105                           |
| 6              | Anaplasma .. .. .                         | 8                             |
| 7              | Anthrax .. .. .                           | 34                            |
| 8              | Auto-vaccine (for) .. .. .                | 17                            |
| 9              | Avian leucosis complex .. .. .            | 52                            |
| 10             | Babesia bovis .. .. .                     | 2                             |
| 11             | Babesia bigomina .. .. .                  | 111                           |
| 12             | Babesia cabali .. .. .                    | 1                             |
| 13             | Babesia canis .. .. .                     | 16                            |
| 14             | Babesia equi .. .. .                      | 3                             |
| 15             | Babesia gibsoni .. .. .                   | 3                             |
| 16             | Babesia sergenti .. .. .                  | 2                             |
| 17             | Bartonella canis .. .. .                  | 1                             |
| 18             | Borolia gallinaurum .. .. .               | 3                             |
| 19             | Black-quarter .. .. .                     | 52                            |
| 20             | Bovine Lymphangitis .. .. .               | 28                            |
| 21             | Brucellosis (agglutination tests) .. .. . | 3                             |
| 22             | Carcinoma Leiomyomatousum .. .. .         | 1                             |
| 23             | Cnididocoptes Sp. .. .. .                 | 7                             |
| 24             | Cultural examination (for) .. .. .        | 360                           |
| 25             | Cysts and growths .. .. .                 | 10                            |
| 26             | Demodex .. .. .                           | 65                            |
| 27             | Enteritis .. .. .                         | 17                            |
| 28             | Fibroma .. .. .                           | 6                             |
| 29             | Fibro sarcoma .. .. .                     | 4                             |
| 30             | Gizzard erosion .. .. .                   | 1                             |
| 31             | Grahamella sp. .. .. .                    | 1                             |
| 32             | Fowl cholera .. .. .                      | 1                             |
| 33             | Hæmorrhagic septicæmia .. .. .            | 48                            |
| 34             | Helminthic lesions .. .. .                | 9                             |
| 35             | Hepatazoon canis .. .. .                  | 61                            |
| 36             | Hepatic cirrhosis .. .. .                 | 15                            |
| 37             | Histiocytic sarcoma .. .. .               | 1                             |
| 38             | Inflammatory tissues .. .. .              | 38                            |
| 39             | Koch's blue bodis .. .. .                 | 9                             |
| 40             | John's disease .. .. .                    | 33                            |
| 41             | Leiomyo fibroma .. .. .                   | 1                             |
| 42             | Lipo-sarcoma .. .. .                      | 1                             |
| 43             | Lymphosarcoma .. .. .                     | 17                            |
| 44             | Mastitis (milk samples) .. .. .           | 101                           |
| 45             | Melanoma .. .. .                          | 6                             |
| 46             | Microfilaria .. .. .                      | 18                            |
| 47             | Multilocular cyst .. .. .                 | 1                             |
| 48             | Nasal polyp .. .. .                       | 5                             |
| 49             | Notoedres sp. .. .. .                     | 3                             |
| 50             | Odontogenic mixed tumour .. .. .          | 2                             |
| 51             | Oocysts of coccidia .. .. .               | 14                            |
| 52             | Oocysts of coccidia (Eimeria) .. .. .     | 108                           |
| 53             | Oocysts of Isospora .. .. .               | 1                             |
| 54             | Osteitis .. .. .                          | 1                             |
| 55             | Ova of ancylostomes sp. .. .. .           | 648                           |
| 56             | Ova of Ascaris .. .. .                    | 171                           |
| 57             | Capillaria sp. .. .. .                    | 3                             |
| 58             | Cestodes .. .. .                          | 4                             |
| 59             | Cestodes D. Caninum .. .. .               | 8                             |
| 60             | Cestodes Gnathostoma spinigerum .. .. .   | 1                             |
| 61             | Cestodes Heterakis gallinae .. .. .       | 1                             |
| 62             | Cestodes Moniezia sp. .. .. .             | 3                             |
| 63             | Cestodes Oxyuris equi .. .. .             | 177                           |
| 64             | Cestodes S. nasalis .. .. .               | 7                             |
| 65             | Ova of S. Spindalis .. .. .               | 1                             |
| 66             | Ova of S. indicum .. .. .                 | 136                           |
| 67             | Ova of Spirocarca lupi .. .. .            | 919                           |
| 68             | Ova of Strongyle sp. .. .. .              | 3                             |
| 69             | Ova of Taenia sp. .. .. .                 |                               |

| Serial number. | Description.                                     | Number of specimens positive. |
|----------------|--------------------------------------------------|-------------------------------|
| 70             | Ova of <i>Toxacarica</i> .. .. .                 | 52                            |
| 71             | Ova of <i>Tromatodes</i> .. .. .                 | 339                           |
| 72             | Ova of <i>Trichuris</i> sp. .. .. .              | 24                            |
| 73             | Papilloma .. .. .                                | 2                             |
| 74             | Pneumonia .. .. .                                | 15                            |
| 75             | <i>Psoroptes</i> Sp. .. .. .                     | 7                             |
| 76             | Rabies .. .. .                                   | 52                            |
| 77             | Rainey's corpuscles .. .. .                      | 11                            |
| 78             | <i>Rickettsia canis</i> .. .. .                  | 13                            |
| 79             | <i>Rickettsia</i> like bodies (in sheep) .. .. . | 2                             |
| 80             | <i>Rickettsia ruminatum</i> .. .. .              | 2                             |
| 81             | <i>Sarcoptes</i> .. .. .                         | 42                            |
| 82             | Sporangia of <i>Rhinosporidium</i> .. .. .       | 2                             |
| 83             | <i>Schistosoma nasalis</i> .. .. .               | 73                            |
| 84             | Squamous cell carcinoma .. .. .                  |                               |
| 85             | <i>Theileria Annulate</i> .. .. .                | 495                           |
| 86             | <i>Theileria mutans</i> .. .. .                  | 127                           |
| 87             | <i>Theileria</i> sp.—sheep .. .. .               | 1                             |
| 88             | Tracheitis .. .. .                               | 1                             |
| 89             | Trichophyton .. .. .                             | 118                           |
| 90             | Tuberculosis .. .. .                             | 9                             |
| 91             | <i>Trypanosoma evansi</i> (Bovines) .. .. .      | 20                            |
| 92             | <i>Trypanosoma evansi</i> (Equines) .. .. .      | 13                            |
| 93             | <i>Trypanosoma evansi</i> (Canines) .. .. .      | 2                             |
| 94             | <i>Trypanosoma ingens</i> .. .. .                | 1                             |
| 95             | <i>Trypanosoma theileri</i> .. .. .              | 1                             |

|          |                                                          |        |
|----------|----------------------------------------------------------|--------|
| 1        | Negatives .. .. .                                        | 6,344  |
| 2        | Materials of insignificant nature or unspecified .. .. . | 599    |
| 3        | Materials unfit for examination .. .. .                  | 135    |
| 4        | Materials under examination .. .. .                      | 33     |
| Total .. |                                                          | 12,044 |

(b) Pathology and Bacteriology Departments—(a) Pathology department.—During the year 382 autopsies as detailed were performed as against 263 in the previous year :—

|          |                  |     |
|----------|------------------|-----|
| (1)      | Bovines .. .. .  | 36  |
| (2)      | Caprines .. .. . | 2   |
| (3)      | Canines .. .. .  | 77  |
| (4)      | Deer .. .. .     | 2   |
| (5)      | Equines .. .. .  | 15  |
| (6)      | Felines .. .. .  | 2   |
| (7)      | Poultry .. .. .  | 243 |
| (8)      | Rabbits .. .. .  | 4   |
| (9)      | Wallaby .. .. .  | 1   |
| Total .. |                  | 382 |

Among the autopsies conducted, the following interesting conditions were met with :—

- (1) Volvulus in a mare.
- (2) Rupture of the liver in a horse and a hen.
- (3) Traumatic pericarditis in two cows.
- (4) Rupture of urinary bladder due to urethral calculi in a bull-calf.
- (5) Intussusception in a bull calf and in a pup.
- (6) Peri-renal lipomata in a heifer calf.
- (7) Puerperal endometritis in a she-goat.
- (8) Hepatic cirrhosis in 11 dogs.
- (9) Congenital hydrocephalus in a pup.
- (10) Invagination of the stomach in to the oesophagus in a pup.

- (11) Rupture of the spleen in a cat.
- (12) Vegetative endocarditis in a dog.
- (13) Generalized gout in a hen and a viscoral gout in 3 hens and a cockerel.
- (14) Rupture of oviduct in 6 hens.
- (15) Suppurative pneumonia (staphylococcal) in a cock.
- (16) Egg peritonitis in 3 hens.
- (17) Egg-bound in a hen.
- (18) Perosis in a chick.

(c) Bacteriology Department.—During the year, 1,555 specimens were examined in the Bacteriology laboratory as against 1,519 in the previous year. Biological tests were conducted with materials suspected for Anthrax, Black-quarter, Hæmorrhagic Septicæmia, Tuberculosis, etc., with the following results :—

| Serial number. | Name of the disease.           | Positive. | Negative. | Total. |
|----------------|--------------------------------|-----------|-----------|--------|
| 1              | Anthrax .. .. .                | 4         | 72        | 76     |
| 2              | Black-quarter .. .. .          | 19        | 33        | 52     |
| 3              | Hæmorrhagic Septicæmia .. .. . | 4         | 24        | 28     |
| 4              | Tuberculosis .. .. .           | ..        | 4         | 4      |
| 5              | Foot and mouth .. .. .         | ..        | 3         | 3      |
| 6              | Brucellosis .. .. .            | ..        | 1         | 1      |
| Total ..       |                                | 27        | 137       | 164    |

The following table shows the materials received for cultural examination :—

|          |                                          |     |
|----------|------------------------------------------|-----|
| (1)      | Swabs .. .. .                            | 192 |
| (2)      | Tissues .. .. .                          | 128 |
| (3)      | Intestinal contents .. .. .              | 29  |
| (4)      | Urine and ascitic fluid .. .. .          | 11  |
| (5)      | Mastitis—Milk samples and smears .. .. . | 100 |
| Total .. |                                          | 460 |

Auto-vaccine.—Seventeen Auto-vaccines were prepared and issued during the year and the reports on cases treated were encouraging.

(d) Parasitology Department.—The total number of clinical materials received for examination consisting of blood smears, faecal samples, skin scrapings, etc., was 7,189 as against 6,280 in the previous year. Specimens of parasitological importance were spared to the institutions at their request.

(e) Medicine Department.—Students of the final year were given practical demonstration in clinical medicine and meat inspection in the various slaughter-houses of the City. They were given practical demonstration in the technique of Tuberculin, Johnin, Mallein testing in addition to vaccination against fowl-pox and Ranikhet disease.

(f) Physiology Department.—During the year, 600 specimens as detailed below were examined as against 985 of the previous year :—

| Serial number and nature of specimen. |                                    | Details. |          |          |         | Total. |
|---------------------------------------|------------------------------------|----------|----------|----------|---------|--------|
|                                       |                                    | Canines. | Equines. | Bovines. | Others. |        |
| 1                                     | Urine for analysis .. ..           | 346      | 5        | 12       | 3       | 366    |
| 2                                     | Blood for total cell count ..      | 46       | 5        | ..       | ..      | 51     |
| 3                                     | " for Hæmoglobin estimation ..     | 22       | 4        | ..       | ..      | 26     |
| 4                                     | " smears for differential count .. | 93       | 2        | 11       | 4       | 110    |
| 5                                     | Serum for calcium estimation ..    | ..       | 1        | 15       | ..      | 16     |
| 6                                     | " for phosphorus estimation ..     | ..       | 1        | 9        | ..      | 10     |
| 7                                     | " for magnesium estimation ..      | ..       | ..       | 14       | ..      | 14     |
| 8                                     | Ascitic fluid for analysis .. ..   | 3        | ..       | 2        | ..      | 5      |
| 9                                     | Cranial fluid for analysis .. ..   | 1        | ..       | ..       | ..      | 1      |
| 10                                    | Semen for examination .. ..        | ..       | ..       | 1        | ..      | 1      |
| Total ..                              |                                    | 511      | 18       | 64       | 7       | 600    |

The following abnormal constituents were noticed in the samples of urine examined :—

| Constituents.       | Canines. | Equines. | Bovines. | Others. | Total. |
|---------------------|----------|----------|----------|---------|--------|
| Albumin .. ..       | 107      | ..       | 5        | 1       | 113    |
| Bile pigments .. .. | 26       | ..       | ..       | ..      | 26     |
| Sugar .. ..         | ..       | ..       | 1        | ..      | 1      |
| Caests .. ..        | 13       | ..       | ..       | ..      | 13     |
| Blood .. ..         | 7        | ..       | 6        | 1       | 14     |

(g) *Anatomy Department*.—Eighty-one buffalo calves and four fowls were used for dissection and demonstration purposes to the students. Seven specimens from the College laboratory were examined during the year.

(h) *Pharmacology Department*.—Fitting up the laboratory with work benches, etc., has been completed and provision of gas taps, sinks, etc., are in progress. The total number of prescriptions dispensed in the pharmacology department was 21,832 as against 26,474 in the previous year. Of these, 239 were private, 1,446 from the horse ward, 8,667 from the Cattle ward and 11,480 from the dog ward, with a daily average of 59.65 as against 72.53 of last year.

(i) *Animal Husbandry*.—Two Black Minorca cockerels and one ram were added to the strength of livestock intended for training students in handling of animals. The Breeding Bulls continued to be attached to this section during the year.

(j) *Animal Genetics*.—The laboratory is being gradually equipped with appliances for teaching and practical demonstrations to the final year students in Animal Genetics and Breeding.

(k) *Animal Nutrition*.—The new laboratory extension has been completed with the requisite fixtures. During the year, 12 samples of different foods, four samples of leaves, fruits and flowers, seven samples of poultry foods such as fish meal, milo, and a sample of damaged and reconditioned wheat were examined in the Animal Nutrition laboratory. Schemes have been submitted for conducting large scale analytical work and tests on coloured cotton seeds. Feeding trials with animal protein supplements with a view to hasten maturity in cattle, etc., are being taken up.

16. (a) *Special Features—Pathology Department—Aspergillosis*.—Was observed in a chick during necropsy. The smears from the lesions revealed typical organisms.

*Avian leucosis complex*.—Was observed in six hens during necropsy and in 69 tissues received for histopathological examination. The visceral type is the most common, affecting liver, spleen and kidney.

*Coccidiosis*.—Was detected in 24 chicks, one cock and two rabbits. In all of them the infection was intestinal.

*Cysticercosis*.—A generalized case of cysticercosis was seen in a dog during necropsy. Besides, the case showed on histo-pathological examination of the lung, organisms resembling *Blastomyces*.

*Pasteurellosis*.—Was diagnosed in a rabbit during necropsy.

*Spirochaetosis*.—Was detected in a cock during necropsy.

*Tetanus*.—Was diagnosed in a mare during autopsy.

*Tuberculosis*.—Was detected in the liver and spleen of two fowls, and in the lung of a cow while it was suspected in the lymph gland of another cow.

(b) *Bacteriology Department—Mastitis*.—During the year 100 samples of milk from all over the State were examined. In order to facilitate proper diagnosis and early treatment of affected cases in the Dairy-cum-Bull Farm, Visakhapatnam,

samples were received by air and the result was intimated expeditiously. The following are the casual organisms isolated and the percentage of infection :—

|   | Casual organisms.     |    |    |    |    |    | Percentage. |
|---|-----------------------|----|----|----|----|----|-------------|
| 1 | Stroptococci          | .. | .. | .. | .. | .. | 3           |
| 2 | Staphylococci         | .. | .. | .. | .. | .. | 30          |
| 3 | Coli aerogenes groups | .. | .. | .. | .. | .. | 42          |
| 4 | Diphtheroids          | .. | .. | .. | .. | .. | 20          |
| 5 | Pseudomonas           | .. | .. | .. | .. | .. | 4           |
| 6 | Unidentified          | .. | .. | .. | .. | .. | 1           |

A revised scheme has been submitted for investigation into the actiology of the disease.

*Anthrax*.—Of the 140 specimens received for diagnosis, 34 were declared positive. Seventy-six biological tests were conducted for purposes of diagnosis.

*Tuberculosis*.—Microscopical examination of the smears from four cases revealed acid-fast organisms morphologically indistinguishable from *Mycobacterium Tuberculosis*.

*Brucellosis*.—Twenty samples of sera and synovial fluids were tested by agglutination test of which three samples of sera were declared positive.

*Johne's Disease*.—Out of 101 specimens received, 32 cases revealed acid-fast organisms morphologically indistinguishable from *Mycobacterium paratuberculosis*.

*Hæmorrhagic septicæmia*.—Out of 173 specimens of heart blood smears and swabs, 42 were declared positive.

*Exportation of livestock and livestock products*.—Three samples—one sample of tanned sheep skin, and two samples of horns—were tested for Anthrax and certified free from Anthrax. Necessary certificates were issued.

*Small animals colony*.—The successful breeding and maintenance of small animals, such as Rabbits, Guinea pigs, Mice, White rats and Pigeons for experimental purposes, were continued. The stock position of these small animals continued to be satisfactory.

(c) *Parasitology Department—Schistesema spindalis* infection was recorded in 7 bovines.

*Cysticercus cellulosea*.—Were found in the skeletal muscles of a sheep.

*Cysticercus bovis*.—Was identified from the heart muscle of a bullock.

*Gnathostoma spinigerum*.—Ova of this nematode were found in the faeces of a dog.

*Setaria cervi*.—Was recovered from the hydrocele of a bull.

*Trypanosoma ingons*.—This trypanosome was recorded in the blood of a bovine.

*Babesia sp.*—A smaller variety of babesia was recorded in an Indian mongoose (*Herpestes mungo*).

*Theileria sp.*—The incidence of theileriasis both in sheep and cattle continued to occur amongst sheep in the Combined Sheep and Cattle Farm, at Kurukuppi.

*Aegyptianella pullorum*.—Two fowls were found to harbour this protozoan.

*Anaplasma marginale*.—Was found in the blood of a bullock.

*Rickettsia canis*.—This protozoan was recorded in three dogs.

*Bartonella canis*.—The blood smears of a dog revealed this infection.

*Rickettsia and Grahamella*.—Like organisms were seen in the blood of sheep belonging to the Kurukuppi Farm.

*Rhinosporidiosis*.—Two bovines revealed the sporangia *Rhinosporidium* in nasal growths.

17. *Ranikhet Disease Vaccine*.—Eggs for vaccine production and fowls for tests were continued to be obtained from the Poultry Research Station, Teynampet, till 16th October 1951 after which date eggs were obtained from the Poultry Unit of the College. Seven brews of vaccine constituting 550,000 doses were manufactured during the year. Three lakhs sixty-one thousand two hundred and fifty doses of vaccine were issued for use in the Madras State, and 103,750 doses to other States such as Hyderabad, Travancore-Cochin, Madya Pradesh, etc., 3,353 birds were protected against Ranikhet disease in the Madras City, as against 3,426 in the previous year, and 179,499 birds in rural areas of this State as against 205,280 in the previous year. The reactions to the vaccinations, in general, continue to be satisfactory. From the results submitted by the field staff, it is surmised that the immunizing qualities of the vaccine are fairly satisfactory.

The seed vaccine brought from Mukteswar is being used for vaccine production. Virulent strains of virus collected from actual outbreaks of Ranikhet disease are also being prepared for purposes of testing the immunity of vaccinated birds.

The students of the III year B.V.Sc. and Veterinary Assistant Surgeons of the Refresher course were trained in the technique of the manufacture of the vaccine and its use.

### III. VETERINARY BIOLOGICAL AND RESEARCH INSTITUTE.

18. *Accommodation and equipment*.—(a) The works of additions, alterations and improvements to the buildings to suit the special requirements of the institute were taken up for execution during the latter half of the year and were in progress. The construction of an incenerator was taken up by the Public Works Department during the year. Improvements to the quarters of the Superintendent and the Veterinary Investigation Officer and work relating to the conversion of 2 'S' type quarters into a single unit for the use of attenders etc, were taken up during the year.

The supply of water to the Institute was continued to be made by Messrs. Parry and Company, Limited, Ranipet, at the usual rate of Re. 0-9-0 per 1,000 gallons subject to a minimum of Rs. 2 per day. The question of sinking a borewell in the compound for the use of the Institute with a view to have its own water supply is under consideration.

(b) Out of a sum of Rs. 30,000 sanctioned towards the purchase of furniture and fitting up of laboratory and museum cases, only a sum of Rs. 15,200 was spent during the year. The deep freeze unit was purchased during the year for use in connection with the experiments on lapinized Rinderpest vaccine and other viruses.

19. (a) *Livestock and fodder*.—One thousand four hundred and thirty-four adult he-buffalo, 593 buffalo calves, 2,831 goats, 86 sheep and 12 bull calves were purchased during the year under report as against 947 adult he-buffaloes, 468 buffalo calves, 1,481 goats and 81 sheep purchased in the previous year. Eighty one adult he-buffaloes, 122 buffalo calves, 2,561 goats and 23 sheep were bled to death and utilised for the preparation of serum and virus. One thousand three hundred and fifty-five adult he-buffaloes, 477 buffalo calves, 284 goats, 49 sheep and 12 bull calves were profitably salvaged after the preparation of biologicals, reconditioned, and sold back to the contractors; and one goat was auctioned.

The adult he-buffaloes, buffalo calves, goats, sheep and bull calves required for the manufacture of biological products in this Institute were obtained on contract basis, as in the previous years, while pigeons required for experiments were purchased locally on non-contract basis. Rabbits, guinea pigs and mice required for experimental work were bred in the institute.

The various articles of cattle food except grain mixture, boiled rice and greens for guinea pigs and rabbits, were purchased on contract basis. The rationed articles were purchased on permits issued by the Revenue Department.

(b) *Fodder-farm produce*.—A portion of the lands in the Institute suitable for fodder cultivation was utilised for raising fodder crops during the year. The following yield was obtained.

|                          | LB.   |
|--------------------------|-------|
| Cholam (grains) .. .. .  | 305   |
| Cholam stalk—Dry .. .. . | 9,938 |

20. *Anti-Rinderpest serum*.—The stock of this product on hand at the beginning of the year was 42,445 doses of 5 c.c. each. During the year under report, 46 brews of Anti-Rinderpest Serum were manufactured yielding 2,115,840 doses as against 1,036,320 doses during the previous year. One thousand four hundred and fifty-seven adult he-buffaloes were used for the manufacture of this product, and on an average, a buffalo produced 1,452 doses of serum as against 1,334 doses in the previous year. The total quantity of serum issued during the year was 2,072,420 doses as against 1,142,695 doses during the previous year. The demand for this product was mostly from the districts of Bellary, Anantapur, Kurnool, Visakhapatnam and South Kanara. All the brews of Anti-Rinderpest Serum manufactured were tested for potency on buffalo calves before issue for use in the field. Three hundred and seventy-two buffalo calves were utilised for these tests.

21. *Rinderpest bull virus*.—One hundred and six buffalo calves were used for the production and maintenance of this virus. The quantity of Rinderpest bull virus manufactured during the year was 29,075 c.c. as against 25,300 c.c. during the previous year. Twelve thousand seventy-five c.c. of the Rinderpest Bull Virus were issued during the year as against 7,325 c.c. of the previous year.

Virulent Rinderpest Bull Virus strain is being maintained at this Institute for use in serum production and testing the potency of serum. A fresh field strain of virulent Rinderpest virus was obtained from an outbreak in Bellary District and after necessary tests, is being maintained in the institute for future use.

Virulent seed bull virus was supplied to the Indian Veterinary Research Institute, Mukteswar, Serum Institute, Mysore and the Serologist, Veterinary, Laboratory, Jodhpur and Rajasthan for their use during the year.

22. *Rinderpest goat virus*.—There was heavy demand for this product during the year under report due to the prevalence of widespread outbreaks of Rinderpest in the northern districts of the State, mainly in the Rayalseema area, the Circars and to some extent in South Kanara District. This virus was also supplied for mass inoculation of cattle in penta areas and in districts bordering the infected area.

During the year, 2,925 goats were used for virus production as against 1,435 goats in the previous year. Four hundred and fifteen goats from the above or 15.2 per cent as against 21.7 per cent of the previous year were not bled for virus due to unsatisfactory reactions and unexpected decrease in the demand for the product during certain periods. The strain of goat virus, as in previous years, was tested periodically on buffalo calves for potency and antigenicity. Eleven lakhs eighty-three thousand six hundred and twenty-five c.c. of goats virus were manufactured during the year as against 5,97,759 c.c. of the previous year. Of these, 9,67,625 c.c. were issued during the year as against 4,64,333 c.c. of the previous year.

During the year, the two strains of goat virus obtained from Mukteswar and maintained here as Mukteswar strains 1 and 2, were amalgamated into one, as no appreciable difference was noticed in their behaviour on calves and goats, and were found to be identical on cross-testing. This virus is out-passaged or interpolated in susceptible buffalo calves once in three months to prevent the strain from getting highly capronised and thereby losing the bovine moiety.

During the year the Madras strain of goat virus which was maintained at this Institute for the past over 18 years was discontinued due to its insufficient attenuation producing severe reactions on highly susceptible animals.

23. *Haemorrhagic Septicaemia Vaccine*.—The stock of this vaccine at the beginning of the year was 26,940 doses of 5 c.c. each. During the year, 4,69,160 doses of 5 c.c. each were manufactured as against 5,38,130 doses in the preceding year. Thirty-five buffalo calves and 24 rabbits were used for testing the various brews of this vaccine. Every brew of the vaccine was tested for sterility and safety before issue to the field. The virulence of the strains used in the preparation of the vaccine was maintained by periodical passages through susceptible buffalo calves. The quantity issued during the year was 5,08,956 doses (which includes 22,670 doses returned by the staff and re-issued) as against 5,37,000 doses in 1950-51.

24. *Blackquarter vaccine*.—The stock of blackquarter vaccine at the beginning of the year was 73,898 doses of 5 c.c. each. During the year under report, 6 brews of the vaccine yielding 519,180 doses of 5 c.c. each were manufactured as against 5,65,860 doses during the previous year. Each brew of the vaccine was tested for sterility, safety and potency before issue to the field. Thirty-two calves and 50 guinea pigs were utilised for these tests. The total quantity of the product issued during the year was 610,760 doses (which includes 29,936 doses received back from the field staff and re-issued) as against 527,147 doses in the previous year.

25. *Fowl cholera vaccine*.—The stock of this product at the beginning of the year was 275 doses. Two brews of the vaccine yielding 3,500 doses were manufactured during the year as against 3,025 doses of the previous year. Four chicks were used for testing this product. One thousand five hundred and fifty doses were issued during the year as against 4,150 doses in the previous year.

26. *Fowl pox vaccine*.—During the year six brews of the vaccine making 10,498 doses were manufactured as against 8,332 doses of the preceding year. Two hundred and twenty-nine pigeons and 100 chicks were used for the preparation and test of this product and for connected experiments. Ten thousand four hundred and ninety-eight doses were issued to the field staff during the year as against 8,332 doses in the previous year.

27. *Bovine lymphangitis vaccine*.—Vaccine sufficient for 58 animals was on hand at the commencement of the year. Six brews of this vaccine yielding 554 courses were manufactured during the year as against 689 courses of the previous year. The number of courses of vaccine issued to the field staff was 517 as against 718 courses in the previous year.

28. *Sheep pox vaccine*.—Four brews of this vaccine yielding 8,800 doses were manufactured and supplied to the field staff as against 3,000 doses during the previous year. Eighty-seven sheep were utilised for the manufacture of this product and for the various experiments connected with it.

29. *Other sera and vaccine*.—Other kinds of sera and vaccines supplied to the staff during the year are furnished below. They were purchased from the Indian Veterinary Research Institute, Mukteswar.

|                         |       |                                            |
|-------------------------|-------|--------------------------------------------|
| Anti Anthrax Serum      | ..    | 3,920 doses (196 bottles of 20 doses each) |
| Mallein subcutaneous    | ..    | 25 ampoules                                |
| Tuberculin concentrated | ..    | 50 ..                                      |
| Johnin                  | .. .. | 250 doses                                  |

The requirements of Anthrax Spore Vaccine for the immunisation of Government elephants were obtained by the Inspector of Livestock, Kozhikode, from Mukteswar.

30. *Experiments and research*—(i) *Anti Rinderpest serum*.—Immunization of 110 serum makers with goat spleen tissue alone was tried during the year. It produced severe reactions in some of the buffaloes resulting in about 5 per cent mortality. The quality of the serum obtained from the above serum makers was found to be inferior, as judged from tests on buffalo calves using different doses. Experiments to find out the safe minimum dose of Anti-Rinderpest serum

to be used with virulent bull virus on serum makers with a view to produce a more potent serum without provoking severe reactions were taken up during the year and are in progress.

(ii) *Lapinized rinderpest virus*.—During the year attempts were made to adopt the local strains of bull virus to rabbits. The virus in the initial stages was passaged alternately in rabbits and buffalo calves, and now it is able to stand serial passages in rabbits only. It is observed that Rinderpest virus, though able to multiply in the body of the rabbit and set up severe reactions subsequently in buffalo calves, has not yet got completely adapted to the rabbits, as is observed from the absence of appreciable reactions and lesions in them. However, there are sufficient indications, as seen from some of the characteristic post-mortem lesions found in the appendix, Sacculus—Votundus and Poyer's patches of a few of the rabbits of later passages, that the virus is gradually adapting itself to the rabbit. So far 12 successful passages in rabbits have been carried out, and it is proposed to pursue the work further with the hope of lapinizing the strain completely, and eventually using it as a vaccine in the near future. Periodical tests to study the antigenicity and virulence of the adapted virus will be carried out both on buffalo calves and bull calves from time to time.

(iii) *Viability tests on goat tissue vaccine*.—Viability tests with Rinderpest Goat Spleen Tissue, wet and desiccated, were conducted both at room temperature and cold store temperatures. Though the wet and dry spleens were found to remain viable for long periods in refrigerator temperature, their viability was found to be rather erratic and unreliable after 4 days storage at room temperature. Further study is in progress.

It is shortly proposed to take up experimental work on viability with lyophilized spleen tissue with a view to see whether it would be possible to replace the present blood virus with spleen tissue freeze-dried under vacuum for immunization purposes in the field.

(iv) *Kabete strain of goat virus*.—A tube of lyophilized rinderpest goat spleen tissue obtained from Cairo on 16th December 1949 and stored in the refrigerator was found to be viable when passaged into goats after nearly two years of storage. The strain is being maintained and studied for its antigenicity and immunising properties.

(v) *Experimental goat spleen tissue vaccination in the field and Government Farms*.—During the year experimental vaccinations against Rinderpest with goat spleen tissue were carried out among some of the animals at Hosur, Kurukuppi, Lam and Malabar farms. In addition, the vaccine was tried in two villages, one in Chingleput district and the other in Bellary district—both free areas. Thermal reactions only were observed in many of the animals vaccinated in the Government farms and in the village of Chingleput district, while a few of the animals vaccinated in the village of Bellary district had diarrhoea in addition to thermal reactions. Further work on this experimental vaccination will be continued.

(vi) *Blackquarter vaccine*.—Studies are under progress to find out the relative immunising values of the present vaccine with those of (1) Cystains broth vaccine, (2) Acid liver digest broth vaccine, (3) alum precipitated vaccine and (4) vaccine prepared using Thioglycolic acid as a reducing agent. All these vaccines are found to have good immunising value. Further comparative studies are being made to evolve an economical and efficient vaccine to suit the local conditions.

(vii) *Bovine Lymphangitis vaccine*.—From materials received from Chidambaram and Vallioor, one strain of the organism causing Bovine Lymphangitis was isolated and this strain has since been incorporated in the stock vaccine.

(viii) *Sheep pox*.—Experiments are in progress to adapt the strain of sheep pox virus to the chorioallantoic membranes of developing eggs with the hope of preparing a vaccine from developing eggs instead of from sheep scabs.

*Immunity experiments*.—Experiments to determine the period of immunity conferred by the glycerinated sheep pox vaccine in 35 per cent strength were undertaken during the year. Two batches of sheep were vaccinated and tested

for immunity after varying periods. In one batch, they were found to be immune for 150 days, and in the second batch the sheep were found to be resistant until 180 days. Further experiments are in progress.

Two different strains of sheep pox virus received from the field through the Assistant Disease Investigation Officer (Sheep and Goats) are maintained in the Institute along with the stock strain. Though a difference is noticed in the type of local lesions set up by them, cross immunity tests so far conducted indicate that the strains are immunologically identical. Further study of these strains and a few others are in progress.

(ix) *Fowl-pox vaccine*.—With a view to evolve a more potent and useful vaccine to control fowl-pox outbreaks efficiently, experiments are in progress to grow the virus on the chorioallantoic membranes of developing eggs. The local strains of pigeon-pox and fowl-pox viruses have been grown successfully and propagated on the chorioallantoic membranes of 12 day-old developing eggs. In addition, strains of egg-adapted seed pigeon-pox and fowl-pox viruses were obtained from Dr. Haig of Onderstepoort, and these are being propagated on the chorioallantoic membrane of developing eggs. Experimental studies on the immunising value of these materials and also the local strains of pigeon and fowl pox viruses are in progress.

(x) *Enterotoxaemia among sheep*.—Cl. Welchii isolated from sheep in the case of an outbreak of Enterotoxaemia that occurred among sheep of the Sheep-pox vaccine unit during the previous year was typed using standard anti-toxic sera obtained from Messrs. Burroughs Wellcome and Company, London. Of the 12 cultures of Cl. Welchii typed, 4 were found to be of Type D and the rest of Type A.

As widespread outbreaks of Enterotoxaemia among sheep are suspected to occur in different parts of the State, 1,200 doses of 5 c.c. each Cl. Welchii vaccine using organisms of type B. and D. were prepared on an experimental scale, and issued to the Assistant Disease Investigation Officer (Sheep and Goats) for use and study in actual outbreaks. His report about its efficacy and usefulness in the field is awaited.

Fowl-pox vaccine is now used in the Institute with encouraging results to immunise all sheep used in the sheep-pox camp as a precautionary routine measure.

31. *Laboratory—(a) Specimens examined*.—During the year under report, 9,928 specimens were examined. Of these, 9,860 were blood, brew and culture smears and 68 were specimens of faeces. Two hundred and forty-six specimens gave positive results as detailed below:—

|                                   |     |                                      |     |
|-----------------------------------|-----|--------------------------------------|-----|
| (1) Theileria .. .. .             | 4   | (12) Pasteurella .. .. .             | 1   |
| (2) Post-mortem invaders .. .. .  | 14  | (13) Trypanosomes .. .. .            | 1   |
| (3) Microfilaria .. .. .          | 11  | (14) Anthrax .. .. .                 | 3   |
| (4) B. Subtilis .. .. .           | 163 | (15) Staphylococci .. .. .           | 4   |
| (5) Spirochaetes .. .. .          | 1   | (16) Small Coccoid organisms .. .. . | 8   |
| (6) Haemoproteus Columbae .. .. . | 2   | (17) Ova of nematodes .. .. .        | 1   |
| (7) Plasmodium .. .. .            | 1   | (18) Oocysts of coccidia .. .. .     | 7   |
| (8) Streptococci .. .. .          | 4   | (19) Ova of fasciola .. .. .         | 1   |
| (9) B. Welchii .. .. .            | 6   |                                      |     |
| (10) Cl. Chauvoei .. .. .         | 6   |                                      |     |
| (11) Cl. Septique .. .. .         | 8   |                                      |     |
|                                   |     | Total .. .. .                        | 246 |

(b) *Post-mortem examinations*.—During the year, 2,776 post-mortem examinations were conducted (81 buffaloes, 115 buffalo calves, and 2,580 sheep and goats). The following were the parasites commonly met with:—

- (1) Strongylidae species.
- (2) Trematodes.
- (3) Cestodes.
- (4) Hydatid cysts.
- (5) Sarcocysts.

32. *Sale of Biological Products*.—During the year a sum of Rs. 14,027—2—9 was realised by the sale of the following biological products to neighbouring States and private Veterinary Practitioners.

|                                         |               |
|-----------------------------------------|---------------|
| Anti-rinderpest serum .. .. .           | 22,080 doses. |
| Goat virus .. .. .                      | 175 "         |
| Bull virus .. .. .                      | 100 "         |
| Blackquarter vaccine .. .. .            | 48,780 "      |
| Haemorrhagic septicæmia vaccine .. .. . | 6,240 "       |
| Fowl-pox vaccine .. .. .                | 300 "         |
| Fowl cholera vaccine .. .. .            | 425 "         |
| Tuberculin (concentrated) .. .. .       | 10 "          |
| Bovine lymphangitis vaccine .. .. .     | 8 courses.    |

33. *Cost of production*.—The accounts of the year 1950-51 were audited by the staff of the Accountant-General, Madras, and the cost of manufacture of the different products on pro forma basis worked out as follows:—

Anti-rinderpest serum 14-93 pies per dose of 5 c.c.  
 Rinderpest virus products 16-27 pies per c.c.  
 Haemorrhagic septicæmia vaccine 5-35 pies per dose of 5 c.c.  
 Blackquarter vaccine 5-80 pies per dose of 5 c.c.

#### IV. LIVESTOCK.

##### ADMINISTRATION.

34. Major T. Murari continued to hold charge of the office of the Joint Director of Animal Husbandry from the beginning of the year up to and inclusive of 18th June 1951.

35. Sri T. Murari, temporary Joint Director of Animal Husbandry was appointed as Deputy Director of Animal Husbandry (Livestock) with effect from date of taking charge. He assumed charge on 19th June 1951 forenoon from which date the post of Livestock Development Officer held in abeyance was abolished, and continued to hold charge until 28th July 1951 afternoon. Major T. Murari was granted leave on average pay out of India with effect from 30th July 1951 forenoon with permission to prefix the holiday, i.e., Sunday on 29th July 1951, to his leave. He was granted extension of leave on medical certificate from 30th March 1952 for four months and six days on half average pay and for one month and twenty-four days in continuation thereof without pay.

36. Sri D. Patabhiraman, Superintendent, Kangayam Cattle Improvement Scheme, Palayakottai, was appointed to act temporarily as Deputy Director of Animal Husbandry (Livestock) with effect from the date of taking charge vice Sri T. Murari on leave. He took charge on 29th August 1951 forenoon, and held charge of the post of Deputy Director of Animal Husbandry (Livestock) during the remaining period of the year.

37. The strength of Livestock in the different farms at the close of the year was as detailed below:—

##### (1) LIVESTOCK RESEARCH STATION, HOSUR.

| Breed.              | Cows and<br>helpers. | Breeding and<br>young buls. | Calves. | Work<br>cattle. | Total. |
|---------------------|----------------------|-----------------------------|---------|-----------------|--------|
| (1)                 | (2)                  | (3)                         | (4)     | (5)             | (6)    |
| Kangayam .. .. .    | 89                   | 123                         | 103     | 38              | 653    |
| Sindhi .. .. .      | 292                  | 177                         | 92      | 6               | 567    |
| Hallikar .. .. .    | ..                   | 6                           | ..      | 15              | 21     |
| Cross-breed .. .. . | 32                   | 7                           | 13      | 30              | 82     |
| Gir .. .. .         | 44                   | 22                          | 23      | ..              | 89     |
| Tharparkar .. .. .  | ..                   | ..                          | ..      | 6               | 6      |
| Horses .. .. .      | 3                    | 1                           | 1       | ..              | 5      |
| Murrah .. .. .      | ..                   | 1                           | ..      | ..              | 1      |
| Total .. .. .       | 760                  | 337                         | 232     | 95              | 1,424  |

## (2) LIVESTOCK RESEARCH STATION, LAM (GUNTUR).

| Breed.         | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work<br>cattle. | Total. |
|----------------|----------------------|------------------------------|---------|-----------------|--------|
| (1)            | (2)                  | (3)                          | (4)     | (5)             | (6)    |
| Ongole .. .. . | 190                  | 72                           | 75      | 21              | 358    |
| Murrah .. .. . | 55                   | 23                           | 10      | ..              | 88     |
| Total .. .. .  | 245                  | 95                           | 85      | 21              | 446    |

NOTE.—Five Murrah buffalo bulls sold during the year to the Agency Development Officer, Kakinada were on the stock of the farm on 31st March 1952 for want of railway waggons

## (3) CHINTALADEVI FARM.

Sixteen work cattle, 4 cows, 4 heifer calves and 3 bull calves in all 27 non-pedigreed Ongole cattle were stationed at the Chintaladevi Farm at the end of the year. The orders of Government regarding the final organisation of the Chintaladevi Farm were still awaited at the end of the year.

## (4) COMBAINED SHEEP AND CATTLE FARM, KURUKUPPI.

*Bovines (Cattle and Buffaloes)*

| Breed.           | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work<br>cattle. | Total. |
|------------------|----------------------|------------------------------|---------|-----------------|--------|
| (1)              | (2)                  | (3)                          | (4)     | (5)             | (6)    |
| Hallikar .. .. . | 201                  | 90                           | 60      | 30              | 381    |
| Murrah .. .. .   | 5                    | 2                            | 4       | ..              | 11     |
| Sindhi .. .. .   | ..                   | 2                            | ..      | ..              | 2      |
| Total .. .. .    | 206                  | 94                           | 64      | 30              | 394    |

## (5) DAIRY-CUM-BULL FARM, VISAKHAPATNAM.

| Breed.             | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work cattle. | Total. |
|--------------------|----------------------|------------------------------|---------|--------------|--------|
| (1)                | (2)                  | (3)                          | (4)     | (5)          | (6)    |
| Murrah .. .. .     | 442                  | 37                           | 58      | ..           | 537    |
| Jaffarbadi .. .. . | 1                    | ..                           | ..      | ..           | 1      |
| Ongole .. .. .     | ..                   | 3                            | ..      | 30           | 33     |
| Total .. .. .      | 443                  | 40                           | 58      | 30           | 571    |

## (6) DISTRICT LIVESTOCK FARM, SOUTH KANARA.

| Breed.              | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work<br>cattle. | Pups. | Total. |
|---------------------|----------------------|------------------------------|---------|-----------------|-------|--------|
| (1)                 | (2)                  | (3)                          | (4)     | (5)             | (6)   | (7)    |
| Sindhi .. .. .      | 25                   | 9                            | 18      | ..              | ..    | 52     |
| Gir .. .. .         | 6                    | 1                            | 6       | ..              | ..    | 13     |
| Murrah .. .. .      | 58                   | 14                           | 10      | ..              | ..    | 82     |
| Hallikar .. .. .    | ..                   | ..                           | ..      | 20              | ..    | 20     |
| Dharwar .. .. .     | 6                    | 1                            | 4       | ..              | ..    | 11     |
| Local cows .. .. .  | 19                   | ..                           | 15      | ..              | ..    | 34     |
| Combai pups .. .. . | ..                   | ..                           | ..      | ..              | 2     | 2      |
| Total .. .. .       | 114                  | 25                           | 53      | 20              | 2     | 214    |

## (7) DISTRICT LIVESTOCK FARM, MALABAR.

| Breed.           | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work<br>cattle. | Total. |
|------------------|----------------------|------------------------------|---------|-----------------|--------|
| (1)              | (2)                  | (3)                          | (4)     | (5)             | (6)    |
| Sindhi .. .. .   | 5                    | 4                            | 2       | ..              | 11     |
| Kangayam .. .. . | ..                   | ..                           | ..      | 22              | 22     |
| Hallikar .. .. . | ..                   | ..                           | ..      | 4               | 4      |
| Local .. .. .    | ..                   | ..                           | ..      | 2               | 2      |
| Murrah .. .. .   | 34                   | 9                            | 4       | ..              | 47     |
| Dharwar .. .. .  | 6                    | 1                            | 5       | ..              | 12     |
| Total .. .. .    | 45                   | 14                           | 11      | 28              | 98     |

## (8) DISTRICT LIVESTOCK FARM, PUDUKOTTAI.

| Breed.               | Cows and<br>heifers. | Breeding and<br>young bulls. | Calves. | Work<br>cattle. | Total. |
|----------------------|----------------------|------------------------------|---------|-----------------|--------|
| (1)                  | (2)                  | (3)                          | (4)     | (5)             | (6)    |
| Non-descript .. .. . | 33                   | 10                           | 14      | 7               | 64     |
| Total .. .. .        | 33                   | 10                           | 14      | 7               | 64     |

## LIVESTOCK RESEARCH STATION, HOSUR.

38. A statement showing the receipts and disposals of animals in the Livestock Research Station, Hosur, during 1951-52 is given below :—

| Breed.                | Strength on 1st<br>April 1951. | Births:  |        | Received. | Auctioned. | Sold. | Transfers. | Deaths. | Destroyed. | Stock on 31st<br>March 1952. |
|-----------------------|--------------------------------|----------|--------|-----------|------------|-------|------------|---------|------------|------------------------------|
|                       |                                | Heifers. | Bulls. |           |            |       |            |         |            |                              |
| (1)                   | (2)                            | (3)      | (4)    | (5)       | (6)        | (7)   | (8)        | (9)     | (10)       | (11)                         |
| Kangayam .. .. .      | 590                            | 51       | 71     | 1         | 34         | 3     | 7          | 16      | ..         | 653                          |
| Sindhi .. .. .        | 527                            | 53       | 72     | 17        | 25         | 8     | 54         | 13      | 2          | 567                          |
| Hallikar .. .. .      | 17                             | ..       | ..     | 6         | 1          | ..    | 1          | ..      | ..         | 21                           |
| Cross-bred and graded |                                |          |        |           |            |       |            |         |            |                              |
| Sindhis .. .. .       | 75                             | 8        | 6      | 5         | 8          | ..    | ..         | 4       | ..         | 82                           |
| Tharparkar .. .. .    | 6                              | ..       | ..     | ..        | ..         | ..    | ..         | ..      | ..         | 6                            |
| Horses .. .. .        | 4                              | 1        | ..     | ..        | ..         | ..    | ..         | ..      | ..         | 5                            |
| Gir .. .. .           | 76                             | 11       | 16     | ..        | 1          | ..    | 9          | 2       | 2          | 89                           |
| Murrah .. .. .        | ..                             | ..       | ..     | 1         | ..         | ..    | ..         | ..      | ..         | 1                            |
| Total .. .. .         | 1,295                          | 124      | 165    | 30        | 69         | 11    | 71         | 35      | 4          | 1,424                        |

39. The particulars regarding the dairy at the Livestock Research Station, Hosur, are given below breedwar :—

(1) *Sindhi herd*.—Out of a total average strength of 167 cows in the herd, 90.2 cows remained in milk on an average. They yielded 4,26,134 lb. of milk with a daily individual average yield of 13.6 lb. for the cows in milk and 8 lb. for the whole herd as against 12.8 lb. and 5.3 lb. respectively in the previous year.

Among the Sindhi cows, which completed lactation during the year, there were 2 cows which yielded over 10,000 lb., one cow over 8,000 lb., 4 cows over 7,000 lb., 5 cows over 6,000 lb., 7 cows over 5,000 lb. and 17 cows over 4,000 lb. The average milk yield of 90 cows which completed lactations was 3,976 lb. during an average lactation period of 306 days as against an average yield of 3,894 lb. during the previous year.

(2) *Kangayam herd*.—Out of a total average herd of 172 cows, 71 cows on an average remained in milk. They yielded 158,751 lb. of milk with a daily individual average yield of 6.1 lb. over the cows in milk and 2.5 lb. over the whole herd as against 5.3 lb. and 2.3 lb. respectively of the previous year. Outstanding performers yielded over 5,000 lb. of milk.

(3) *Cross breed.*—Out of a total average strength of 19 cows in the herd, 8.8 cows remained in milk. They yielded 47,963 lb. of milk with a daily individual average of 14.6 lb. over the cows in milk and 7.2 lb. over the whole herd as against 15.2 lb. and 5.3 lb. respectively in the previous year. One cow yielded 10,459 lb. and another 8,208 lb. of milk during one lactation.

(4) *Gir herd.*—Out of a total average strength of 30 cows in this herd an average of 18.3 cows remained in milk, and they yielded 96,285 lb. of milk with a daily individual average of 14.5 lb. over the cows in milk and 8.2 lb. over the whole herd, as against 13.5 lb. and 7.8 lb. respectively of the previous year. The cows were kept segregated on the farm, and they were not allowed to mingle with the other livestock of this farm. Some of the cows among the herd were very heavy yielders, their individual performance exceeding over 35 lb. per day in their peak. On the whole, they are found to be heavy fat producers. Another notable feature in this herd is their fertility. On an average of 64.3 per cent of the herd remained in milk throughout the year which is comparatively a very satisfactory proportion of milch stock to dry stock in the herd. The performance of Gir herd is steadily improving in the Hosur Cattle Farm.

One cow yielded over 6,000 lb. and two cows between 5,000 and 6,000 lb. of milk in one lactation. The average yield of the Gir cows that completed lactation during the year was 3,857 lb. during an average lactation period of 277 days.

(5) *Veterinary Hospital.*—Particulars of the number of cases treated, etc., in this hospital during 1950-51 and 1951-52 are furnished below :—

| Year.         | Number of cases treated. | Number of animals castrated. | Daily average attendance. | Number of specimens examined. | Number of specimens sent to Madras Veterinary College, Madras. |
|---------------|--------------------------|------------------------------|---------------------------|-------------------------------|----------------------------------------------------------------|
| 1950-51 .. .. | 815                      | 21                           | 39.46                     | 785                           | 92                                                             |
| 1951-52 .. .. | 940                      | 19                           | 40.13                     | 834                           | 99                                                             |

(6) The number of farm animals protected against Rinderpest and Black-quarter as a preventive measure were 1,397 and 907, respectively. Of these, 32 bovines were protected against rinderpest with goat tissue vaccine and 63 bovines and 294 sheep with rinderpest lapinised vaccine by the Assistant Research Officer, Mukteswar, during the month of December 1951. Particulars of the number of animals treated against some of the diseases are given below :—

| CASES.                      |    |    |    |    |      |
|-----------------------------|----|----|----|----|------|
| Ephemeral fever .. ..       | .. | .. | .. | .. | 130  |
| Coccidiosis .. ..           | .. | .. | .. | .. | 22   |
| Nasal Schistosomiasis .. .. | .. | .. | .. | .. | * 78 |
| Mastitis .. ..              | .. | .. | .. | .. | 28   |

(7) *Contagious abortion.*—Two Gir animals and one Sindhi bull were confirmed for this condition and they were destroyed during the year. The presence of Burcellosis was first detected in the Gir herd on 12 July 1949. Total number of cases confirmed and destroyed till 31st March 1952 is 10, i.e., 7 Girs and 3 Sindhis.

(8) *Johne's disease.*—A total of 17 cases were confirmed by the Principal, Madras Veterinary College. Seven cases were pending at the end of the year. The other cases were either disposed of or succumbed.

(9) *General.*—The general condition of animals in the Livestock Research Station, Hosur, was satisfactory throughout the year. Grazing facilities were not adequate due to the failure of rains. A few weak animals were fed with an extra supply of shark liver oil in their feed. The Dairy section participated in the following exhibitions :—

- (1) Park Fair Exhibition, Madras.
- (2) Industrial Exhibition, Bellary.
- (3) Cattle Show, Thimmasandiram.

\* Only nine proved positive.

An oil engine and turbine pump were installed at the bore-well site in field No. 16 of the farm during the year. Water was first pumped out on 24th August 1951.

A tractor purchased for the extensive use of the farm during February 1951 was put to use during the year.

A whole-time Compounder was sanctioned with effect from 17th August 1951 for the First-Aid-Medical Centre attached to the farm.

A Key Village Unit was started in the farm from 17th October 1951.

A new motor van for the use of the farm was purchased on 30th March 1952.

The Farm Elementary School attached to the farm is not working satisfactorily. The Superintendent has, therefore, submitted proposals for its closure.

#### LIVESTOCK RESEARCH STATION, LAM, GUNTUR.

40. A statement showing the receipts and disposals of animals in the Livestock Research Station, Lam, Guntur, during 1951-52 is given below :—

| Breed.       | Strength on 1st April 1951. | Births.   |        | Re-ceived. | Auc-tioned. | Sold. | Trans-ferred. | Deaths. | Des- troy-ed. | Stock on 31st March 1952. |
|--------------|-----------------------------|-----------|--------|------------|-------------|-------|---------------|---------|---------------|---------------------------|
|              |                             | Heif-ers. | Bulls. |            |             |       |               |         |               |                           |
| Ongole .. .. | 319                         | 35        | 43     | 8          | ..          | 22    | ..            | 25      | ..            | 358                       |
| Murrah .. .. | 84                          | 7         | 4      | ..         | ..          | 8     | ..            | 3       | ..            | 84                        |
| Total .. ..  | 403                         | 42        | 47     | 8          | ..          | 30    | ..            | 28      | ..            | 442                       |

41. Particulars of the dairy at the Livestock Research Station, Lam, are given below :—

(1) *Ongole herd.*—There were on an average of 42.7 cows in milk which yielded 133,205.5 lb. of milk with a daily individual average of 8.6 lb. over cows in milk and 3.3 lbs. over the whole herd of 109 cows as against 9.9 lb. and 4.74 lb. respectively of the previous year.

(2) *Murrah buffaloes.*—There were on an average of 16.5 buffaloes in milk which yielded 50,648.5 lb. of milk with daily individual average of 8.4 lb. over buffaloes in milk and 4.4 lb. over the whole herd of 31.7 buffaloes, as against 11.43 lb. and 6.76 lb. respectively of the previous year.

(3) One Ongole cow yielded 6,855 lb. of milk during lactation with a daily average of 12.6 lb. Six Murrah buffaloes yielded over 5,000 lb. of milk during lactation with a daily average ranging from 10 to 13 lb.

#### DAIRY-cum-BULL FARM, VISAKHAPATNAM.

42. The following statement shows the receipts and disposals of animals at the Dairy-cum-Bull Farm, Visakhapatnam :—

| Breed.                      | Strength on 1st April 1951. | Births.  |        | Re-ceived. | Auc-tioned. | Sold. | Trans-ferred. | Deaths. | Stock on 31st March 1952. |
|-----------------------------|-----------------------------|----------|--------|------------|-------------|-------|---------------|---------|---------------------------|
|                             |                             | Heifers. | Bulls. |            |             |       |               |         |                           |
| Murrah .. ..                | 553                         | 88       | 106    | 1          | ..          | ..    | ..            | 210     | 537                       |
| Jaffarbadi .. ..            | 49                          | 2        | 4      | ..         | ..          | ..    | 46            | 8       | 1                         |
| Work cattle }<br>(Ongole) } | 30                          | ..       | ..     | 3          | ..          | ..    | ..            | ..      | 3                         |
| Total .. ..                 | 632                         | 90       | 110    | 4          | ..          | ..    | 46            | 218     | 571                       |

|                                 | Bulls. | Heifers. |
|---------------------------------|--------|----------|
| Calves .. ..                    | ..     | 95       |
| Young stock below 3 years .. .. | ..     | 83       |
| Adults .. ..                    | ..     | 5        |
| Total .. ..                     | 95     | 35       |
|                                 | 123    |          |

43. Particulars of the dairy at the Dairy-cum-Bull Farm are given below :—

(1) *Dairy herd*.—The milch animals comprised Murrah and Jaffarbadi she-buffaloes. The Jaffarbadi herd was transferred on 17th December 1951 to the Nilgiris. Out of 413.1 animals, 230.3 animals remained in milk on an average, and they yielded 72,701.8 lb. of milk with a daily individual average of 10.5 lb. of milk over the she-buffaloes in milk and 5.8 lb. over the whole herd as against 8.4 and 4.4 lb. respectively of the previous year.

(2) *Murrah herd*.—Out of 387.6 she-buffaloes, 216.7 buffaloes remained in milk on an average, and they yielded 68,690.8 lb. of milk with a daily individual average of 10.5 lb. for she-buffaloes in milk and 5.9 lb. for the whole herd as against 8.2 lb. and 4.4 lb. respectively of the previous year.

(3) *Jaffarbadi herd*.—Out of 25.5 she-buffaloes, 13.6 remained in milk on an average and they yielded 4,011.0 lb. of milk with a daily individual average of 9.6 lb. over she-buffaloes in milk and 5.4 lb. over the whole herd as against 9.2 lb. and 2.9 lb., respectively of the previous year.

(4) *Dairy*.—The whole milk is blended, standardized to 4 per cent fat, pasteurised and then distributed to the public of Visakhapatnam from six prominent centres of the town, both in the mornings and evenings.

The sale of milk and milk products has been steadily on the increase since the inception of the farm as may be seen from the following statement (in whole pounds).

| Particulars.                 | 1948-49. | 1949-50. | 1950-51. | 1951-52. |
|------------------------------|----------|----------|----------|----------|
|                              | LB.      | LB.      | LB.      | LB.      |
| Whole milk produced .. ..    | 125,251  | 496,255  | 649,402  | 660,388  |
| Whole milk sold .. ..        | 102,778  | 364,214  | 25,156   | Nil.     |
| Standardized milk sold .. .. | ..       | ..       | 460,486  | 632,331  |
| Butter sold .. ..            | ..       | ..       | 3,160    | 7,127    |
| Ghee sold .. ..              | ..       | ..       | 14,900   | 15,625   |

The system of distribution of bottled milk introduced last year is gaining popularity. The number of loose-milk customers is being gradually reduced. An attendant is in charge of the milk and milk products in each centre. Periodical and surprise visits are made to all the six centres by the Dairy Assistant and samples collected for testing. The Superintendent periodically inspected the working of the Dairy Section. There were 600 customers on the coupon system at the end of the year. Fat tests of whole milk, blended milk and milk from individual animals are carried out daily as a routine.

In addition to the distribution of milk at the centres, bulk supplies of milk to the following institutions were also made :—

- (1) Andhra University Hostel.
- (2) Mrs. A.V.N. College Hostel.
- (3) Basic Training School Hostel.
- (4) Harijan Hostel.
- (5) Andhra Medical College Women Hostel.
- (6) Nurses Quarters of the King George Hospital.
- (7) King George Hospital.
- (8) Women and Children Hospital.
- (9) Hindustan Shipyard Canteen.

The total quantity of milk produced during the year was 744,519 lbs. excluding 1,15,869 lb. fed to calves, and the following quantities of milk and milk products were sold during the year :—

|                    | LB.     | OZ.  |
|--------------------|---------|------|
| Whole milk .. ..   | Nil.    | Nil. |
| Blended milk .. .. | 632,311 | 13   |
| Butter .. ..       | 7,217   | 9½   |
| Ghee .. ..         | 15,625  | 0    |

(5) *Receipts and expenditure*.—During the year under report, the expenditure on account of this Farm amounted to Rs. 7,81,553-10-8. The bulk of the expenditure is on account of purchase of cattle food including concentrates as well as dry fodder. The receipts realized by sale of surplus animals, milk, butter, ghee, etc., amounted to Rs. 3,18,068-10-3 which is a little less than a half of the expenditure. The expenditure can be curtailed if more land is acquired for the Farm for growing fodder crops. The acquisition for an additional 200 acres of land had not materialised at the end of the year.

(6) *Veterinary Hospital*.—The number of cases treated in the Veterinary Hospital attached to the Farm during the year was 1,022 with a daily individual average attendance of 45. Eight hundred and eighty-six specimens were sent for microscopical examination. There was no case of brucellosis on the farm during the year. Four animals (one positive and three suspicious) for tuberculosis were segregated.

#### COMBINED SHEEP AND CATTLE FARM, KURUKUPPI.

44. The following table shows the receipts and disposals of animals at the Combined Sheep and Cattle Farm, Karukuppi (Bellary district).

| Breed.         | Strength on 1st April 1951. | Births. | Receipts. | Transfers and sales. | Deaths. | Balance on 31st March 1952. |
|----------------|-----------------------------|---------|-----------|----------------------|---------|-----------------------------|
| (1)            | (2)                         | (3)     | (4)       | (5)                  | (6)     | (7)                         |
| Hallikar .. .. | 340                         | 102     | 5         | 8                    | 58      | 381                         |
| Murrah .. ..   | 10                          | 4       | 1         | 4                    | ..      | 11                          |
| Sindhi .. ..   | ..                          | ..      | 2         | ..                   | ..      | 2                           |
| Total .. ..    | 350                         | 106     | 8         | 12                   | * 58    | 394                         |

45. *Dairy*—(1) *Hallikar herd*.—On an average 45 cows were in milk during the year out of a total average herd of 108. They yielded 87,025.75 lb. of milk. The daily individual average works out to 4.7 lb. over cows in milk and 2.0 lb. over cows in the herd as against 4.4 and 2.00 lb. respectively in the previous year.

(2) *Murrah herd*.—On an average of 2.6 buffaloes were in milk out of a total herd of 5. They yielded 7,355.25 lb. of milk during the year. The daily individual average worked out to 18.4 lb. over cows in milk and 10.5 lb. over cows in the herd as against nil herd of she-buffaloes during 1950-51. 33.7 lb. of ghee were prepared and disposed of during the year.

#### DISTRICT LIVESTOCK FARM, KOILA, SOUTH KANARA DISTRICT.

46. (1) The stock position at the end of the year was as follows :—

|                            |     |
|----------------------------|-----|
| Sindhis .. ..              | 52  |
| Gir .. ..                  | 13  |
| Local cows .. ..           | 34  |
| Murrah buffaloes .. ..     | 82  |
| Dharwar buffaloes .. ..    | 11  |
| Hallikar work cattle .. .. | 20  |
| Kombai pups .. ..          | 2   |
| Total .. ..                | 214 |

\* Very young calves 45, heifers and young bulls 6 and cows 7—total 58.

(2) The following statement shows the changes in the strength of Livestock in the farm during the year.

| Breed.                         | Stock on 1st April 1951. | Receipts. | Births. | Deaths. | Auctioned. | Transferred. | Total on 31st March 1952. |
|--------------------------------|--------------------------|-----------|---------|---------|------------|--------------|---------------------------|
| (1)                            | (2)                      | (3)       | (4)     | (5)     | (6)        | (7)          | (8)                       |
| Sindhi .. .. .                 | 7                        | 36        | 9       | ..      | ..         | ..           | 52                        |
| Gir .. .. .                    | ..                       | 9         | 4       | ..      | ..         | ..           | 13                        |
| Local cows .. .. .             | ..                       | 31        | 3       | ..      | ..         | ..           | 34                        |
| Murrah buffaloes .. .. .       | 67                       | 13        | 8       | 4       | 1          | 1            | 82                        |
| Dharwar buffaloes .. .. .      | ..                       | 24        | ..      | ..      | ..         | 13           | 11                        |
| Hallikar (work cattle) .. .. . | 20                       | ..        | ..      | ..      | ..         | ..           | 20                        |
| Kombai pups .. .. .            | ..                       | 2         | ..      | ..      | ..         | ..           | 2                         |
| Total .. .. .                  | 94                       | 115       | 24      | 4       | 1          | 14           | 214                       |

47. *Dairy*—(1) *Sindhi herd*.—There were 7.9 cows in milk during the year and they yielded 31,293.5 lb. of milk with a daily individual average of 10.6 lb. over cows in milk and 6.2 lb. over the whole herd. Sindhi cow No. 369 yielded 4,018.5 lb. of milk during a lactation period of 429 days.

(2) *Murrah herd*.—On an average there were 28.2 she-buffaloes in milk during the year. They yielded 1,14,385 lb. of milk with a daily individual average of 10.6 lb. over she-buffaloes in milk and 8.7 lb. over the whole herd. Murrah buffalo No. 35 yielded 4,394 lb. of milk during a period of 261 days in lactation with a daily average of 16.8 lb.

(3) *Gir herd*.—There were 4.6 cows in milk and they yielded 14,700.5 lb. of milk with a daily average of 14.6 lb. over cows in milk and 11.8 lb. over the whole herd. Gir cow No. 28 yielded 2,476 lb. of milk with a daily average of 21.9 lb. during 120 days of lactation so far. She had not completed her lactation at the end of the year.

(4) *Local cows*.—6.0 cows remained in Milk throughout and they yielded 3,296.5 lb. of milk with a daily individual average of 2.7 lb. over the cows in milk and 2.0 lb. over the whole herd.

(5) *Dharwar buffaloes*.—There were 6.1 she-buffaloes in milk. They yielded 3,506.5 lb. of milk with a daily average of 5.6 lb. over she-buffaloes in milk and 4.5 lb. over the whole herd.

(6) On an average there were about 400 lb. of milk for sale after meeting all farm requirements. This surplus was auctioned at five annas per lb. during the first 9 months and at six annas per lb. during the last 3 months. During the year under report, 1,40,643.8 lb. of milk and 753.4 lb. of ghee were sold and the total amount realized was about 46,000 rupees. The total production of whole milk was 1,56,595 lb.

#### DISTRICT LIVESTOCK FARM, MALABAR.

48. The site selected for the farm is a Revenue Reserved Forest area in Thiruvazhamkundu desam of Walluvanad taluk, right at the foot of the Western Ghats. Pioneering work had to be undertaken to shape the set-up of the farm. The farm had at the end of the year 98 head of cattle as detailed below besides 37 goats.

| Breed.           | Cows and heifers. | Bulls and young bulls. | Calves. | Work cattle. | Total. |
|------------------|-------------------|------------------------|---------|--------------|--------|
| Sindhi .. .. .   | 5                 | 4                      | 2       | ..           | 11     |
| Kangayam .. .. . | ..                | ..                     | ..      | 22           | 22     |
| Hallikar .. .. . | ..                | ..                     | ..      | 4            | 4      |
| Local .. .. .    | ..                | ..                     | ..      | 2            | 2      |
| Murrah .. .. .   | 34                | 9                      | 4       | ..           | 47     |
| Dharwar .. .. .  | 6                 | 1                      | 5       | ..           | 12     |
| Total .. .. .    | 45                | 14                     | 11      | 28           | 98     |

49. A Public Works Department Supervisor was appointed with effect from 11th October 1951 forenoon. He prepared plans and estimates for the approach road to the farm as well as certain essential buildings. Subsequently Government ordered that all building and road works relating to the farm be executed by the Public Works Department and that the services of the special supervisor be terminated. The Supervisor was, therefore, relieved on 2nd January 1952 forenoon. The Chief Engineer has been requested to furnish detailed plans and estimates for the construction of the approach road to the farm and also for the essential buildings.

A semi permanent cattle shed in two blocks was constructed departmentally during the year to accommodate about 100 animals. A turf road from the main entrance to the office over a distance of 2½ furlongs was constructed. Two acres of land were newly reclaimed under irrigated garden lands. Nine acres were newly cleared under non-irrigated garden lands.

50. *Dairy*.—(1) The total milk yield for the year was 70,975 lb. of milk with a daily average of 10.47 lb. for the cows in milk and 5.70 lb. over the whole herd against a yield of 12,445½ lb. during the last year.

(2) *Sindhi herd*.—Out of an average of 2.43 animals in the herd, 1.31 cows remained in milk. They yielded 4,509 lb. of milk. The daily average worked out to 9.48 lb. per cow in milk and 3.10 lb. over the whole herd. There was no Sindhi herd in the farm during the previous year.

(3) *Murrah herd*.—Out of an average of 24 animals in this herd, 16.56 buffaloes remained in milk and they yielded 65,305 lb. of milk with a daily individual average of 10.77 lb. over buffaloes in milk and 7.43 lb. over the whole herd, against 11.21 lb. of milk over the buffaloes in milk and also over the herd during the previous year.

(4) *Dharwar herd*.—The average number of buffaloes in milk worked out to 0.51 during the year. They yielded 1,161 lb. of milk with a daily average of 6.24 lb. over the buffaloes in milk as also over the herd. The Dharwar breed was newly introduced into this farm during the year.

(5) The following particulars show the details of the dairy produce :—

|                                   | LB.    | OZS. |
|-----------------------------------|--------|------|
| Milk sold .. .. .                 | 55,245 | 0    |
| Fed to calves .. .. .             | 10,213 | 8    |
| Made into ghee and butter .. .. . | 545    | 0    |
| Lost by accident .. .. .          | 22     | 8    |

#### POULTRY DEVELOPMENT.

51. (1) *Livestock Research Station, Hosur Cattle Farm*.—The receipts and disposal of poultry in this farm are given below :—

| Breed.            | Stock on 1st April 1951. | Receipts. | Sales auctions. | Transfers. | Deaths, destructions, etc. | Balance on 31st March 1952. |
|-------------------|--------------------------|-----------|-----------------|------------|----------------------------|-----------------------------|
| (1)               | (2)                      | (3)       | (4)             | (5)        | (6)                        | (7)                         |
| Chickens .. .. .  | 1,240                    | 1,860     | 886             | 51         | 981                        | 1,182                       |
| Turkeys .. .. .   | 54                       | 14        | 55              | ..         | 13                         | Nil.                        |
| Ducks .. .. .     | 14                       | 20        | 19              | ..         | 15                         | Nil.                        |
| Pea-fowls .. .. . | 2                        | ..        | ..              | ..         | ..                         | 2                           |
| Total .. .. .     | 1,310                    | 1,894     | 960             | 51         | * 1,009                    | 1,184                       |

\* Remarks regarding deaths and destruction of poultry in the Hosur Cattle Farm.

NOTE.—Nine chickens were received for experimental purposes from the Assistant Disease Investigation Officer (Poultry), Ranipet.

(2) *Eggs*.—There was an opening balance of 401 eggs. The receipts and disposals of eggs are given below :—

|                                    |        |
|------------------------------------|--------|
| Stock on 1st April 1951 .. .. .    | 401    |
| Collected receipts .. .. .         | 20,722 |
| Removed from incubators .. .. .    | 2,729  |
| Kept for hatching .. .. .          | 6,098  |
| Sold for hatching .. .. .          | 993    |
| Sold for table .. .. .             | 10,949 |
| Fed to chicks .. .. .              | 5,309  |
| Transfers .. .. .                  | 94     |
| Balance on 31st March 1952 .. .. . | 409    |

(3) *Laying hens*.—There were on an average 145.6 laying birds as against 140 of the previous year. The overall average yield per bird for all the breeds was 130.3 as against 112.8 of the previous year. The increase was due to better production by the roup-free layers added to the foundation stock of roup-free birds.

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

|                   |                  |
|-------------------|------------------|
| White Leghorn.    | Australop cross. |
| Rhode Island Red. | Turkeys.         |
| Black Minorca.    | Ducks.           |

Rhode Island Red Hen No. 991 laid 269 eggs and the Australop cross hen No. 69 laid 296 eggs in their respective pullet years.

The numbers under deaths and destruction are due to a large number of chicks, a few days old, which had to be destroyed as a preventive measure of stamping out roup infection in the farm with a view to build up a disease free flock.

52. (1) *Livestock Research Station, Lam, Guntur*. | The farm maintained Rhode Island Reds, besides a small flock of Muscovy and Khaky Campbell ducks for demonstration purposes. The following statement shows the receipts and disposal of poultry during the year :—

| Breed.                    | Stock on 1st April 1951. | Receipts. | Deaths. | Sales. | Transfers. | Stock on 31st March 1952. |
|---------------------------|--------------------------|-----------|---------|--------|------------|---------------------------|
| (1)                       | (2)                      | (3)       | (4)     | (5)    | (6)        | (7)                       |
| Rhode Island Reds .. .. . | 120                      | 264       | 132     | 42     | 11         | 199                       |
| Muscovy Ducks .. .. .     | 8                        | 5         | 3       | 2      | 2          | 6                         |
| Khaky Campbells .. .. .   | 1                        | 2         | 2       | ..     | ..         | 2                         |
| Desi .. .. .              | 10                       | 21        | 4       | 25     | ..         | 2                         |
| Total .. .. .             | 139                      | 292       | 140     | 69     | 13         | 209                       |

(2) *Eggs*.—The following table shows the receipts and disposals of eggs :—

|                                                       |       |
|-------------------------------------------------------|-------|
| Stock on 1st April 1951 .. .. .                       | 26    |
| Received .. .. .                                      | 2,113 |
| Set for hatching .. .. .                              | 787   |
| Sold for hatching .. .. .                             | 436   |
| Sold for table .. .. .                                | 655   |
| Fed to chicks .. .. .                                 | 195   |
| Issued free to Artificial Insemination Centre .. .. . | 33    |
| Balance on 31st March 1952 .. .. .                    | 33    |

The maximum number of eggs laid by Rhode Island Red Hen No. 64 was 115 in a pullet year.

53. (1) *Poultry Research Station, Madras*.—Exotic breeds of poultry, viz., White Leghorn, Rhode Island Red and Black Minorca were maintained in this station. Light Sussex birds were imported from England in December 1951 and maintained in this station since then. A small flock of ducks (Muscovy, Manilla, Khaky Campbell and Indian White ducks), Turkeys, Geese and Pigeons was also kept for demonstration purposes. As it was found not economical to maintain these small flocks, the birds are being progressively sold out with a view to concentrate work on chickens only.

(2) The details of birds at the end of the year are given below :—

| Breed.                   | Cocks. | Hens. | Chicks. | Total. |
|--------------------------|--------|-------|---------|--------|
| (1)                      | (2)    | (3)   | (4)     | (5)    |
| White Leghorn .. .. .    | 11     | 31    | 108     | 222    |
| Rhode Island Red .. .. . | 11     | 69    | 99      | 179    |
| Black Minorca .. .. .    | 5      | 25    | 77      | 107    |
| Indigenous .. .. .       | 2      | 11    | 63      | 76     |
| Light Sussex .. .. .     | 7      | 39    | 90      | 136    |
| Total .. .. .            | 36     | 175   | 509     | 720    |

(3) The following table gives the details of disposals of birds during the year :—

| Kind of birds.   | Balance on 1st April 1951. | Received by hatch. | Received from outside. | Sold for breeding. | Sold for table. | Transfers and stolen | Deaths and destruction. | Balance on 31st March 1952. |
|------------------|----------------------------|--------------------|------------------------|--------------------|-----------------|----------------------|-------------------------|-----------------------------|
| (1)              | (2)                        | (3)                | (4)                    | (5)                | (6)             | (7)                  | (8)                     | (9)                         |
| Chickens .. .. . | 661                        | 1,882              | 7                      | 687                | 157             | * 313                | 673                     | 720                         |
| Ducks .. .. .    | 37                         | 12                 | ..                     | 26                 | 7               | 4                    | 4                       | 8                           |
| Turkeys .. .. .  | 19                         | 9                  | ..                     | 10                 | 4               | 5                    | 8                       | 1                           |
| Geese .. .. .    | 10                         | ..                 | ..                     | 5                  | 1               | ..                   | 1                       | 3                           |
| Total .. .. .    | 727                        | 1,903              | 7                      | 728                | 169             | 322                  | † 686                   | 732                         |

The deaths are due to destruction of 266 weak day old chicks which had to be called and destroyed. The remaining 407 chicks were destroyed as a preventive measure to stamp out roup pox and coccidiosis infection from the farm in order to build up a disease free flock.

(4) *Performance of birds*.—Trapnesting was done for all the laying birds on the farm throughout the year and the following was the average production :—

| Breed.                   | Average number of laying hens. | Number of eggs collected. | Average egg yield per year. | Remarks. |
|--------------------------|--------------------------------|---------------------------|-----------------------------|----------|
| (1)                      | (2)                            | (3)                       | (4)                         | (5)      |
| White Leghorn .. .. .    | 31                             | 3,880                     | 125.2                       | ..       |
| Rhode Island Red .. .. . | 51                             | 5,274                     | 103.4                       | ..       |
| Black Minorca .. .. .    | 16                             | 1,884                     | 117.8                       | ..       |
| Indigenous .. .. .       | 10                             | 795                       | 79.5                        | ..       |
| Naked Neck .. .. .       | 14                             | 552                       | 67.6                        | ..       |
| Light Sussex .. .. .     | 30                             | 2,454                     | 122.2                       | ..       |
| White Sussex .. .. .     | 3                              | 276                       | 147.2                       | ..       |

| Breed.                   | Body weight. 1951-52. |     | Body weight. 1950-51. |     | 1949-50. |     |
|--------------------------|-----------------------|-----|-----------------------|-----|----------|-----|
| (1)                      | LB.                   | OZ. | LB.                   | OZ. | LB.      | OZ. |
| White Leghorn .. .. .    | 3                     | 10  | 3                     | 6   | 3        | 4   |
| Rhode Island Red .. .. . | 5                     | 0   | 4                     | 10  | 4        | 9   |
| Black Minorca .. .. .    | 4                     | 6   | 4                     | 2   | 4        | 1   |
| Indigenous .. .. .       | 3                     | 14  | 3                     | 12  | 3        | 14  |

\* Stolen—1.

† Remarks regarding deaths in Poultry Research Station, Madras.

(5) *Sexual maturity of country hens*—The average number of days taken for maturity was 248 days as against 215 days during the previous year.

(6) *Broodiness*.—Experiments to break down the broodiness in the indigenous birds with cockerels and putting them in separate portable runs raised above the ground were continued. It was observed that broodiness was still markedly intense after a period of laying.

(7) *Percentage of hatchability*.—Out of 397 eggs kept in the incubator, 112 were infertile and 231 chicks hatched out. The percentage of hatchability in fertile eggs was 81 per cent. The experiment started in 1949-50 with an indigenous naked neck variety of fowls was continued up to November 1951. Due to the high rate of incidence of cannibalism among those birds, it was considered not feasible to continue the experiments.

(8) The following table gives the receipts and disposals of eggs during the year:—

| Kind of birds.  | Balance on 1st April 1951. | Number collected. | Number received from outside. | Number set at the farm. | for sold hatch. | for sold table. | Fed chicks. | Transfers.   | Stock on 31st March 1952. |
|-----------------|----------------------------|-------------------|-------------------------------|-------------------------|-----------------|-----------------|-------------|--------------|---------------------------|
| (1)             | (2)                        | (3)               | (4)                           | (5)                     | (6)             | (7)             | (8)         | (9)          | (10)                      |
| Chickens ..     | 457                        | 15,115            | 511                           | 5,745                   | 4,191           | 3,412           | 879         | 1,460        | 396                       |
| Ducks ..        | 3                          | 189               | ..                            | 167                     | ..              | ..              | 25          | ..           | ..                        |
| Turkeys ..      | 9                          | 160               | ..                            | 141                     | ..              | ..              | 23          | ..           | ..                        |
| Geese ..        | ..                         | 25                | ..                            | 23                      | ..              | ..              | 2           | ..           | ..                        |
| <b>Total ..</b> | <b>469</b>                 | <b>15,489</b>     | <b>511</b>                    | <b>6,076</b>            | <b>4,191</b>    | <b>3,412</b>    | <b>934</b>  | <b>1,460</b> | <b>396</b>                |

(9) *Poultry Production Centre, Madras*.—The proposal to transfer the birds, etc. (originally belonging to the Poultry Production Centre, Guindy, and transferred to the Poultry Research Station, Madras) to form the foundation stock of the District Poultry Farm in the Dairy-cum-Bull Farm, Visakhapatnam materialised from 1st July 1951.

54. The details of receipts and disposal of birds and eggs in each of the District Poultry Farms are shown in the following table:—

(a) Eggs—

| District Poultry Farm. | Opening balance on 1st April 1951. | Received from outside. | Collected.   | Number kept for hatch and for experiment | Sold for setting. | Sold for table. | Fed to chicks and transfers. | Balance on 31st March 1952. |
|------------------------|------------------------------------|------------------------|--------------|------------------------------------------|-------------------|-----------------|------------------------------|-----------------------------|
| (1)                    | (2)                                | (3)                    | (4)          | (5)                                      | (6)               | (7)             | (8)                          | (9)                         |
| Chittoor ..            | 9                                  | 75                     | 2,113        | 1,090                                    | 660               | 334             | 89                           | 24                          |
| Cuddapah ..            | 21                                 | 150                    | 1,921        | 800                                      | 271               | 699             | 286                          | 36                          |
| Cannanore ..           | 85                                 | ..                     | 2,993        | 1,585                                    | 979               | 259             | 245                          | 10                          |
| <b>Total ..</b>        | <b>115</b>                         | <b>225</b>             | <b>7,027</b> | <b>3,475</b>                             | <b>1,910</b>      | <b>1,292</b>    | <b>620</b>                   | <b>70</b>                   |

(b) Birds—

| District Poultry Farm. | Opening balance on 1st April 1951. | Received from outside. | Hatched.     | Died.      | Sold.      | Transferred. | Balance on 31st March 1952. |
|------------------------|------------------------------------|------------------------|--------------|------------|------------|--------------|-----------------------------|
| (1)                    | (2)                                | (3)                    | (4)          | (5)        | (6)        | (7)          | (8)                         |
| Chittoor ..            | ..                                 | 149                    | 26           | 470        | 53         | 251          | 16                          |
| Cuddapah ..            | ..                                 | 172                    | 2            | 418        | 198        | *220         | 125                         |
| Cannanore ..           | ..                                 | 275                    | 6            | 472        | 228        | 261          | 168                         |
| <b>Total ..</b>        | <b>596</b>                         | <b>34</b>              | <b>1,360</b> | <b>679</b> | <b>732</b> | <b>24</b>    | <b>555</b>                  |

\* Includes one bird stolen on the night of 18th December 1951, i.e., Rhode Island Red cock.

55. (1) *District Livestock Farm, Koila, South Kanara*.—The receipts and disposals of poultry in this farm are as follows:—

| Breed.              | Stock on 1st April 1951. | Receipts.  | Sales, auctions. | Transfers. | Deaths, destructions etc. | Balance on 31st March 1952. |
|---------------------|--------------------------|------------|------------------|------------|---------------------------|-----------------------------|
| (1)                 | (2)                      | (3)        | (4)              | (5)        | (6)                       | (7)                         |
| Rhode Island Red .. | 24                       | 210        | 1                | 42         | 117                       | 74                          |
| White Leghorn ..    | 24                       | 83         | ..               | 8          | 61                        | 38                          |
| Desi .. ..          | 6                        | 50         | 2                | ..         | 26                        | 28                          |
| <b>Total ..</b>     | <b>54</b>                | <b>343</b> | <b>3</b>         | <b>50</b>  | <b>204</b>                | <b>140</b>                  |

(2) The receipts and disposals of eggs are detailed below:—

|                                                   |       |
|---------------------------------------------------|-------|
| Opening balance on 1st April 1951 .. ..           | 4     |
| Received during the year in the farm .. ..        | 2,990 |
| Received from Poultry Research Station, Madras .. | 48    |
| Kept for hatch .. ..                              | 985   |
| Sold for table .. ..                              | 1,234 |
| Fed to chicks .. ..                               | 228   |
| Issued to Poultry Research Station, Madras ..     | 25    |
| Balance on 31st March 1952 .. ..                  | 170   |

(3) The maximum percentage on hatchability was 58.5 per cent in February 1951 and the lowest was 5 per cent in May 1951.

The performance of the birds was as follows:—

|                                     | White Leghorn. | Rhode Island Red. | Desi. |
|-------------------------------------|----------------|-------------------|-------|
| Average number of laying hens .. .. | 18.66          | 29.66             | 14.7  |
| Average egg yield .. ..             | 74.4           | 111.08            | 76.4  |
| Average per hen .. ..               | 3.8            | 3.47              | 5.47  |

56. (1) *District Poultry Farm, Visakhapatnam*.—The District Poultry Farm, Visakhapatnam, was started on 1st July 1951 with the following initial stock and equipment received from the Poultry Research Station, Teynampet, Madras.

| Rhode Island Reds. |       |         |        | White Leghorns. |       |         |        | Grand Total. |
|--------------------|-------|---------|--------|-----------------|-------|---------|--------|--------------|
| Cocks.             | Hens. | Chicks. | Total. | Cocks.          | Hens. | Chicks. | Total. |              |
| 1                  | 5     | 25      | 31     | 4               | 19    | 25      | 48     | 79           |

During the year 139 chicks were received by hatch, 104 chicks were purchased from the Indian Veterinary Research Institute, Izatnagar, and two Desi hens were purchased for breeding purposes. Nineteen chicks were transferred to adult stock. There were 42 deaths out of which 5 were adults and the rest chicks. Eleven birds were distributed for rural uplift. Forty-seven birds were culled and disposed due to roup, unthrifty, old age, wrong colour and deformed toes.

(2) The stock position at the end of the year was as follows:—

| Rhode Island Red. |       |         |        | White Leg horn. |       |         |        | Desi.        | Grand total. |
|-------------------|-------|---------|--------|-----------------|-------|---------|--------|--------------|--------------|
| Cocks.            | Hens. | Chicks. | Total. | Cocks.          | Hens. | Chicks. | Total. | Hens. Total. |              |
| 3                 | 10    | 74      | 87     | 5               | 8     | 122     | 135    | 2 2          | 224          |

(3) *Eggs*.—One thousand one hundred and thirty-one eggs from Rhode Island Red, White Leghorn and desi birds were collected and disposed off as follows:—

| Breed.              | Number received. | Number set for hatching. | Number sold for hatching. | Number sold for table. | Number transferred for Artificial Insemination section. | Broken and fed to chicks. | Balance. |
|---------------------|------------------|--------------------------|---------------------------|------------------------|---------------------------------------------------------|---------------------------|----------|
| (1)                 | (2)              | (3)                      | (4)                       | (5)                    | (6)                                                     | (7)                       | (8)      |
| Rhode Island Red .. | 303              | 122                      | 141                       | 15                     | 6                                                       | 10                        | 9        |
| White Leghorn ..    | 765              | 373                      | 265                       | 71                     | 12                                                      | 38                        | 6        |
| Desi ..             | 63               | ..                       | ..                        | 62                     | 1                                                       | ..                        | ..       |
| Total ..            | 1,131            | 495                      | 406                       | 148                    | 19                                                      | 48                        | 15       |

57. *Poultry Units in Veterinary Institutions*.—The disposal of eggs in the Poultry Demonstration Units attached to the Veterinary Institutions in the several districts is shown in the statement annexed.

#### *Poultry Units in Veterinary Institutions.*

The outturn and disposal of eggs at the various poultry units stationed in Veterinary Institutions are given below:—

| Serial number and Place. | Breed. | Balance on 1st April 1951. | Sold for |        | Set for hatching. | Broken and fed to chicks. | Transfers. | Balance on 31st March 1952. | Receipts. | Expenditure. |
|--------------------------|--------|----------------------------|----------|--------|-------------------|---------------------------|------------|-----------------------------|-----------|--------------|
|                          |        |                            | Setting. | Table. |                   |                           |            |                             |           |              |
| (1)                      | (2)    | (3)                        | (4)      | (5)    | (6)               | (7)                       | (8)        | (9)                         | (10)      | (11)         |
| 1 Visakhapatnam ..       | BM.    | ..                         | 236      | 31     | 118               | 12                        | ..         | ..                          | Rs. 121   | Rs. 161      |
| 2 Rajahmundry ..         | Desi   | ..                         | ..       | 96     | ..                | ..                        | ..         | ..                          | ..        | ..           |
| 3 Kakina ..              | R.I.R. | ..                         | 618      | 114    | 156               | ..                        | ..         | ..                          | 216       | 434          |
| 4 Amalapuram ..          | BM.    | ..                         | 30       | 4      | 18                | ..                        | ..         | ..                          | 44        | 134          |
| 5 Vijayavada ..          | WL.    | ..                         | 149      | 34     | 19                | ..                        | ..         | ..                          | 67        | 153          |
| 6 Ongole ..              | R.I.R. | 14                         | 936      | 157    | 152               | 114                       | ..         | ..                          | 315       | 383          |
| 7 Bellary ..             | Desi   | ..                         | 532      | 20     | 208               | ..                        | ..         | ..                          | ..        | ..           |
| 8 Cuddapah ..            | WL.    | ..                         | ..       | 100    | ..                | ..                        | ..         | ..                          | 261       | 426          |
| 9 Kurnool ..             | Desi   | ..                         | 556      | 312    | 154               | 68                        | ..         | ..                          | 179       | 1,298        |
| 10 Nandyal ..            | R.I.R. | 14                         | 35       | 698    | 180               | 102                       | ..         | ..                          | 8         | 183          |
| 11 Nellore ..            | Desi   | ..                         | 159      | ..     | 231               | 95                        | ..         | ..                          | 84        | 276          |
| 12 Chittoor ..           | BM.    | ..                         | 20       | 162    | ..                | 44                        | ..         | ..                          | ..        | ..           |
| 13 Madanapalle ..        | Desi   | ..                         | 818      | 431    | 100               | 197                       | ..         | ..                          | 4         | 329          |
| 14 Kancheepuram ..       | WL.    | 4                          | 164      | 105    | 40                | 10                        | ..         | ..                          | 12        | 62           |
| 15 Ranipet ..            | Desi   | ..                         | ..       | 50     | ..                | 11                        | ..         | ..                          | 2         | 493          |
| 16 Tanjore ..            | BM.    | 5                          | 273      | 167    | 115               | 11                        | ..         | ..                          | 261       | 295          |
| 17 Nagapattinam ..       | Desi   | ..                         | 803      | 141    | 110               | 27                        | ..         | ..                          | 15        | 181          |
| 18 Cuddalore ..          | R.I.R. | 4                          | 286      | 131    | 31                | 1                         | ..         | ..                          | 2         | 117          |
| 19 Talakulam ..          | WL.    | ..                         | 375      | 849    | 60                | 38                        | ..         | ..                          | 222       | 322          |
| 20 Periyakulam ..        | BM.    | 47                         | 2,175    | 763    | 206               | 492                       | ..         | ..                          | 47        | 675          |
| 21 Devakottai ..         | R.I.R. | 14                         | 555      | 263    | 69                | 25                        | ..         | ..                          | 4         | 247          |
| 22 Tirunelveli ..        | Desi   | ..                         | ..       | 114    | ..                | 51                        | ..         | ..                          | 21        | 253          |
| 23 Salem ..              | WL.    | 6                          | 412      | 186    | 82                | 213                       | ..         | ..                          | 24        | 780          |
| 24 Coonoor ..            | Desi   | 8                          | 2,102    | 398    | 114               | 305                       | ..         | ..                          | ..        | 856          |
| 25 Ootacamund ..         | BM.    | 12                         | 650      | 174    | 65                | 9                         | ..         | ..                          | 2         | 248          |
| 26 Pollachi ..           | Desi   | ..                         | ..       | 82     | 31                | ..                        | ..         | ..                          | 1         | 166          |
| 27 Erode ..              | R.I.R. | ..                         | 339      | 315    | 38                | 6                         | ..         | ..                          | ..        | 647          |
| 28 Tiruppur ..           | Desi   | 6                          | 1,083    | ..     | 37                | 57                        | ..         | ..                          | ..        | 767          |
| 29 Mangalore ..          | BM.    | 10                         | 363      | 50     | ..                | 10                        | ..         | ..                          | ..        | 128          |
| 30 Kozhikode ..          | Desi   | 13                         | 590      | 172    | 80                | ..                        | ..         | ..                          | 13        | 187          |
| 31 Banganapalli ..       | WL.    | 8                          | 490      | 32     | 249               | 3                         | ..         | ..                          | 15        | 215          |
| 32 Badval ..             | R.I.R. | 9                          | 719      | 477    | 310               | ..                        | 19         | ..                          | ..        | 347          |
| 33 Dharapuram ..         | WL.    | 15                         | 1,395    | 41     | 343               | 36                        | ..         | ..                          | 6         | 884          |
| 34 Adoni ..              | R.I.R. | 2                          | 847      | 523    | 379               | 2                         | ..         | ..                          | 20        | 615          |
| 35 Kodalkanal ..         | R.I.R. | 9                          | 465      | 504    | 78                | ..                        | ..         | ..                          | 6         | 231          |
| 36 Kaliyampoondi ..      | WL.    | ..                         | 468      | 24     | 96                | 20                        | ..         | ..                          | 6         | 110          |
| 37 Kallakurichi ..       | Desi   | ..                         | 50       | 146    | 44                | 7                         | ..         | ..                          | 1         | 31           |
| 38 Eluru ..              | R.I.R. | ..                         | ..       | 115    | 8                 | 66                        | ..         | ..                          | ..        | 11           |
| 39 Tiruchirappalli ..    | WL.    | 3                          | 406      | 85     | 753               | 38                        | ..         | ..                          | 11        | 297          |
| 40 Hindupur ..           | Desi   | ..                         | 20       | 121    | 174               | 70                        | ..         | ..                          | ..        | 43           |
|                          | WL.    | ..                         | 234      | 108    | 80                | 81                        | ..         | ..                          | ..        | 104          |
|                          | R.I.R. | 6                          | 409      | 77     | 71                | 18                        | ..         | ..                          | 3         | 127          |
|                          | WL.    | ..                         | 116      | 12     | 47                | 4                         | ..         | ..                          | ..        | 31           |
|                          | R.I.R. | ..                         | 64       | 185    | 63                | 33                        | ..         | ..                          | ..        | 63           |
|                          | WL.    | ..                         | 78       | 20     | 114               | 16                        | ..         | ..                          | ..        | 17           |
|                          | R.I.R. | ..                         | 282      | 104    | 51                | 19                        | ..         | ..                          | 8         | 144          |

Norm.—W.L.—White Leghorn.

R.I.R.—Rhode Island Red.

B.M.—Black Minorca.

#### ARTIFICIAL INSEMINATION.

58. This scheme continued to function at the three centres—Madras, Coimbatore and Guntur, under the supervision of the Special Officer for Artificial Insemination. Two additional centres at Valparai in Coimbatore district and Ootacamund in the Nilgiris were opened during the year on 1st December 1951 and 5th October 1951 respectively.

(a) *Madras Centre*.—There were 13 bulls (4 Ongoles, 4 Sindhi, 3 Murrah, 1 Gir and 1 Holstein-Friesian) serving in this centre. Three hundred and seventy-two collections of semen were made. Two thousand and seventy-six animals were inseminated against 1,324 in last year. Nine hundred and thirty-eight cases of pregnancies were verified against 495 in last year. Two hundred and seventy-nine calves were inspected against 195 in last year. The utility van provided for the scheme during the previous year was made use of for the work relating to the artificial insemination sub-centres in the City at Mylapore, Saidapet and Basin Bridge. Artificial Insemination work had to be temporarily suspended for about two months on account of an outbreak of Foot and Mouth among the bulls in the Madras Veterinary College during the year.

(b) *Coimbatore Centre*.—One Kangayam, two Sindhi and one Murrah buffalo and one cross-bred bull were utilized for this work. The number of animals inseminated during the year was 2,711 against 975 in last year. One thousand two hundred and seventy-seven cases of pregnancies were verified against 201 in the previous year. The number of calves (born as a result of artificial insemination) inspected was 276 against 40 in last year. Two hundred and twenty-two semen collections were made.

(c) *Guntur Centre*.—One Ongole bull and one Murrah buffalo-bull were utilized for the work. The total number of animals inseminated was 380 against 145 in last year. Three hundred and thirty-eight cases of pregnancies were verified against 70 in last year. Thirty-eight calves were inspected against nil in last year. One hundred and forty-nine semen collections were made.

(d) *Ootacamund Centre*.—This centre was newly opened on 5th October 1951 and the supply of equipment was completed by the end of December 1951. Three hundred and thirty cows were inseminated between the period from 5th October 1951 to 31st March 1952. One Sindhi bull, one Murrah buffalo-bull, one Holstein-Friesian bull and one Jersey bull were used for the work. Eighty-seven semen collections were made.

(e) *Valparai Centre*.—This centre was newly opened on 1st December 1951 and the supply of equipment was completed by the end of February 1952. Fifteen cows were inseminated during the month of March 1952. One cross-bred bull was used for the work. Four semen collections were made.

59. *Experimental work*.—The work comprised the collection of semen and its evaluation with regard to colour consistency, motility, concentration, P.H. Sperm abnormality, etc., in addition to dilution, preservation. The morphology and density of representative samples were also studied. The semen of all the bulls used for artificial insemination work was of a high quality. The percentage of abnormal sperms was negligible in the samples of semen used for extensive artificial insemination.

About 50 per cent of the inseminated animals came up for re-insemination at various intervals. Cows which did not conceive by natural service were inseminated successfully.

A routine examination of the cows brought for artificial insemination revealed that granular vaginitis, cervicitis, cystic ovaries, anoestrous conditions and pyometra were mainly responsible for the large percentage of non-conception. The total number of infertility handled was 388 against 299 in last year.

#### PROPAGANDA.

60. The artificial insemination section took part in the following exhibitions and shows during the year:—

(1) Park Fair Exhibition at Madras.

(2) Exhibitions and shows held at Nellore, Chittoor, Tuticorin and Eluru.

- (3) Cattle shows and Exhibition held in Coimbatore district.
- (4) Cattle shows held in Guntur, Bapatla and Ongole.
- (5) Cattle shows held at Ootacamund and Toda Welfare show.

Besides, slides about the opening of the artificial insemination centre at Ootacamund and the nature of work were exhibited in the cinema theatres at Ootacamund with the co-operation of the Municipal Commissioner, Ootacamund.

61. *Key Farm Artificial Insemination Centres attached to the Livestock Farms.*—Seven artificial insemination Key Farm Centres were opened during the year in the seven Livestock Farms in the State under the Farm Key Village Scheme. The sanctioned amount of Rs. 26,600 was fully utilized for the purchase of equipments essential for carrying out artificial insemination work in and around the Livestock farms. A Veterinary Assistant Surgeon and five Veterinary and Livestock Inspectors have been posted to each Key Farm Centre. Regular work was begun from the latter half of March 1952, i.e., at the fog end of the year.

#### SALVAGE OF DRY COWS.

62. The number of cows in the scheme at the beginning of the year was 193. Three hundred and eleven cows were admitted and 177 cows after calving and 47 cows before calving were returned to owners. There were seven deaths during the year. The number of cows at the end of the year was 273.

The number of bulls maintained in the farm was 5 (3 Ongoles, one Sindhi and 1 Gir) and they performed a total number of 247 services.

For the fifth year in succession the average rainfall in the farm area was below normal. Grazing was adequate only for five months of the year and the animals were stall-fed during the remaining period. Proposals for better water-supply and permanent buildings were submitted by the District Veterinary Officer, Madras, and they were under examination.

#### THE VILLAGE LIVESTOCK IMPROVEMENT SCHEME.

63. This scheme is functioning in four selected firkas of which two are under the supervision of the Co-operative Department, one at Ongole in Guntur district and the other at Palladam in Coimbatore East district and two under this department, one at Alur in Bellary district and the other at Saliamangalam in Tanjore district. The general features of the scheme are the improvement of livestock in selected concentrated areas by mating them with approved bulls, elimination of local scrub bulls by compulsory castration and inducement to ryots by way of subsidies to keep heifer calves born to approved bulls within the area. A resume of the work done by this Department is furnished below :—

| Number of bulls.                                | Alur firka<br>three<br>(Hallikars). | Saliamangalam firka<br>three<br>(Omblachery). |
|-------------------------------------------------|-------------------------------------|-----------------------------------------------|
| Number of services performed .. .. .            | 116                                 | 279                                           |
| Number of calves born .. .. .                   | 5                                   | ..                                            |
| Number of calves inspected .. .. .              | 5                                   | ..                                            |
| Number of calves registered for subsidy .. .. . | 4                                   | ..                                            |
| Immunisation of animals .. .. .                 | 4,594                               | 185                                           |
| Castrations .. .. .                             | 431                                 | 236                                           |
| Registration of female stock .. .. .            | 790                                 | 829                                           |

#### SHEEP-FARMING AND DEVELOPMENT.

64. The Sheep and Goat Development Officer completed the preliminary survey of the important tracts in the State and studied them for the demarcation of regional zones of different breeds of sheep and goats. A study of the quality of the skin of different breeds of sheep and goats in various tracts in collaboration with the Principal, Leather Technology Institute, Madras, was started.

65. In order to improve the local stock, stud rams as detailed below were distributed during the year free of cost :—

- 10 Bellary rams from Kurukuppi Farm in West Godavari district.
- 8 Bellary rams from Kurukuppi Farm in Krishna district.
- 15 Bellary rams from Kurukuppi Farm in Bellary district.
- 8 Bellary rams from Kurukuppi Farm and Hosur Cattle Farm in Anantapur district.
- 13 Bellary and Cross-bred rams from Hosur Cattle Farm in Chittoor district.
- 4 Nilgiris rams from Ootacamund Sheep Farm in Coimbatore district.

In addition to the above distribution, 8 Bellary rams from Kurukuppi Farm and 12 Nellore rams from Nellore district were distributed at the instance of this Department in Chittoor district in Firka Development area from the funds of the District Development Committee.

A few of the progeny born in the Mandya flock stationed at the Agricultural Farm, Arakku, were distributed to the Hill Tribes to train them in sheep husbandry.

Under a separate scheme sanctioned for the amelioration of the Hill tribes in the Agency areas, 8 Mandya rams were purchased and distributed free of cost to the Hill tribes in Upper Agencies. Arrangements for similar distribution of Nellore rams in the Lower Agencies were also made.

66. There were only two sheep demonstration units with headquarters at Coimbatore and Bellary at the beginning of the year. With a view to educate sheep owners in the proper methods of breeding and management of sheep and improved methods of shearing and grading up of wool, the strength of the units was increased to six during the year with headquarters at Kakinada, Nellore, Anantapur, Cuddalore, Coimbatore and Madurai respectively. The headquarters of the Bellary unit was shifted to Anantapur on 1st September 1951. The four additional units were opened with effect from the dates noted against each :—

|                   |                      |
|-------------------|----------------------|
| Kakinada .. .. .  | 13th September 1951. |
| Cuddalore .. .. . | 26th September 1951. |
| Madurai .. .. .   | 17th March 1952.     |
| Nellore .. .. .   | 28th March 1952.     |

67. The Government sanctioned the purchase of 60 improved hand shears and their sale at a concessional rate of Rs. 4 each during the year. Fifty-three shears out of 60 shears purchased were sold to village shearers to popularize improved methods of shearing. The remaining seven shears are in use with the newly opened sheep units. Loans were sanctioned by Government for raising seed sheep farms to an applicant in Nellore district as well as to three other applicants in Anantapur district. These persons were given necessary advice and assistance. The units visited, during the year, 690 villages, held 103 demonstrations and trained 106 shepherds in the proper methods of shearing sheep and grading wool. They also participated in 35 exhibitions and sold 53 improved shears at subsidized rates.

68. *Sheep Farm, Dunsandale, Ootacamund.*—The stock on hand at the beginning of the year was 277 consisting of 32 rams, 182 ewes and 23 lambs in addition to

five ducks and one hen. The stock position at the end of the year was 292 sheep, 2 Sindhi cows and 2 cross-bred bullocks as detailed below:—

| Particulars.                   | Ram. | Ewes. | Young stock. |            | Total. | Duck. | Hen.                     | Sindhi cows. | Cross-bred bullock. |
|--------------------------------|------|-------|--------------|------------|--------|-------|--------------------------|--------------|---------------------|
|                                |      |       | Ram lambs.   | Ewe lambs. |        |       |                          |              |                     |
| (1)                            | (2)  | (3)   | (4)          | (5)        | (6)    | (7)   | (8)                      | (9)          | (10)                |
| Stock on 1st April 1951        | 22   | 182   | 45           | 28         | 277    | 5     | 1                        | ..           | ..                  |
| Births during 1951-52          | ..   | ..    | 36           | 39         | 75     | ..    | ..                       | ..           | ..                  |
| Purchased in 1951-52           | ..   | ..    | ..           | ..         | ..     | ..    | ..                       | ..           | 2                   |
| Deaths during 1951-52          | 1    | 6     | 16           | 11         | 34     | 5     | ..                       | ..           | ..                  |
| Sales                          | 16   | ..    | 7            | ..         | 23     | ..    | 1                        | ..           | ..                  |
| Transfer, external             | 3    | ..    | ..           | ..         | 3      | ..    | ..                       | 2            | ..                  |
|                                |      |       |              |            |        |       | (from Hosur Cattle Farm) |              |                     |
| Transfer, internal             | 22   | 22    | 22           | 22         | ..     | ..    | ..                       | ..           | ..                  |
| Total stock on 1st April 1952. | 24   | 198   | 36           | 34         | 292    | ..    | ..                       | 2            | 2                   |

69. *Mating.*—Mating was restricted to only one season during the year to avoid the crop of lambs in the adverse frost season. Thus the crop of lambs obtained during August, September of the year did not suffer casualties. Each ram has been allotted about 40 ewes. The Oestrus cycle experiments is being continued by allowing Vasectomised rams in the herds throughout the year and observations are being recorded regularly. Records of body weight and growth as well as body temperature, etc., are also being collected for future analysis and guidance.

70. *Shearing and wool yield.*—Shearing was done with the improved hand shears and shearing machine. A total quantity of 316 lb. of wool was obtained during the year. The average wool yield is as follows:—

|       | LB.  |
|-------|------|
| Ram   | 1.76 |
| Ewe   | 1.35 |
| Lambs | 1.5  |

71. *Extension work.*—A scheme for improving the sheep of local owners by management and breeding under farm conditions was started during the year in the Sheep Farm, Ootacamund. Thirty-one ewes, eleven lambs belonging to three private persons were admitted into the farm during December 1951. They were managed under the same conditions of the farm sheep and were allotted for mating to one of the farm stud rams. There were 2 births and 10 deaths, leaving at the close of year, 26 ewes and 8 lambs.

72. *Wool yield.*—The average wool yield per year is as follows:—  
Rams—1.76 lb., Ewes—1.35 lb., Lambs—1.5 lb.

73. *Breeding programme.*—The breeding work in the sheep farms or sheep sections of the Livestock Farm is being done as per the programme mentioned below:—

- (1) Hosur Cattle Farm—
  - (a) Pure breeding in Bikaneri flock.
  - (b) Pure breeding in Mandya flock.
  - (c) Pure breeding in Bellary flock.
  - (d) Cross breeding Bellary with Bikaneri rams,
- (2) Combined Sheep and Cattle Farm, Kurukuppi—
  - (a) Pure breeding in Bellary flock.
  - (b) Cross breeding Bellary with Bikaneri rams.
- (3) Dunsandale Sheep Farm, Ootacamund—
  - (a) Pure breeding in Nilgiri breed.

74. *Wool analysis.*—The absence of the well equipped wool analysis laboratory is a great handicap in evaluating the performance of the individual sheep. The Officer of the Bombay University Laboratory who has been helping in the matter has since informed that they cannot hereafter undertake the analysis of the samples of this department.

75. *Deworming demonstrations.*—Demonstrations of increasing weight by deworming with phenovis brand of Phenothiazone were conducted in three centres in Krishna, Bellary and Tiruchirappalli districts during the year. The demonstrations were carried out by deworming a certain number of sheep in the flocks once in two months from May 1951 onwards till January 1952. Necessary controls of equal number of sheep under same conditions were also kept under observation to facilitate a comparative study. The following are the results obtained in three centres:—

| District.          | Village.          | Average weight per head of sheep |             | Gain in weight per head. |
|--------------------|-------------------|----------------------------------|-------------|--------------------------|
|                    |                   | treated lb.                      | control lb. |                          |
| (1)                | (2)               | (3)                              | (4)         | (5)                      |
| 1. Krishna         | (1) Muthyalampadu | 52.55                            | 41.55       | 8.0                      |
|                    | (2) Gunadala      | 50.84                            | 40.73       | 10.11                    |
|                    | (3) Konduru       | 50.38                            | 43.32       | 7                        |
| 2. Bellary         | (1) Arikere       | 68.35                            | 61.35       | 7                        |
|                    | (2) Nulebadu      | 63.75                            | 58.45       | 5.3                      |
| 3. Tiruchirappalli | (1) Murugur       | 34.45                            | 32.73       | 1.72                     |

(Foot-and-mouth diseases occurred during the experimental period.)

76. The increase in weight and the general appearance of the animal was demonstrated to the sheep owners and this served the purpose of bringing the ignorant and conservative sheep owners nearer the department. The final finish was given to the demonstrations by conducting lectures and film shows in the subject in collaboration with Messrs. Imperial Chemical Industries (India), Limited, Madras, who also supplied the drug free of cost.

77. *Sheep breeding at Combined Sheep and Cattle Farm, Kurukuppi.*—The object of the scheme is to evolve from the local sheep a white woolly sheep with better wool yield and better carcass weight. Simultaneously another scheme known as the Madras Sheep Breeding Scheme also has been initiated in October 1950 which aims at cross-breeding and grading up of Bellary ewes with Bikaneri rams. Both these breeding schemes are being concurrently run with a view to study the resultant progeny in both groups.

78. The strength of the flocks on 1st April 1951 was 407. There were 252 births, 69 deaths, one destruction and 45 sales, one loss by wild animal leaving a balance of 543 head of sheep at the end of the year. The flocks were maintained into two units, one called Bellary flock comprising Bellary rams, ewes and lambs. Selective breeding was carried on among Bellary breed of sheep. The other flock was termed at the 'scheme flock' which comprised Bikaneri rams, a group of Bellary ewes and Bikaneri-Bellary cross-bred lambs.

79. *Wool yield.*—The sheep were shorn twice during the year. The total yield was 721 lb. of white wool by shearing 313 head of sheep as against 538.3 lb. of wool by shearing 275 head of sheep during the previous year. The average wool yield of the different groups of sheep during the year 1950-51 and 1951-52 is given below:—

| Kind of sheep.    | Average wool yield. |          |
|-------------------|---------------------|----------|
|                   | 1950-51.            | 1951-52. |
|                   | LB.                 | LB.      |
| Bikaneri rams     | 6.1                 | 4.8      |
| Bellary rams      | 3.6                 | 2.7      |
| Bellary ram lambs | 3.4                 | 2.6      |
| Bellary ewes      | 1.7                 | 1.8      |
| Bellary ewe lambs | 2.10                | 2.2      |

80. *Bikaneri-Bellary flock*.—The strength of the flock on 1st April 1951 was 241. There were 124 births, 32 deaths, 45 sales and 10 transfers, leaving a balance of 278 at the end of the year. The strength of the flock on 1st April 1951 was 166. There were 128 births, 37 deaths, one destruction, 9 internal receipts leaving a balance of 265 at the end of the year.

The maximum individual yield for the different classes of sheep during the year was as follows:—

|                            | LB. |                                  | LB. |
|----------------------------|-----|----------------------------------|-----|
| Bikaneri rams .. .. .      | 8.3 | Bellary lamb (ram) .. .. .       | 2.2 |
| Bellary rams .. .. .       | 5.6 | Cross-bred F. 1 ram lamb .. .. . | 2.9 |
| Bellary ewe .. .. .        | 3.8 | Cross-bred F. 1 ewe lamb .. .. . | 2.7 |
| Bellary lamb (ewe) .. .. . | 2.2 |                                  |     |

81. *Wool analysis*.—No laboratory is attached to the Sheep Farm at Kurukuppi. Samples of wool collected during both the shearing seasons were sent to outside laboratories in collaboration with the Sheep and Goat Development Officer, Hosur. The results of analysis were still awaited at the close of the year.

#### SEASON AND CROPS.

82. *Livestock Research Station, Hosur*—(a) *Rainfall*.—The total rainfall during the year under report was 35.20 inches as against 23.52 inches in the previous year.

(b) *Hay and green fodder*.—The average yield of hay per acre was 826 lb. as against 2,172 lb. in the previous year. The failure of seasonal rains coupled with a heavy caterpillar attack are responsible for the lesser yield during the year.

The following quantities of fodder were issued during the year:—

|                                                                                                        | LB.       |
|--------------------------------------------------------------------------------------------------------|-----------|
| (1) Hay issued to farm animals (besides 2 tons of hay were supplied to the Madras Veterinary College). | 1,004,101 |
| (2) Silage .. .. .                                                                                     | 313,900   |
| (3) Horsegram Bhusa .. .. .                                                                            | 222,298   |
| (4) Chulam straw .. .. .                                                                               | 44,537    |

#### Green grass.

|                             | LB.     |
|-----------------------------|---------|
| (1) Kolakkattai .. .. .     | 9,080   |
| (2) Buffalo grass .. .. .   | 8,482   |
| (3) Rhodes grass .. .. .    | 6,981   |
| (4) Mixed grass .. .. .     | 175,742 |
| (5) Guinea grass .. .. .    | 93,035  |
| (6) Mulberry leaves .. .. . | 12,273  |

83. (a) *Livestock Research Station, Lam, Guntur*.—The total rainfall recorded in the farm during the year was 28.70 inches as against 29.94 inches in the previous year.

(b) The following quantities of fodder, grown in the farm, were issued during the year:—

|                     | Green.<br>LB. | Dry.<br>LB. |
|---------------------|---------------|-------------|
| Chulam .. .. .      | 574,700       | 72,000      |
| Maize .. .. .       | 8,460         | ..          |
| Pillipesara .. .. . | 351,500       | ..          |
| Cow-pea .. .. .     | 82,900        | ..          |

84. (a) *Dairy-cum-Bull Farm, Visakhapatnam*.—The south-west monsoon brought in good rains and cultivation of fodder crops was satisfactory. However, due to partial failure of the north-east monsoon, second sowings could not be undertaken.

(b) The total area under cultivation was 135 acres out of which 23½ acres were under perennial grasses. The details of fodder raised in the farm and fed to animals are given below:—

|                       | LB.     |                                | LB.     |
|-----------------------|---------|--------------------------------|---------|
| Jonna .. .. .         | 350,338 | Lucerne .. .. .                | 34,541  |
| Pillipesara .. .. .   | 13,830  | Napier grass .. .. .           | 28,710  |
| Sweet potato .. .. .  | 80,706  | Sunn hemp .. .. .              | 61,548  |
| Horsegram .. .. .     | 38,970  | Mixed grasses .. .. .          | 321,122 |
| Berseem .. .. .       | 97,284  | Jonna hay .. .. .              | 55,200  |
| Teosinte .. .. .      | 137,203 | Teosinte hay .. .. .           | 5,000   |
| Guinea grass .. .. .  | 451,083 | Jonna and Pillipesara mixture. | 81,910  |
| Buffalo grass .. .. . | 61,836  |                                |         |
| Rhodes grass .. .. .  | 325,429 |                                |         |

85. (a) *Combined Sheep and Cattle Farm, Kurukuppi*.—The total rainfall during the year was 18.27 inches as against 10.70 inches in the last year. The north-east monsoon was a complete failure.

(b) The total area under cultivation during the year was 384 acres. The details of fodder raised in the farm and issued to animals are given below:—

|                             | LB.     |                              | LB.    |
|-----------------------------|---------|------------------------------|--------|
| Guinea grass .. .. .        | 184,591 | Rhodes grass .. .. .         | 44,910 |
| Green chulam fodder .. .. . | 99,108  | Sweet potato .. .. .         | 11,463 |
| Napier grass .. .. .        | 30,852  | Agathi .. .. .               | 1,485  |
| Lucerne .. .. .             | 9,681   | Green grass .. .. .          | 23,004 |
| Berseem .. .. .             | 16,316  | Dry chulam fodder .. .. .    | 1,500  |
| Teosinte .. .. .            | 29,807  | Buffalo grass—not harvested. | ..     |
| Maize .. .. .               | 30,743  |                              |        |

86. (a) *District Livestock Farm, Koila, South Kanara*.—The total rainfall during the year was 141.36 inches. It is estimated that 260,658 lb. of hay and 688,800 lb. of silage were made in 9 hay stacks and 7 silo pits, respectively during the year.

(b) The quantity of fodder fed to cattle during the year is as follows:—

|                           | LB.     |                            | LB.    |
|---------------------------|---------|----------------------------|--------|
| Silage .. .. .            | 464,900 | Sweet potato vines .. .. . | 1,009  |
| Hay .. .. .               | 279,810 | Chulam .. .. .             | 15,450 |
| Green grass .. .. .       | 144,610 | Teosinte .. .. .           | 11,300 |
| Thin Napier grass .. .. . | 4,000   | Horsegram .. .. .          | 4,200  |
| Guinea grass .. .. .      | 12,600  | Paddy straw .. .. .        | 16,000 |

87. (a) *District Livestock Farm, Malabar*.—The farm has about 8 acres under irrigated garden lands, and 62 acres of non-irrigated garden lands. The following were the yields obtained from crops:—

#### I. Irrigated garden lands—

| Crop.                | Yield. |                        |
|----------------------|--------|------------------------|
|                      | Grain. | Straw or green fodder. |
|                      | LB.    | LB.                    |
| (1)                  | (2)    | (3)                    |
| Paddy .. .. .        | 1,824  | 6,150                  |
| Gingelly .. .. .     | 175    | ..                     |
| Guinea grass .. .. . | ..     | 60,500                 |

## Irrigated garden lands—cont.

| Crop.                           | Yield.       |                        |
|---------------------------------|--------------|------------------------|
|                                 | Grain.       | Straw or green fodder. |
|                                 | LB. (2)      | LB. (3)                |
| Buffalo grass                   | Newly plant- | First cut-             |
| Elephant grass                  | ed.          | ting not               |
| Pillipesara                     |              | taken.                 |
| II. Non-irrigated garden lands— |              |                        |
| Cholam                          | ..           | 83,248                 |
| Teosinte                        | ..           | 47,605                 |
| Maize                           | ..           | 18,000                 |
| Paddy (Modan)                   | ..           | 12,450                 |
| Ragi                            | ..           | 10,351                 |
| Horsegram                       | ..           | 2,305                  |
| Guinea grass                    | ..           | 39,099                 |
| Korai                           | ..           | 6,500                  |
| Odean                           | ..           | 6,095                  |

(b) *Silage making*.—A total of 63,975 lb. in pit I, 24,775 lb. in pit II, and 61,540 in pit III of fodder grass was ensilaged during the year.

## LIVESTOCK IMPROVEMENT.

## GOVERNMENT BULLS AND RAMS DISTRIBUTION SCHEME.

88. During the year under report, 94 bulls (20 Ongoles, 15 Kangayams, 11 Hallikars, 13 Sindhis and 35 Murrahs) were distributed under this scheme. The total cost incurred on account of this scheme during the year amounted to Rs. 90,869-3-6 excluding incidental charges.

## TRADE IN LIVESTOCK AND LIVESTOCK PRODUCTS.

89. There are private tanneries at Eluru, Rajahmundry, Vinukonda and Guntur where tanning is done by country method. Similarly there are a number of tanneries in the southern districts (8 in and around Salem town, 20 in Dindigul of Madurai district and 8 in South Kanara district in the West Coast). An up-to-date tannery was started at Badagapatty in the outskirts of the Salem town during the year. In these tanneries salted skins are collected and tanned and they are exported to various places. There are also a number of tanneries around the City of Madras. The Chrome Leather Company, Madras, has a well-equipped tannery which is run on up-to-date lines at Chromepet.

90. A statement showing the export and import of livestock products during the years 1950-51 and 1951-52 is furnished below:—

| Commodity.                         | Exports.       |             |                |             |
|------------------------------------|----------------|-------------|----------------|-------------|
|                                    | 1950-51.       |             | 1951-52.       |             |
|                                    | Quantity.      | Value.      | Quantity.      | Value.      |
|                                    | TONS. CWT. LB. | RS.         | TONS. CWT. LB. | RS.         |
| Raw goat skins ..                  | 2,272          | 1,61,85,288 | 1,560          | 1,25,77,421 |
| Raw sheep skins ..                 | ..             | ..          | ..             | 1,080       |
| Raw cuttings of hides and skins .. | 1,836          | 7,17,299    | 2,738          | 13,55,995   |
| Raw cow-calf skins ..              | 5              | 42,885      | ..             | ..          |
| Raw buffalo hides ..               | 190            | 6,85,034    | 91             | 3,81,232    |
| Raw cow hides ..                   | 58             | 3,44,678    | 59             | 2,99,958    |
| Tanned cow-calf skins ..           | 815            | 87,68,320   | 647            | 84,57,801   |
| Tanned buffalo-calf skins ..       | 803            | 60,77,027   | 786            | 61,54,681   |
| Tanned cow hides ..                | 13,197         | 8,02,32,163 | 12,466         | 915,10,632  |
| Tanned goat skins ..               | 3,906          | 6,88,76,822 | 3,227          | 5,06,59,622 |
| Tanned other skins ..              | 2,661          | 71,46,352   | ..             | ..          |
| Tanned sheep skins ..              | 80             | 5,15,41,898 | 16             | 25          |
| Horn tips and pieces of horns ..   | 10,064         | 8,64,230    | 2,594          | 5,87,80,265 |
| Ivory, manufactured ..             | ..             | ..          | 12,436         | 4,95,726    |
| Bone meal ..                       | 9,053          | 8,291       | ..             | ..          |
| Bones for manurial purposes ..     | ..             | 27,62,016   | 12,329         | 61,70,394   |
| Animals, living ..                 | 59,100         | 30,62,555   | 81,123         | 38,45,028   |
| Leather, unwrought ..              | ..             | 38,02,900   | 3,445          | 36,86,317   |

## Imports.

| Commodity.                            | 1950-51.       |       |                |           | 1951-52.       |        |                |           |
|---------------------------------------|----------------|-------|----------------|-----------|----------------|--------|----------------|-----------|
|                                       | Quantity.      |       | Value.         |           | Quantity.      |        | Value.         |           |
|                                       | TONS. CWT. LB. | RS.   | TONS. CWT. LB. | RS.       | TONS. CWT. LB. | RS.    | TONS. CWT. LB. | RS.       |
| Leather, unwrought ..                 | ..             | 9,815 | ..             | 2,28,926  | ..             | 12,281 | ..             | 3,28,948  |
| Roller skins ..                       | ..             | 51    | ..             | 1,23,403  | ..             | ..     | ..             | 88,865    |
| Hides, raw ..                         | 538            | ..    | ..             | 8,24,958  | 245            | ..     | ..             | 5,65,901  |
| Skins, tanned ..                      | 70             | ..    | ..             | 1,67,108  | 54             | ..     | ..             | 1,765     |
| Skins, raw ..                         | 445            | ..    | ..             | 10,00,619 | 498            | ..     | ..             | 15,39,086 |
| Hides, tanned ..                      | 4              | ..    | ..             | 4,577     | ..             | 4      | ..             | 80        |
| Bacon and ham ..                      | ..             | 39    | ..             | 43        | ..             | 27     | ..             | 8,088     |
| Milk food for infants and invalids .. | 12,027         | ..    | ..             | 18,04,051 | ..             | 15,268 | ..             | 39,20,427 |
| Whole milk including cream ..         | 25,613         | ..    | ..             | 22,45,498 | ..             | 45,396 | ..             | 47,77,086 |
| Animals, living, horse ..             | Nos 18         | ..    | ..             | 98,025    | Nos. 39        | ..     | ..             | 8,77,684  |
| other kinds ..                        | 118            | ..    | ..             | 3,329     | 11             | ..     | ..             | 2,410     |
| Dried milk or powder, whole ..        | 6,814          | ..    | ..             | 12,66,325 | ..             | 2,123  | ..             | 4,04,748  |
| Dried milk or powder, skimmed ..      | 8,550          | ..    | ..             | 6,27,764  | ..             | 49,670 | ..             | 43,82,404 |
| Butter ..                             | ..             | 413   | ..             | 1,02,580  | ..             | 951    | ..             | 2,40,235  |
| Ghee ..                               | ..             | 1     | ..             | 195       | ..             | ..     | ..             | ..        |

## POULTRY REARING AND PRIVATE POULTRY FARM.

91. (1) *American Arcot Mission, North Arcot district*.—The 12 model poultry units in and around Katpadi managed by the American Arcot Mission continued to work satisfactorily besides the Arni sub-farm in North Arcot district. The Mission distributed 200 cocks of exotic breed at the concessional rate of Rs. 2 each. A total subsidy of Rs. 9,417-4-6 was paid to the Mission during the year under report.

(2) (a) *Chittoor district*.—A sum of Rs. 310 was sanctioned by the Collector from his discretionary grant towards the purchase and maintenance of improved breeds of poultry in Chittoor district.

(b) The American Arcot Mission continued to popularise poultry with Government subsidy as a cottage industry with its auxiliary centre at Burrakayalakota in Madanapalle taluk. Rhode Island Reds were kept. One thousand four hundred and sixty-one setting eggs were sold from this centre and 249 eggs for table.

(c) *Enadi Colony Scheme*.—The scheme which was worked in Chittoor district expired on 31st August 1951. It has been further extended for one year from the date of starting afresh. Two poultry units were maintained, one at Vodamalpet of Puttur taluk and the other at Amudalakona of Chandragiri taluk with three White Leghorn cocks, 15 country hens and five chicks and two Rhode Island Red Cocks, 12 country hens, respectively. Three hundred and ninety-one eggs were sold to the public. An amount of Rs. 125-15-3 was paid on account of subsidy to the two units to meet feeding charges.

(d) Jagadesh poultry farm is being maintained by Sri K. Kumaraswamy Pillai in Chittoor town. The American Women Industrial School at Palamanar is maintaining a poultry farm.

(e) Twelve White Leghorns were purchased from the amount sanctioned by the Collector of Chittoor from his discretionary grants. These birds were distributed in the rural welfare area.

(3) *South Kanara district*.—The establishment of a poultry farm was sanctioned by Government under the Rural Welfare Scheme in South Kanara district. A suitable site was selected for the location of the farm in Kinnigoli village of Mulky firka and arrangements for the opening of the farm were completed during the year.

(4) *Ramanathapuram district*.—Sri Papanasam Nadar is having a private poultry farm at Kammappatti in Malli Rural Welfare area besides one Sri S. Balakrishna Reddi at Malaipatti in Ramanathapuram district.

(5) *Madurai district*.—A sum of Rs. 300 was sanctioned by the Collector under discretionary grant for award of prizes to six individuals interested in live-stock improvement.

A poultry farm was opened in the Tamil Nad Grama Sevak Vidyalayam, T. Kallupatti, in December 1951. Rhode Island Reds are maintained in this farm.

Sri Narayanaraja of Bodinayakanur is maintaining a small farm with 100 Rhode Island Reds. He is receiving country eggs for his own use in exchange for Rhode Island Red eggs issued for hatching.

(6) *Tiruchirappalli district*.—A poultry unit has been established at the Central Jail, Tiruchirappalli, with White Leghorns.

The Board High School, Perambalur, is running a regular poultry farm as an extra-curricular activity with White Leghorn, Rhode Island Red and buffrocks birds. The Board High School, Ponparappi, is making arrangements to copy this scheme of the Perambalur High School. Besides there are two private poultry farms on small scale at Kalipalayam and Mettupalayam in Musiri.

(7) *South Arcot*.—Twenty cockerels of White Leghorn and 21 cockerels of Black Minorca were purchased out of the Collector's discretionary grant and distributed in Chinnasalem Rural Welfare area.—

American Arcot Mission's unit at Muttathur with White Leghorns has collected 892 eggs. Eight hundred and eighty-nine eggs were sold for hatching and three for table.

(8) *East Godavari district*.—A ryot of Chelluru village is maintaining a farm with a good number of exotic birds.

(9) *Cuddapah district*.—A sum of Rs. 60 was sanctioned by the Collector to individuals who reared good poultry under the auspices of the District Development Committee.

(10) *Anantapur*.—A Co-operative Poultry Farming and Egg Production Society is functioning at Gooty.

92. *Work of stud bulls in the district*.—The names of the different schemes under which breeding bulls are maintained are given below :—

|                                                                                               |     |
|-----------------------------------------------------------------------------------------------|-----|
| (1) Premium Scheme .. .. .                                                                    | 845 |
| (2) District Board Scheme .. .. .                                                             | 228 |
| (3) Government Livestock Distribution Scheme .. .. .                                          | 500 |
| (4) Bulls stationed for the improvement of aboriginal tribes (like Koyas and Sugalis) .. .. . | 4   |
| (5) Bulls stationed in the Veterinary Institutions .. .. .                                    | 115 |

93. The number of approved bulls in the State and the services performed during the years 1950-51 and 1951-52 are furnished below :—

|                            | 1950-51. | 1951-52. |
|----------------------------|----------|----------|
| <i>Number of bulls—</i>    |          |          |
| Bulls .. .. .              | 1,278    | 1,333    |
| Buffalo-bulls .. .. .      | 313      | 254      |
| <i>Number of services—</i> |          |          |
| Bulls .. .. .              | 68,078   | 69,976   |
| Buffalo-bulls .. .. .      | 19,483   | 21,158   |

94. *Goat rearing*.—With a view to assess the capacity and standardize the type of Tellicherry goats, a small flock of goats was purchased and stocked at the District Livestock Farm, Malabar, during the year. The Sheep and Goat Development Officer has prescribed a breeding programme and the work is in progress.

Five bucks from the Malabar farm and five locally purchased bucks were distributed in the firka development area in Malabar district.

95. *Subsidy to heifer calves*.—The scheme was functioning only in Madras City. Six hundred and seventy-nine calves were registered during the year and 161 calves were removed from the scheme. One calf was not paid as its owner did not turn up to receive payment. The remaining 517 calves were paid a total subsidy of Rs. 18,095 at Rs. 35 each. The scheme was in force up to 31st March 1952.

96. *Bulls purchased from common good fund*.—Nil.

97. *Bulls with Hill Tribes*.—Ongole bull at Veterinary Dispensary, Bhadrachalam, was transferred to Sri Gundumuthayya, a hill tribesman of Tuni kicheruvu on 31st July 1951 with a monthly subsidy of Rs. 40. The Ongole bull supplied to the Koyas of Yellavaram during 1947-48 continued to be at stud.

98. *Cattle breeding Associations*.—The Anamalai Hills Cattle Society in Coimbatore district and the Anchetty Co-operative Cattle-breeding Society in Salem district continued to function throughout the year. The Mecheri Cattle Breeding Society in Salem district was wound up from 5th September 1951 till such time as forest lands are secured for grazing the animals in the scheme.

Co-operative Cattle-breeding Associations were formed at Allur in Nellore district, Vadamadurai and Kannivadi in Madurai district. The Co-operative Cattle-breeding Associations at Anaparthi in East Godavari district, Kurli in Anantapur district, Chintaparathi in Chittoor district, Kalasapakkam and Odugathur in North Arcot district and the American Arcot Mission Agricultural Farm, Katpadi, continued to function during the year.

The Ongole Cattle-breeding Association was started on 27th August 1951 with a Veterinary Assistant Surgeon, a Stockman Compounder and a peon. Two hundred and sixteen cattle-breeders were enrolled as members and a sum of Rs. 648 was collected and remitted towards subscription and admission fees. One hundred and sixty-five bulls, 424 cows, 120 heifers and 558 bullocks of Ongole breed were registered.

99. *Private dairies*.—There are co-operative organizations in a number of places whose function is collection and distribution of milk to the public in the localities concerned. Besides the above, there are certain private dairies also run individually. The names of some of the well-known private dairies are given below :—

*Coimbatore district*.—Seshagiri Rao's Dairy, Coimbatore.

*Nilgiris district*.—Ootacamund Municipal Dairy.

*East Godavari district*.—Palakole Dairy, Narasapur taluk of Sri A. Satyanarayanamurthi.

*Krishna district*.—Nandigama }  
Jaggayapeta } Nandigama taluk.

*Guntur district*.—Muthanapalle of Namasaraopet taluk.

*Cuddapah district*.—Modameedipalli, Proddatur taluk.

*Chingleput district*.—Kadapari dairy near Tambaram is managed by a displaced person from Pakistan with a Government loan of Rs. 2,000.

*Tirunelveli district*.—Estate dairy Farm at Melacheval and Donavoor Dairy Farm.

*Madurai district*.—(1) Narendara Dairy Farm maintained by the Zamindar of Neikarapatti; (2) Idayakottai Dairy Farm of Zamindar of Idayakottai and (3) Dairy farm owned by Sri M. V. Muthiah Pillai, Anguvilas at Dindigul.

*Tiruchirappalli district*.—Saint Joseph's College at Tiruchirappalli. Ramakrishna Tapovanam, Thiruplathurai, Kalluri at Annavasal in Pudukkottai division.

*South Arcot district*.—Sri Sadasiva Reddiar at Villupuram.

*Malabar*.—Nambisan's D.V. Dairy Farm, Iritty, Vijaya Dairy Farm, Badagara, Kurumathur Nambudiri's Dairy Farm, Kurumathur.

100. *Sugali cattle and aid to Sugalis in Kurnool district*.—Two Ongole bulls (267 and 269) were stationed at the Sugalimeta Livestock Improvements Station in Kurnool district. They were replaced on 29th July and 1st October 1951 respectively by two young Ongole bulls which were transferred from Livestock Research Station, Lam, Guntur (Nos. 412 and 416). Old bull No. 267 was auctioned and the other old bull Number 269 was removed to the Veterinary Hospital, Nandyal, pending disposal by auction or sale. The total number of services performed by the bulls was 157.

101. *Sheep rearing for wool and mutton*.—In most of the districts other than the West Coast area, sheep are reared mostly for mutton and manure purposes. In a few of the districts they are reared for wool.

Sri T. Rami Reddi of Zaladanki village of Kavali taluk, Nellore district, has purchased ewes and rams with the aid of Government loan of Rs. 6,300 and they are being reared from May 1951.

A loan of Rs. 2,500 was sanctioned by Government to Messrs. B. Thimma Reddi of Gonimakalapalli of Penukonda taluk and L. Rameswara Rao of Lepakshi of Hindupur taluk in Anantapur district with a view to open seed farms. The amount was drawn and disbursed on 31st March 1952.

A sum of Rs. 800 was sanctioned by the Collector, Chittoor, from the Rayalseema Development Fund for the purchase of 21 white-bodied black-faced Bellary rams. They were distributed in a compact area in Punganur taluk, Chittoor district. A Sheep Breeding and Cumbly Weaving Co-operative Society was functioning at Soundararajapuram near Bodinayakkanur in Madurai district. There were 434 sheep in this society.

102. *Export of sheep and goats to Ceylon.*—During the year 53,602 sheep and 25,618 goats were inspected and health certificates issued for their health for their export to Ceylon.

103. *Horse and pony breeding.*—Four Government stallions were stationed in the Veterinary Institutions one each at Pollachi and Udumalpet in Coimbatore West district and Erode and Tiruppur in Coimbatore East district. The number of services performed by the stallions is detailed below :—

| Station.          | Number of services performed by the stallion. |
|-------------------|-----------------------------------------------|
| Pollachi .. .. .  | 17                                            |
| Udumalpet .. .. . | 10                                            |
| Erode .. .. .     | 16                                            |
| Tiruppur .. .. .  | 35                                            |
|                   | <hr/> 78                                      |

Besides, a stallion was maintained at Livestock Research Station, Hosur. The Pattagar of Palayakottai is maintaining a few mares and three stallions with a view to developing the horse breeding industry.

104. *Pig rearing.*—One piggery is maintained by the U.L.C.M. Farm in Guntur. The Yorkshire and African pigs are reared by Roman Catholic Institutions at Shanbaganur, Kodaikanal taluk, for their own consumption. Dr. Rajan's Farm at Tiruvangimalai has a Berkshire herd of pigs. Male and female stock were sold at concessional rates for breeding purposes.

105. *Grants-in-aid to district boards.*—A sum of Rs. 10,000 was sanctioned to the District Board, Coimbatore, for purchase and distribution of breeding bulls. Twenty-seven Kangayam bulls were distributed during the year in Coimbatore West district. Thirty-seven bulls were distributed in Coimbatore East district. The District Board Scheme of the distribution of breeding bulls was in operation in the following districts :—

| District.                                                                 | Government grant to District board. | Number of bulls purchased and distributed. |
|---------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|
|                                                                           | RS. A. P.                           |                                            |
| Visakhapatnam .. .. .                                                     | 3,800 0 0                           | 8 Ongole bulls.                            |
| Krishna .. .. .                                                           | 6,400 0 0                           | 17 Do.                                     |
| NOTE.—The amount was not utilized during the year by the district board.  |                                     |                                            |
| Bellary .. .. .                                                           | 1,500 0 0                           | 3 Hallikar.                                |
| NOTE.—The amount was not utilized by the district board during the year.  |                                     |                                            |
| Madurai .. .. .                                                           | 2,400 0 0                           | 7 Kangayam.                                |
| Tiruchirappalli .. .. .                                                   | 3,656 4 0                           | ..                                         |
| NOTE.—This grant was towards the bulls purchased during the year 1950-51. |                                     |                                            |
| South Arcot .. .. .                                                       | 320 0 0                             | 1 Kangayam.                                |

The total contributions made by Government to district boards for purchase and maintenance of breeding bulls amounted to Rs. 25,478-8-0 during the year.

106. *Bulls issued from Government Farms.*—Particulars of bulls issued from the farms for stud purposes are given below :—

| Name of farm.                                   | Breed of animal. | Name of sires issued. | Total.   |
|-------------------------------------------------|------------------|-----------------------|----------|
| Livestock Research Station, Hosur .. ..         | Kangayam .. ..   | 10                    | 25       |
|                                                 | Sindhi .. ..     | 13                    |          |
|                                                 | Gir .. ..        | 1                     |          |
|                                                 | Hallikar .. ..   | 1                     |          |
| Do. Lam, Guntur .. ..                           | Ongole .. ..     | 20                    | 28       |
|                                                 | Murrah .. ..     | 8                     |          |
|                                                 | Do. .. ..        | ..                    |          |
| Dairy-cum-Bull Farm, Visakhapatnam .. ..        | Jaffarbadi .. .. | ..                    | Nil.     |
|                                                 | Hallikar .. ..   | 6                     |          |
| Combined Sheep and Cattle Farm, Kurukuppi .. .. | Murrahs .. ..    | 3                     | 9        |
| District Livestock Farm, Malabar .. ..          | .. ..            | ..                    | Nil.     |
| Do. Koila .. ..                                 | Murrah .. ..     | 1                     | 1        |
| Do. Pudukkottai .. ..                           | .. ..            | ..                    | Nil.     |
| Grand total .. ..                               |                  |                       | <hr/> 63 |

There were no sales or auctions of animals in the Dairy-cum-Bull Farm, Visakhapatnam. With a view to help Todas on the Nilgiris, Government accepted the proposal to transfer 46 Jaffarbadi buffaloes from the Dairy-cum-Bull Farm, Visakhapatnam. They were distributed among suitable Todas in the Ootacamund taluk during January 1952. The District Veterinary Officer has reported that there were some deaths and that the animals were rather weak in their new surroundings.

107. *Trade in livestock.*—(1) Number of cows and buffaloes brought into the City of Madras (Tiruvottiyur Railway Station) for purpose of milk from Nellore, Guntur, Krishna district, etc., during 1951-52 were as follows :—

|                   |              |
|-------------------|--------------|
| Cows .. .. .      | 4,549        |
| Buffaloes .. .. . | 8,028        |
| Total .. .. .     | <hr/> 12,577 |

(2) The Veterinary Assistant Surgeon-in-charge, Veterinary Dispensary East Godavari district, regularly attended the weekly cattle market at Draksharam and reported the prices of the cattle to the Director of Industries and Commerce, Madras. The important weekly cattle shandies in East Godavari district are at Draksharam, Pithapuram and Dwarapudi. At each of these weekly shandies trade to the extent of a lakh of rupee takes place every week.

(3) Ongole cattle are mainly exported from Guntur district to Madras, Bombay and Calcutta. The main railway station of loading being Ongole, Tangutur, Surareddypalam and Karavadi.

(4) Prices of work bullocks on every market day prevailing at the weekly cattle market at Tangutur, Hindupur, Kelamangalam, Sivagiri, Kandukur and Pollachi are being reported to the Statistical Officer, Madras, by the Veterinary Assistant Surgeons, concerned.

(5) The average wholesale prices of hides and skins prevailing in Madras City and particulars of export and import of animals during the year which were obtained from the State Marketing Officer, Madras, are furnished in the annexures.

## ANNEXURE I.

Average wholesale price in rupees per lb. prevailing in Madras City during 1951-52.

|              | Tanned cow hides. |            |          | Tanned goat skins. |           |           | Tanned sheep skins. |           |           |
|--------------|-------------------|------------|----------|--------------------|-----------|-----------|---------------------|-----------|-----------|
|              | Bangalore         | Up-country | Coast.   | Good.              | Fair.     | Common.   | Good.               | Fair.     | Common.   |
|              | 8-8½ lb.          | 8-8½ lb.   | 7-7½ lb. | RS. A. P.          | RS. A. P. | RS. A. P. | RS. A. P.           | RS. A. P. | RS. A. P. |
| 1951—        |                   |            |          |                    |           |           |                     |           |           |
| April ..     | 4 2 0             | 4 2 0      | 4 2 0    | 7 15 0             | 7 8 0     | 7 5 0     | 9 9 0               | 9 8 0     | 9 5 0     |
| May ..       | 3 10 0            | 3 8 0      | 3 8 0    | 7 1 0              | 6 9 0     | 6 5 0     | 8 5 0               | 8 3 0     | 8 1 0     |
| June ..      | 4 1 0             | 3 15 0     | 3 15 0   | 7 15 0             | 7 7 0     | 7 3 0     | 8 4 0               | 8 1 0     | 7 15 0    |
| July ..      | 4 1 0             | 3 15 0     | 3 15 0   | 7 14 0             | 7 6 0     | 7 2 0     | 8 3 0               | 8 1 0     | 8 0 0     |
| August ..    | 4 1 0             | 3 15 0     | 3 15 0   | 5 7 0              | 5 3 0     | 5 2 0     | 6 15 0              | 6 12 0    | 6 9 0     |
| September .. | 3 2 0             | 3 0 0      | 3 0 0    | 5 10 0             | 5 6 0     | 5 2 0     | 5 13 0              | 5 10 0    | 5 7 0     |
| October ..   | 2 13 0            | 2 11 0     | 2 13 0   | 5 15 0             | 5 11 0    | 5 8 0     | 5 15 0              | 5 12 0    | 5 10 0    |
| November ..  | 2 13 0            | 2 11 0     | 2 12 0   | 5 12 0             | 5 7 0     | 5 6 0     | 5 10 0              | 5 7 0     | 5 5 0     |
| December ..  | 2 8 0             | 2 8 0      | 2 8 0    | 4 8 0              | 4 5 0     | 4 4 0     | 4 5 0               | 4 2 0     | 4 1 0     |
| 1952—        |                   |            |          |                    |           |           |                     |           |           |
| January ..   | 2 8 0             | 2 8 0      | 2 8 0    | 4 7 0              | 4 4 0     | 4 2 0     | 4 3 0               | 4 3 0     | 4 1 0     |
| February ..  | 2 10 6            | 2 10 0     | 2 10 0   | 4 15 0             | 4 13 0    | 4 12 0    | 4 6 0               | 4 4 0     | 4 2 0     |
| March ..     | 2 2 0             | 2 2 0      | 2 0 0    | 4 0 0              | 3 12 0    | 3 13 0    | 4 2 0               | 3 12 0    | 3 12 0    |

## ANNEXURE II.

Export of animals by rail from Madras State (M.S.M. only) 1951-52 from 1st April to 31st December 1951.

(Figures in numbers.)

| Animals..                   | Mysore. | Hyderabad. | Bombay. | Total. |
|-----------------------------|---------|------------|---------|--------|
| Cattle ..                   | 427     | 10         | 3       | 440    |
| Horses, ponies and mules .. | 167     | ..         | ..      | 167    |
| Sheep and goats ..          | 465     | 4          | 2       | 471    |
| Animals—other sorts ..      | 30,013  | 1          | 578     | 30,592 |

Imports of animals into Madras State by Rail (M.S.M.) only 1951-52 from 1st April to 31st December 1951.

(Figures in Numbers.)

| Animals.                    | Hyderabad. | Mysore. | Goa. | Bombay. | West Bengal. | Punjab. | Uttar Pradesh. | Calcutta. | Total |
|-----------------------------|------------|---------|------|---------|--------------|---------|----------------|-----------|-------|
| Cattle ..                   | 43         | 2,594   | 1    | 43      | ..           | ..      | ..             | ..        | 2,481 |
| Horses, ponies and mules .. | 17         | 16      | 169  | 76      | ..           | ..      | ..             | ..        | 278   |
| Sheep and goats ..          | 11         | 11      | ..   | 1       | ..           | ..      | 6              | ..        | 29    |
| Animals—other sorts ..      | 522        | 510     | ..   | 123     | 2            | 2       | 1              | 21        | 1,181 |

Export of animals by sea from Madras State to foreign countries, 1951-52 (from 1st April 1951 to 29th February 1952.)

| Animals.               | Ceylon.  |              | Total. |              |
|------------------------|----------|--------------|--------|--------------|
|                        | Numbers. | Value in RS. | Number | Value in RS. |
| Cattle ..              | 113      | 59,345       | 113    | 59,345       |
| Sheep and goats ..     | 59,824   | 28,12,410    | 59,824 | 28,12,410    |
| Horses ..              | ..       | ..           | ..     | ..           |
| Animals—other sorts .. | 2,024    | 65,252       | 2,024  | 65,252       |

Imports of animals into Madras State from foreign countries, 1951-52 (from 1st April 1951 to 29th February 1952.)

| Animals.                    | United Kingdom. |              | Ceylon.  |              | Total.   |              |
|-----------------------------|-----------------|--------------|----------|--------------|----------|--------------|
|                             | Numbers.        | Value in RS. | Numbers. | Value in RS. | Numbers. | Value in RS. |
| Cattle ..                   | 34              | 3,28,046     | 2        | 5,127        | 36       | 3,33,173     |
| Horses, ponies and mules .. | ..              | ..           | ..       | ..           | ..       | ..           |
| Sheep and goats ..          | ..              | ..           | ..       | ..           | ..       | ..           |
| Animals—other sorts ..      | 10              | 2,400        | 1        | 10           | 11       | 2,410        |

Coastal imports of animals into Madras State from other States in India, 1951-52 (from 1st April 1951 to 29th February 1952).

| Animals.                       | Bombay.  |              | Total.   |              |
|--------------------------------|----------|--------------|----------|--------------|
|                                | Numbers. | Value in RS. | Numbers. | Value in RS. |
| Cattle ..                      | ..       | ..           | ..       | ..           |
| Horses and ponies and mules .. | ..       | ..           | ..       | ..           |
| Sheep and goats ..             | 3        | 425          | 3        | 425          |
| Animals—other sorts ..         | ..       | ..           | ..       | ..           |

Coastal exports of animals from Madras State to other States in India, 1951-52 (from 1st April 1951 to 29th February 1952).

| Animals.                    | West Bengal. |              | Calcutta. |              | Total.   |              |
|-----------------------------|--------------|--------------|-----------|--------------|----------|--------------|
|                             | Numbers.     | Value in RS. | Numbers.  | Value in RS. | Numbers. | Value in RS. |
| Cattle ..                   | ..           | ..           | ..        | ..           | ..       | ..           |
| Horses, ponies and mules .. | ..           | ..           | ..        | ..           | ..       | ..           |
| Sheep and goats ..          | 54           | 1,960        | ..        | ..           | 54       | 1,960        |
| Animals—other sorts ..      | ..           | ..           | 24        | 52,500       | 24       | 52,500       |

(6) There is a daily cattle market at Tiruvottiyur. Animals from Ongole area and buffaloes from Nellore, Bellary, Rajahmundry, Visakhapatnam, etc., are brought for sale.

(7) Recommendations of the Committee on leather and leather goods industry.—The departmental staff continued to take all possible measures by means of propaganda and a demonstration of the method of spraying and hand-dressing with insecticide against the tick infection in the course of their tours, with a view to save the livestock from damaging pests and prevent loss to the hide and skin industry.

108. State Livestock Improvement Board.—Two meetings of the Board were held one at the District Livestock Farm, Koila, South Kanara on 28th April 1951 and the other at the Combined Sheep and Cattle Farm, Kurukuppi on 16th October 1951. Some of the subjects considered by the Board are given below:—

(1) Drawing up of a priority list of cattle and poultry farms to be opened in the future.

(2) Retention of the Chintaladevi farm as Dry stock farm.

(3) Setting up of a State Livestock Improvement Fund.

(4) Key Village Scheme for the Anamallai Hills in Coimbatore district.

(5) Poultry development in and around Madras city.

(6) Grant of waste lands to Municipalities, Co-operative Societies and ryots for cultivation of fodder grasses.

(7) Poultry farming on commercial basis at the Livestock Research Station, Hosur.

Items (4) and (5) have been submitted to Government as Part II Scheme for 1952-53.

## CATTLE SHOWS AND EXHIBITIONS.

109. (a) Private cattle shows.—Fifteen cattle shows were held under private auspices, and the Government sanctioned a grant of Rs. 1,235 for them. The total private donations for these shows amounted to Rs. 5,335.

(b) A sum of Rs. 945-2-0 was incurred by this department on account of twenty exhibitions in which the Department participated during the year. Livestock and livestock products were exhibited at these exhibitions.

(c) One-day cattle shows.—Out of 70 one-day cattle shows sanctioned by Government, only 62 cattle shows were held during the year. The remaining 8 One-day cattle shows could not be conducted due to unforeseen circumstances such as outbreaks of diseases, etc. These shows were very popular and contributed to make the people generally livestock minded. Government grant for each show was Rs. 200. The total expenditure on account of grants to exhibitions, etc., during the year incurred by the Department was Rs. 17,572-6-3.

## V. VETERINARY INSTITUTIONS.

110. (i) During the year under report, Government sanctioned the opening of two Veterinary Institutions, one at Nidubrole in Guntur district and the other at Tirupati in Chittoor district. The Veterinary dispensary at Nidubrole was opened on 1st July 1951. The Veterinary Institution sanctioned for Tirupati was not opened as the Tirupati Devasthanam refused to contribute 50 per cent of the recurring and non-recurring expenditure towards the maintenance of the Institution. The Veterinary Hospitals at Vizianagaram and Sivaganga which were hitherto under private management were taken over by this department during the year. The number of Veterinary Institutions in the State at the end of the year was 147, excluding the three Veterinary Dispensaries in the Madras City which are maintained by the Corporation of Madras and the Minor Veterinary Dispensaries in the State run by the Touring Veterinary Assistant Surgeons.

(ii) The total number of in and out-patients treated in all the Veterinary Institutions during the year was 3,38,970 as against 3,72,389 in the previous year. The total number of castrations performed was 69,424 as against 61,832 in the previous year. In addition to the supply of three frigidaires previously made, ten more Dispensaries were supplied with frigidaires for cold storage facilities during the year.

(iii) The number of cases treated in some of the more important Veterinary Institutions in the State during the year is given below :—

| Serial number and name of the Veterinary Hospital. |                                         |    |    | Number of cases treated. |
|----------------------------------------------------|-----------------------------------------|----|----|--------------------------|
| 1                                                  | Madras Veterinary College Hospital      | .. | .. | 8,668                    |
| 2                                                  | Veterinary Hospital, Saidapet           | .. | .. | 5,981                    |
| 3                                                  | Veterinary Dispensary, Vettaikaranpudur | .. | .. | 5,861                    |
| 4                                                  | Do. Madurai                             | .. | .. | 5,754                    |
| 5                                                  | Veterinary Hospital, Coimbatore         | .. | .. | 5,615                    |
| 6                                                  | Do. Chittoor                            | .. | .. | 4,775                    |
| 7                                                  | Do. Trichirappalli                      | .. | .. | 4,708                    |
| 8                                                  | Do. Guntur                              | .. | .. | 4,145                    |
| 9                                                  | Do. Vijayavada                          | .. | .. | 4,109                    |
| 10                                                 | Do. Vellore                             | .. | .. | 4,050                    |

(iv) *Madras Corporation Veterinary Dispensaries.*—The Corporation of Madras continued to maintain three Veterinary Dispensaries at the three Cattle Depots, viz. B, D and F. The total number of animals treated and castrated in these Veterinary Dispensaries are as shown below :—

| Depot. | In-patients. | Out-patients. | Castrations. |
|--------|--------------|---------------|--------------|
| B      | ....         | 11,316        | ..           |
| D      | ....         | 11,983        | 22           |
| F      | ....         | 17,396        | 7            |

111. *Veterinary Institutions.*—Out of the 147 Veterinary Institutions, only 73 institutions are located in Government Buildings. The remaining institutions are located in rented buildings which do not have the required facilities to render efficient veterinary aid. Most of the Veterinary Institutions require more facilities in the shape of building, wards and appliances and apparatus. In spite of the easy availability of electricity in many stations, only eleven institutions have been electrified. Proposals for electrification have been approved or are under consideration in respect of 31 Veterinary Institutions. Forty-seven institutions only have been supplied with microscopes and accessories and 13 frigidaires have been supplied for the use of some major institutions. In spite of many disadvantages, the Veterinary Service rendered have continued to receive appreciation of the public as seen from the growing demand for more Veterinary Hospitals, Veterinary Dispensaries and Minor Veterinary Dispensaries and Touring Billets all over the State.

112. There has been appreciable response to the policy of obtaining contributions from the public or local bodies concerned towards the maintenance of Veterinary Institutions and minor Veterinary Dispensaries. The value of timely veterinary aid and the importance of hospitalization of economic domestic animals have been fairly brought home and realised by the public and philanthropic donations in the shape of construction of suitable buildings of rent-free buildings; free gift of land, or cash contribution for opening Veterinary Dispensaries or minor Veterinary Dispensaries have been a welcome feature which deserves special mention, apart from the appreciation of the Government for the good services of the philanthropist and donors. The names of individual donors or local bodies are furnished below :—

*Coimbatore district.*

- (1) The Pattagar of Palayakottai.
- (2) Panchayat Board, Andhiyur.
- (3) Sri (late) R. V. Guruswami Naidu, Guruvapanaikanur, Udumalpet.
- (4) Public of Ramachandrapuram villages in Udumalpet taluk.
- (5) Sri. A. Duraiswami, Secretary, Livestock Improvement Association, Malayandipatnam.
- (6) Sri A. M. Kuttimuthu Gounder, Malayandipatnam.
- (7) Sri Arumugham Chettiar, Public Works Department Contractor, Kothur.
- (8) Panchayat Board, Malayandipatnam.
- (9) Public of Vettaikaranpudur under Sri V. K. Palaniswamy Gounder's initiative.
- (10) The Anamalai Hills Cattle Society (Vellamalai Estate).

*Visakhapatnam district.*

- (11) Sri P. Swambabu, Narasannapeta.
- (12) Panchayat Board, Ichchapuram.
- (13) Sri Venkayala Krishnayya Chetty Garu.
- (14) Panchayat Board, Chodavaram.

*East Godavari district.*

- (15) District Board, East Godavari.
- (16) Villagers of Gokavaram.
- (17) Panchayat Board, Ramachandrapuram.
- (18) Villagers of Pedapudi.
- (19) Panchayat Board, Tuni.

*West Godavari district.*

- (20) Panchayat Board, Tadepalligudem.
- (21) Panchayat Board, Bhimavaram.
- (22) Panchayat Board, Gundugolanu.
- (23) Panchayat Board, Pippara.
- (24) Panchayat Board, Akividu.

*Krishna district.*

- (25) Zamindar of Chellapalli.
- (26) Public of Gudlavaluru.

*Bellary district.*

- (27) Panchayat Board, Kottur.

*Nellore district,*

Nil.

*Ramanathapuram district.*

- (28) Panchayat Board, Tirupattur.
- (29) Municipal Council, Sivakasi.

*Guntur district.*

- (30) Sri Kosaraju Venkata Subbiah, Nidubrolu.  
 (31) Public and members of the Nidubrolu Veterinary Dispensary Construction Committee, Nidubrolu.  
 (32) Panchayat Board, Nidubrolu.  
 (33) Panchayat Board, Ponnur.  
 (34) Dr. N. V. Krishna Rao, M.B., B.S., Repalle.  
 (35) Public of Ammanabrolu (nine persons).  
 (36) Sri A. Sanjeeviah, B.A., President Co-operative Marketing Society, Limited, Mangalagiri.  
 (37) Karumanchi Venkata Subbiah Choudry, Coal Distributor, Mangalagiri.  
 (38) Ex-officio and President, Panchayat Board, Mangalagiri.

*North Arcot district.*

- (39) Panchayat Board, Arkonam.  
 (40) Panchayat Board, Tiruvattipuram.

*Tirunelveli district.*

- (41) Sri Ramaswamy Das, M.L.A., Koilpatti.  
 (42) Panchayat Board, Valliyoor.

*Chittoor district.*

- (43) District Board, Chittoor.  
 (44) Sri C. Kesaviah Naidu, Secretary, Chandragiri, taluk Veterinary Dispensary building Committee, Chandragiri.

*Salem district.*

Nil.

*Cuddapah district.*

Nil.

*Tanjore district.*

- (45) His Holiness Kasivasi Arul Nandhi Thambiran, Tirupanandal.  
 (46) District Board, Tanjore.

*Tiruchirappalli district.*

- (47) Messrs K. N. Nallappa Reddiar, S. T. P. Marimuthu Pillai, Mirasdars of Kolathur and Murugur respectively.

*Anantapur district.*

Nil.

*Malabar district.*

- (48) Panchayat Board, Chowghat.

*Madras City.*

Nil.

*South Kanara district.*

Nil.

*Madurai district.*

- (49) Panchayat Board, Cumbum.

*South Arcot district.*

Nil.

*Kurnool district.*

- (50) Panchayat Board, Dhone.

*Chingleput district.*

- (51) Village Welfare Association, Kaliyampur.  
 (52) District Board, Chingleput.  
 (53) Panchayat Board, Tirukkalikundram.  
 (54) Panchayat Board, Sriperumbudur.

## VI. ITINERATING STAFF.

113. (i) The Government accepted the proposal of the Director of Animal Husbandry that the districts of Bellary, Anantapur, Chittoor, Salem, and South Kanara which border the Mysore State and which contain the important cattle routes from Mysore should be strengthened by the opening of additional touring billet (Minor Veterinary Dispensary) in each of them so that the outbreaks of cattle disease particularly rinderpest due to the movement and assemblage of cattle for trade and grazing from the Mysore State, may be effectively checked. The Government accordingly sanctioned the opening of a touring billet in each of the above five districts and all the five new billets were opened during the year.

(ii) There were 178 touring billets at the end of the year. The conversion of touring billets into Minor Veterinary Dispensaries ordered by Government during the year 1949-50 was continued to be given effect to during the year. The number of Minor Veterinary Dispensaries functioning at the end of the year was 125. At the end of the year 47 touring billets remained yet to be converted into Minor Veterinary Dispensaries apart from 6 billets which have been permitted to be retained as touring billets being situated in border areas of adjoining States.

(iii) The number of cases treated and castrations performed by the touring staff, both at headquarters and on tour, was 135,388 and 44,602 respectively as against 141,829 and 56,884 in the previous year.

## VII. DISEASES AMONG LIVESTOCK.

## GENERAL.

114. During the year under report although the incidence of diseases was less, the mortality was greater when compared to the previous year. The total number of outbreaks received was 3,689 as against 3,823 in the previous year. The statistics of mortality among livestock in the State and the number of preventive inoculations and vaccinations conducted are furnished in Tables I and II respectively.

115. *Rinderpest*.—Rinderpest occurred in the districts of Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Nellore, Cuddapah, Kurnool, Anantapur, Chingleput, Madurai, South Kanara and Madras. The districts of Kurnool, Bellary, Anantapur, Krishna and Cuddapah, were seized with the disease in a severe form. There were stray outbreaks of the disease in the districts of Chingleput, Madurai, Madras City and Nellore, but by energetic and intensive preventive measures the infection was wiped out. All districts to the south of Guntur, Cuddapah and Anantapur were generally free from Rinderpest save for the stray manifestations.

116. *Hæmorrhagic Septicæmia*.—Hæmorrhagic Septicæmia prevailed in all the districts except Salem and Madras. The districts of Nellore, Krishna, Tanjore, East Godavari, Visakhapatnam, West Godavari and Guntur recorded the largest number of outbreaks.

117. *Blackquarter*.—Blackquarter occurred in all the districts except South Kanara and Madras. The disease was rather severe in the districts of Chittoor, Anantapur, Nellore, Salem and Tiruchirappalli.

118. *Anthrax*.—The incidence of this disease was reported from almost all over the State except Krishna and Cuddapah districts and Madras City. The disease assumed virulent form in the districts of Madurai, Nellore, Malabar and North Arcot.

119. *Foot-and-mouth*.—The disease prevailed in all the districts except Cuddapah and Kurnool.

120. *Reporting of outbreaks*.—As in the previous years, inaccuracies continued to be noticed in registering cattle mortality from various contagious diseases. The statistics of mortality recorded at the village level are defective for reasons of omissions, wrong classifications and absence of prompt verification. The touring staff continued to visit in scrutinizing the monthly cattle mortality returns compiled in the Taluk Offices. The mortality figures under the main contagious diseases as reported by the Collectors of the districts and by the district staff of this department are shown below :—

|                                           | Rinderpest. | Hæmorrhagic Septicæmia. | Black-quarter. | Anthrax. | Foot-and-mouth. | Total. |
|-------------------------------------------|-------------|-------------------------|----------------|----------|-----------------|--------|
| By Collectors of the districts            | 5,980       | 5,108                   | 4,885          | 1,034    | 142             | 16,929 |
| By the district staff of this department. | 8,119       | 6,008                   | 4,605          | 1,052    | 58              | 19,842 |

The discrepancy between the Collectors' and the departmental figures is mainly due to wrong classification of the diseases and the absence of records of deaths due to contagious diseases in mild outbreaks in the Collectors' reports. These were, as usual, pointed out to the Revenue authorities for purposes of reconciliation.

121. *Mortality*.—The total mortality from Rinderpest, Hæmorrhagic Septicæmia, Blackquarter and Anthrax was 19,784 head of stock. The average mortality per outbreak on account of these contagious diseases was 6.06 as against 4.50 in the previous year.

The incidence of and mortality from these diseases during the year 1951-52 were as follows :—

|                                | Attacks. | Deaths. |
|--------------------------------|----------|---------|
| Rinderpest .. .. .             | 10,509   | 8,119   |
| Hæmorrhagic Septicæmia .. .. . | 6,450    | 6,008   |
| Blackquarter .. .. .           | 5,976    | 4,605   |
| Anthrax .. .. .                | 1,281    | 1,052   |
| Total .. .. .                  | 24,216   | 19,784  |

Foot-and-mouth disease recorded 12,472 attacks with 58 deaths during the year.

#### CATTLE DISEASES.

##### (a) Contagious diseases.

122. *Rinderpest*.—(1) There was an increase in the incidence of and mortality from the disease during the year as compared with the previous year, the total loss in deaths being 8,119 bovines in 851 outbreaks as against 4,463 bovines in 523 outbreaks in the previous year. The disease was generally prevalent in the neighbouring States of Hyderabad, Mysore and Madhya Pradesh and the adjoining districts in this State such as Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Kurnool, Nellore, Cuddapah, Bellary, Anantapur and South Kanara, were seized with the disease.

(2) The number of animals protected against the disease and the mortality among the protected were as follows :—

| Kind of animal and method of protection.   | In actual outbreaks. |              | In clean areas.    |              | Total.             |              |
|--------------------------------------------|----------------------|--------------|--------------------|--------------|--------------------|--------------|
|                                            | Number inoculated.   | Number died. | Number inoculated. | Number died. | Number inoculated. | Number died. |
| <b>Cattle—</b>                             |                      |              |                    |              |                    |              |
| Serum simultaneous with goat virus .. .. . | 406,609              | 12           | 205,996            | Nil          | 612,605            | 12           |
| Serum alone method .. .. .                 | 21,970               | ..           | ..                 | ..           | 21,970             | ..           |
| Spleen tissue vaccine method .. .. .       | ..                   | ..           | 91                 | ..           | 91                 | ..           |
| Total .. .. .                              | 428,579              | 12           | 206,087            | ..           | 634,666            | 12           |
| <b>Sheep and goats—</b>                    |                      |              |                    |              |                    |              |
| Serum simultaneous with goat virus .. .. . | 6,557                | ..           | 755                | ..           | 7,312              | ..           |
| Total .. .. .                              | 6,557                | ..           | 755                | ..           | 7,312              | ..           |

(3) The total number of inoculations done against rinderpest during the last three years is furnished below :—

|         |    |    |    |    |    |         |
|---------|----|----|----|----|----|---------|
| 1949-50 | .. | .. | .. | .. | .. | 428,355 |
| 1950-51 | .. | .. | .. | .. | .. | 288,189 |
| 1951-52 | .. | .. | .. | .. | .. | 641,978 |

(4) The history of the disease in the State for the last 50 years, shows that there was heavy mortality from rinderpest between 1907 and 1909. During the twelve months from April 1908 to March 1909 alone, there was a mortality of 1½ lakhs of cattle. There was about as much mortality again in the years 1918 and 1928 when there was a toll of about 2½ lakhs. It is usual in the study of epizootiology of any disease to trace the course of the disease as represented by its incidence and mortality by means of a graph. When figures for the past 50 years were thus plotted, it is found that the crests of the incidence and mortality occur periodically at intervals of about 10 years. During these crests, the disease assumed high dimensions occurring here, there and everywhere. During the intervening period between the crests, the rate of mortality was lesser, and the outbreaks occurred at odd places at longer intervals. Compared to a mortality of 1½ lakhs in 1908 and 1½ lakhs each in 1918 and 1928 and 40,000 in 1943-44 the mortality during 1951-52, viz., 8,119 clearly presents the progressive success achieved through a well-planned intensive campaign of preventive measures successively launched against the disease by the department. With the continuance of such preventive measures in the coming years, hopes are engendered that there will still be a fall in the incidence of and mortality from Rinderpest in the State, and that the next Rinderpest wave-crest round about 1953-54 will be deprived of its anticipated virulence and severity and thereby the loss through deaths in stock will not reach alarming proportions as in previous crest years. By initiating mass vaccination campaign to raise herd immunity in not only the scenes of outbreaks of disease but also in places surrounding the infected areas and by creating an immune belt along the frontier districts of this State at important inter-State cattle contact areas and by intensive penta inoculations of cattle migrating for forest grazing at game-cattle contact areas the department has been able to reduce the ravages caused by the disease. This is borne out by the fact that 15 contagious southern districts of the State were free from Rinderpest during the year and the previous years. An infection of Rinderpest which was introduced into the City of Madras by cattle imported from Guntur district spread to the adjoining districts of Chingleput and Nellore. This outbreak was particularly dangerous as it was feared that the disease would move southward but by prompt and timely action, the disease was smothered out in these areas. The Madras Rinderpest Act was enforced in the City during the year to facilitate compulsory inoculation of cattle and thereby

avert a milk famine in the City which was otherwise probable due to spread of this dread infection. The increase in the mortality due to rinderpest when compared to the previous year, was mainly due to the following reasons:—

(i) The disease was prevalent in the districts of Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Cuddapah, Kurnool, Bellary, Anantapur and South Kanara through imported infection on account of trans-border assemblage and movements of cattle from adjoining States.

(ii) Due to failure of monsoon and famine conditions in the districts of Bellary, Anantapur, Kurnool, Cuddapah, the famished and overworked animals were very susceptible to the disease through lack of vitality and lowered resistance.

(iii) Migration and treks of susceptible cattle and those exposed to the risk of infection in drought-affected areas in search of grazing and trade purposes disseminating infection from place to place.

(iv) Want of a quick conveyance like a landrover or a jeep to reach the interior parts of the State and remote villages not connected by road or rail. The absence of such conveyance is indeed a serious handicap to the staff to reach remote centres of outbreaks of the disease. In spite of such odds, the disease was almost brought under control in the Rayalaseema area towards the end of the year.

123. *Haemorrhagic Septicaemia*.—There were 965 reports with a mortality of 6,008 recorded as against 1,227 outbreaks with 4,354 deaths in the previous year. The disease was severe in the districts of Nellore, Krishna, Tanjore, East Godavari, West Godavari, and Visakhapatnam. Two lakhs fifteen thousand eight hundred and thirteen cattle were protected against the disease by vaccination in actual outbreaks of the disease. Besides 18,195 bovines were vaccinated in disease-free areas.

124. *Blackquarter*.—During the year 1,251 reports were received. The total mortality reported was 4,605 as against 6,896 deaths in 1,514 outbreak reports in the previous year. The districts of Chittoor, Anantapur, Nellore and Tiruchirappalli recorded the largest number of deaths. One lakh eighty-seven thousand and fourteen bovines and 500 sheep and goats in actual outbreak reports and 27,750 bovines and 500 sheep and goats in disease-free areas were protected against the disease by vaccination. The fall in the incidence and mortality in Blackquarter is due to protection of animals in the concerned endemic areas well in advance of the seasonal anticipated outbreaks of the disease.

125. *Anthrax*.—One hundred and ninety-five outbreaks with a mortality of 1,052 were recorded as against 307 outbreaks with 1,359 deaths in the previous year. The districts of Nellore and Chingleput recorded the largest number of outbreak reports. Twenty-four thousand three hundred and eighteen bovines were vaccinated against the disease by vaccine alone method in a dual outbreak and free-area and 804 bovines by serum alone method.

126. *Foot-and-mouth disease*.—Four hundred and twenty-five outbreak reports were received during the year as against 128 in the previous year. The mortality reported was 58 as against 86 in the previous year.

127. *Surra (Trypanosomiasis in cattle)*.—Seventeen outbreak reports with 36 deaths were recorded during the year as against five outbreak reports without any mortality in the previous year.

128. *Nasal Schistosomiasis*.—Eight hundred and eighty-five cases were treated with intravenous injections of Antimony tartaratum and cured. The disease was found all over the State except Anantapur, Salem, Tiruchirappalli, Tanjore and South Kanara.

129. *Johne's disease*.—Out of 23 cases suspected for the disease, three cases were confirmed during the year.

130. *Tuberculosis*.—One hundred and thirteen animals were tested with Tuberculin of which two proved positive and six suspicious.

The scheme for the determination of Tuberculosis among bovines financed by the Indian Council of Agricultural Research, New Delhi, continued to function during the year under report till 31st July 1951 when it expired. Out of 8,581 animals tested during the year, 210 proved positive, 199 suspicious and the rest negative.

131. *Brucellosis*.—One thousand and twenty-eight samples of serum from bovines were tested for Brucellosis, of which 188 proved positive and eight suspicious. Three thousand five hundred and twenty-nine animals were vaccinated against the disease.

132. *Bovine Lymphangitis*.—Two hundred and four cases were treated successfully.

133. *Coccidiosis*.—Four hundred and ninety cases were met with and 108 were confirmed for the disease microscopically.

134. *Rabies*.—Two hundred and fifty-seven animals were given anti-rabic treatment free of charge.

135. *Ephemeral Fever*.—Nine hundred and twenty-four cases were treated out of which only five were unsuccessful and the rest were cured.

136. *Piroplasmosis*.—Two hundred and seventy-eight cases were treated and cured on clinical symptoms of which 71 cases were confirmed microscopically.

137. *Mange*.—Four hundred and sixty-three animals were successfully treated for this condition during the year.

138. *Cancer*.—Five hundred and four cases of Cancer of horn and eye were treated with generally indifferent results.

#### (b) Non-contagious diseases.

139. *Rheumatic Arthritis or Fluorosis*.—Four hundred and eighty-three cases were treated. The majority of these cases were found in Guntur, East Godavari, and Kurnool districts. Mineral mixtures and bone-meal were distributed at actual cost in these endemic areas, as a preventive, the use of which has become very popular.

140. *Urethral Calculi*.—Two hundred and thirty-three cases were treated by surgical intervention.

141. *Chronic Luxation of Patella*.—Two thousand seven hundred and thirty cases were met with and treated very successfully.

142. *Haematuria in cattle*.—Ninety-one cases were dealt with and its cause is under investigation.

143. *Strongylosis in cattle (calves)*.—Seven hundred and seventy-five cases were treated.

#### DISEASES OF SHEEP AND GOATS.

144. *Contagious diseases*.—During the year, the incidence of the following diseases among sheep and goats was reported.

| Name of the diseases.           | Number of outbreaks. | Number of deaths. |
|---------------------------------|----------------------|-------------------|
| Rinderpest .. .. .              | 9                    | 166               |
| Anthrax .. .. .                 | 53                   | 823               |
| Circling disease .. .. .        | 3                    | 48                |
| Sheep-pox .. .. .               | 43                   | 630               |
| Foot-and-mouth .. .. .          | 7                    | 20                |
| Haemorrhagic Septicæmia .. .. . | 1                    | 11                |

145. *Protection against the disease.*—The number of animals protected against different diseases was as follows:—

|                        |    |    |    |    |    |    |        |
|------------------------|----|----|----|----|----|----|--------|
| Rinderpest             | .. | .. | .. | .. | .. | .. | 7,312  |
| Anthrax                | .. | .. | .. | .. | .. | .. | 11,000 |
| Sheep-pox              | .. | .. | .. | .. | .. | .. | 7,023  |
| Black quarter          | .. | .. | .. | .. | .. | .. | 1,000  |
| Hæmorrhagic Septicæmia | .. | .. | .. | .. | .. | .. | 1,361  |

#### OTHER ANIMALS.

##### (a) Canines.

146. *Piroplasmiasis.*—Two hundred and seventy-eight cases were treated successfully.

##### (b) Equines.

147. *Surra.*—Ten cases were met with and they were treated successfully.

148. *Strangles.*—Twenty-eight cases were treated and cured.

#### DISEASES OF POULTRY.

149. *Fowl-cholera.*—No case of fowl-cholera was recorded during the year under report.

150. *Fowl-pox.*—Eight outbreak reports of fowl-pox were recorded in five districts with 42 deaths. Nine hundred and seventy-five birds were protected in actual outbreaks and 851 birds in clean areas.

151. *Ranikhet Disease.*—Seventy-eight outbreaks were recorded in thirteen districts with 1,687 deaths. Nineteen thousand four hundred and fourteen birds were protected in actual outbreaks and 133,445 birds in clean areas.

## VIII. INVESTIGATION AND RESEARCH.

### MADRAS VETERINARY COLLEGE.

152. The following are the research activities undertaken in the Madras Veterinary College during the year:—

*Biology department.*—Research work on pregnancy diagnosis by biological tests. So far 200 tests using male frogs and male toads as test animals have been done. Further work is in progress.

*Chemistry department.*—Detailed study on the occurrence and distribution of "Pyrophosphatases" in various animals and vegetable tissues.

*Anatomy department.*—(1) Study of palmar dermatoglyphs of conjoint twins—Ganga and Gowri. (2) Study of structure of the skin of *Bos Bubalis Indicus*. (3) Study of the structure of the hump of *Bos Indicus*.

*Physiology department.*—(1) Further work on "Blood groups in sheep" was done and a modified technique of grouping the sheep blood was arrived at. (2) A study of the differential leucocytic count in Kangayam cattle.

*Medicine department.*—(1) Evaluating the efficacy of some of the patent drugs. (2) Clinical trials with "Antimosan" in the treatment of infectious venereal granuloma.

*Parasitology department.*—(1) Studies on Surra; (2) Experiments to test the efficacy of Antrycide prosalt and Antrycide methysulphate for prophylaxis and for cure respectively.

*Pathology and bacteriology.*—(1) Preliminary study of the etiological factors concerned in bovine horn cancer. (2) The study of the problem of spontaneous Cirrhosis in dogs. (3) Hæmatological studies in the dog—a study of the blood picture of dogs in health and disease, with a view to aid clinicians in diagnosis of some of the common diseases met with has been taken up. (4) Studies on the bacteriology of Canine pneumonia (5) Studies on the bacteriology of Bovine lymphangitis. (6) A case of pyelonephritis in a breeding bull was under examination. (7) A case of pneumonia in a calf for bacterial causes. (8) Cases of sterility in cattle for Trichonomiasis. (9) Preparation of a revised scheme for the study of the bacteriology of Bovine mastitis.

*Ranikhet disease vaccine.*—Out of several potency tests on time-expired vaccines, vaccine from Brew No. 31 was found to be potent even after ten months and nine days of manufacture. It is possible that vaccine may be quite potent under refrigeratory conditions for a longer period than what is indicated, viz., 4 months to the field staff. Experiments to find out (1) whether contaminants have any adverse effect either on the potency or safety of the vaccine; (2) how long a diluted vaccine would remain potent; (3) whether stick method of vaccination is reliable and satisfactory and (4) the minimum age at which the chicks could be satisfactorily vaccinated, were undertaken. These experiments are in progress.

#### DISEASE INVESTIGATION STAFF.

153. The Veterinary Investigation Officer, Ranipet, concentrated on the following diseases according to the technical programme approved by the Indian Council of Agricultural Research:—

(i) *Anthrax in cattle and buffaloes.*—Investigations were carried out in 133 centres in 16 districts of the State, i.e., 103 in actual scenes of outbreak, 10 in free areas and 20 in endemic areas. There were 34 reports from Malabar district, 16 from Salem district, 15 from Nellore district, 14 from Madurai district. In other areas, the incidence ranged from 1 to 12 reports. The heaviest mortality of 32 attacks and 31 deaths was recorded in Chingleput district and in other areas it ranged from 1 to 17. In most of the villages, only white cattle were affected but in a few villages buffaloes were also affected. Mixed infection with Hæmorrhagic Septicæmia, Trypanosomes and Bovine paralysis was noted. In one of the outbreaks, a peculiar symptom of wry neck was noted, both among buffaloes and white cattle. This disease was confirmed microscopically in 14 centres and biologically in 26 centres. Twenty-four cultures isolated from field materials from suspected cases were sent to the Indian Veterinary Research Institute, Mukteswar.

*Vaccinations conducted with results.*—In all the 133 centres, 23,265 animals (2,849 buffaloes, 20,392 white cattle and 24 elephants) were spore vaccinated against anthrax. Twenty-two endemic areas were taken up for repeated spore vaccinations once in 6 to 8 months leaving adjoining villages as controls; and it was noted that in 20 of these centres the disease was completely controlled, while in 2 centres deaths occurred among the vaccinated and the unvaccinated. The results recorded were very encouraging and spore vaccination is very popular. There were 782 attacks and 675 deaths in these centres before vaccination. It was reduced to 23 attacks and 23 deaths after vaccination among the unvaccinated and 18 deaths among the vaccinated in all the centres together.

(ii) *Brucellosis.*—Investigation was taken up in 56 centres in 13 districts of which 5 were Government farms, one a municipal dairy, one a private agency and the rest villages. Intensive work was carried out in Coimbatore, Nellore, Madurai, Tirunelveli and Salem. Thousand and twenty-eight samples of sera were tested of which 188 proved positive and 8 suspicious. The end titre ranged from 1:80 to 1:1280. In 9 new centres, there were 102 abortions, 45 cases of synovitis

and 135 cases of sterility. In the old centres, the abortion rate among the vaccinated calves was 0.5 per cent and in the vaccinated adults 3.4 per cent which is negligible.

**Vaccinations.**—Three thousand five hundred and twenty-nine animals were vaccinated with cotton strain No. 19 of which 1,565 were in the new centres and 1,964 in the old ones. These animals were all tattooed and brought to account. Fifteen per cent were left as controls.

**Results of previous vaccinations done.**—The results of previous vaccinations were noted in 18 old centres. In all these centres, vaccinations were being conducted for the past five years from 1945 to 1950. Of the 1,385 calves vaccinated during the period, leaving 69 controls, 6 vaccinated and 2 controls in due course aborted, 753 vaccinated and 20 controls calved and 308 vaccinated and 11 controls were in calf. Of the 294 adult animals over 3 years vaccinated leaving 118 as controls, 9 vaccinated and 15 controls aborted 175 vaccinated and 58 controls calved and 48 vaccinated and 18 controls were in calf. The abortion rate subsequent to vaccination is negligible considering the pre-vaccination rate of abortions.

(iii) **Rinderpest.**—In one outbreak in Periyur village of Kodaikanal taluk, there was a sudden outbreak of a disease with 78 attacks and 58 deaths which was at first suspected for Rinderpest. There was no Rinderpest anywhere in the surroundings and enquiries were conducted if the infection might have been from wild game, found in the adjoining forest such as deer, bison, etc. Biological tests did not establish Rinderpest. However, intensive pocket immunization was conducted in the area as a precautionary measure.

(iv) **John's disease.**—Bowel washings were examined from two clinical cases: (1) A Sindhi cow at the Agricultural Research Station, Koilpatti, and (2) a Murrah buffalo bull at the Veterinary Dispensary, Rajapalayam. Both were positive microscopically though Johnin test proved negative. Besides 22 animals at the Agricultural Research Station, Koilpatti, were tested with Johnin and all proved negative. The result of post-mortem on the Murrah buffalo bull was positive for the disease while that of the Sindhi cow was awaited at the end of the year.

(v) **Tuberculosis.**—One hundred and thirteen animals were tested with Tuberculin of which two proved positive and six suspicious. Of these; forty-two Murrah buffaloes were from a private agency of which one proved positive, 30 cross-bred cows of the Municipal Dairy, Ootacamund, of which 3 proved suspicious, one murrah buffalo of Veterinary Dispensary, Rajapalayam, 20 cattle of Agricultural Research Station, Koilpatti and 20 murrah buffaloes of the Dairy-cum-Bull Farm, Visakhapatnam, of which one proved positive and three suspicious.

(vi) **Bovine lymphangitis.**—Investigation was made in 2 centres in North Arcot district. In one of the centres as the infection was very mild, vaccinations were not taken up. In the other centres, vaccinations were carried out on 13 affected and 4 healthy animals during January 1950. All the affected animals were reported cured within two months and the healthy ones did not contract the disease.

(vii) **Bovine Paraplegia in South Kanara district.**—The disease was met with in 12 villages. Even though the Indian Veterinary Research Institute, Mukteswar, has declared a few samples of sera taken from ailing cases to be positive for surra by complement fixation test, the presence of the parasite could not be established in the 20 smears and 2 spinal fluids examined. Animal passage failed to reproduce the infection. Allergic test conducted on twelve animals with Trypanosomes antigen supplied by the Indian Veterinary Research Institute, Mukteswar, also proved negative.

In one outbreak where there were 14 attacks and 11 deaths, a mixed infection of anthrax was confirmed biologically and spore vaccination was conducted in the village to control the outbreak. Wet films examined from 34 animals in 3 affected villages revealed microfilaria in 3 cases and their significance in lumbar paralysis will be investigated.

(viii) **Undiagnosed disease in the Tungabhadra Dam Site.**—(a) An outbreak reporting sudden death among cattle and buffaloes belonging to the Co-operative Milk Supply Union, Tungabhadra Dam Site, was investigated. Eighteen animals, both white cattle and buffaloes, died within a period of two months. Symptoms narrated were restlessness, colicky pains, diarrhoea, falling down and kicking out and eating earth. Post-mortem of a buffalo did not reveal either poisoning or any bacterial infection of significance on an examination of the viscera and the contents. Blood examined from 18 cattle and 19 buffaloes revealed nothing important. The condition was, therefore, suspected to be a latent form of Trypanasomes.

(ix) **Mortality among calves.**—(a) **Kattukuppam.**—Deaths among calves belonging to a private individual were investigated. Out of 30 calves, 10 died. These were reported to be discharged calves purchased from the King Institute, Guindy. Investigations revealed that there was infection of *T. mutans* and strongyles. Post-mortem of one calf suggested that it might be immature amphistomiasis. Suitable treatment with Anthelmintics and other specifics was advised.

(b) **Combined Sheep and Cattle Farm, Kurukuppi.**—Investigation into the heavy mortality among Hallikar calves was taken up. The symptoms were highly suggestive of white scour with a predisposing background of infection by *T. mutans*. Examination of blood smears both from among farm stock and outside village cattle showed that in both *T. mutans* infection was present. Twenty-three smears from adult cattle in the farm and 12 from those of the adjoining villages revealed 63 per cent and 55 calves in the farm and 11 calves from the nearby villages revealed 63 per cent *T. Mutans* infection in the farm stock and 45 per cent in the outside stock. Since similar heavy mortality did not occur in the village animals, other factors may be responsible for the heavy mortality among the calves in the farm. The matter is under further investigation.

(c) **Dairy-cum-Bull Farm, Visakhapatnam.**—There has been heavy mortality among young buffalo calves below three months in the farm for the past two years. Clinical symptoms were that of white scour. Cultural examinations revealed organisms of the coli group, *Coryni-bacterium* and *Psuedomonas*. Another factor which was suspected was the drinking water which was hard and showed on analysis 1.8 parts of fluorine to million parts. To eliminate these factors, experiments to rear up calves below three months with different kinds of water were started in August 1951. Four groups of calves were taken up, each group getting respectively municipal tap water, treated farm water, untreated farm water and no water at all. Out of 35 calves that got municipal water only 4 died. Out of 38 calves that got treated water 10 died. Out of 46 calves that got untreated farm water, 18 died and out of 20 calves that got no water 2 died. This shows that water has something to do with the ailment. Apart from this, 9 calves which were successfully reared and transferred to adult stock after three months died subsequently when given Farm water. Based on this tentative study, further experiments are in progress to establish the cause.

#### SCHEME FOR THE INVESTIGATION INTO THE DISEASES OF POULTRY.

154. The Assistant Disease Investigation Officer (Poultry) carried out the following items of work during the year:—

(i) **Ranikhet disease.**—The incidence of this disease has been recorded in all the districts of the State affecting all ages and breeds of birds, both indigenous and exotic. Turkeys also were affected but the disease was observed to be more prolonged in them, i.e., for 6 or 7 days. Ducks, geese, pigeons, parrots and peacocks kept in close proximity were found to be refractory to the disease.

The disease was noted to prevail all round the year. From the particulars received from the field staff about the Ranikhet disease vaccinations done in different districts, the following are the details of reactions observed.

| District.             | Number Vaccinated. | Exotic.     |            |            |                 |            | Indigenous. |            |            |                 |            |
|-----------------------|--------------------|-------------|------------|------------|-----------------|------------|-------------|------------|------------|-----------------|------------|
|                       |                    | Drowsiness. | Diarrhoea. | Paralysis. | Egg yield stop. | Mortality. | Drowsiness. | Diarrhoea. | Paralysis. | Egg yield stop. | Mortality. |
| (1)                   | (2)                | (3)         | (4)        | (5)        | (6)             | (7)        | (8)         | (9)        | (10)       | (11)            | (12)       |
|                       |                    | PER CENT.   | PER CENT.  | PER CENT.  | PER CENT.       | PER CENT.  | PER CENT.   | PER CENT.  | PER CENT.  | PER CENT.       | PER CENT.  |
| Visakhapatnam .. ..   | 11,876             | 45.2        | 7.0        | 1.3        | 19.0            | 0.5        | 7.0         | 3.0        | 1.0        | 12.0            | 0.2        |
| East Godavari .. ..   | 3,263              | 41.0        | 9.0        | ..         | 16.0            | ..         | 42.0        | 7.0        | ..         | 15.0            | ..         |
| West Godavari .. ..   | 4,280              | 23.5        | 9.0        | 7.0        | 53.0            | 0.1        | 20.5        | 5.5        | 8.1        | 60.0            | 0.7        |
| Krishna .. ..         | 11,815             | 40.0        | 0.5        | 0.3        | 25.0            | ..         | 32.3        | 1.7        | 0.6        | 51.0            | 1.6        |
| Guntur .. ..          | 12,949             | 16.1        | 8.2        | ..         | 1.2             | ..         | 6.2         | 4.0        | ..         | 0.8             | ..         |
| Nellore .. ..         | 11,799             | 73.0        | 6.8        | 1.0        | 68.0            | 0.1        | 45.0        | 1.7        | 0.1        | 35.0            | 0.2        |
| Chittoor .. ..        | 2,156              | 62.0        | 51.0       | 4.8        | ..              | 4.6        | 52.0        | ..         | ..         | ..              | ..         |
| North Arcot .. ..     | 7,179              | 64.0        | 1.6        | 0.3        | 38.0            | 0.8        | 35.0        | 18.0       | 0.3        | 0.8             | ..         |
| Salem .. ..           | 4,434              | 17.7        | 1.0        | 4.3        | 2.8             | 2.1        | 13.0        | 0.1        | 0.3        | 19.5            | 0.4        |
| Erode .. ..           | 18,702             | 7.0         | 1.0        | 0.5        | 3.0             | 0.7        | 3.0         | 0.5        | 0.3        | 9.7             | 0.6        |
| Tiruchirappalli .. .. | 4,706              | 36.0        | 10.0       | 0.7        | 2.0             | 0.9        | 35.0        | 8.0        | 0.3        | 1.0             | 0.4        |
| Ramanathapuram .. ..  | 1,289              | 34.5        | 1.6        | 0.2        | 1.6             | 0.2        | 30.0        | 4.0        | ..         | 1.3             | ..         |
| Tirunelveli .. ..     | 1,537              | 11.6        | 7.2        | 2.0        | 2.2             | 4.0        | 19.5        | 2.5        | 1.0        | 2.1             | 1.3        |
| Malabar .. ..         | 581                | ..          | ..         | ..         | ..              | ..         | 20.0        | 2.5        | ..         | 12.5            | ..         |
| South Kanara .. ..    | 4,918              | 6.0         | 2.0        | 0.1        | 2.0             | 0.2        | 5.0         | 2.0        | 0.2        | 2.0             | ..         |

From the above, the average percentage of reactions observed are: drowsiness, 29.8, diarrhoea 7.7, paralysis 1.4, stoppage of egg yield 11.4 and mortality 0.9 among exotic breeds, and drowsiness 24.3, diarrhoea 4, paralysis 0.4, stoppage of egg yield 15.5 and mortality 0.4 among indigenous breeds.

*Source of the disease.*—Poultry markets in town and villages were the chief source for the dissemination of the disease.

The disease was investigated in the following districts:—South Kanara, Kurnool, Nellore, the Nilgiris, Tanjore, South Arcot, North Arcot, Chingleput and Salem. On enquiry made in villages where vaccinations were carried out previously, it was ascertained that all the vaccinated birds resisted subsequent infection of Ranikhet disease while 80 to 90 per cent of the unvaccinated birds succumbed to the disease.

During the year, 2,561 birds were protected against the disease with Ranikhet disease vaccine; both in actual outbreaks and in free areas. Chicks above 6 weeks of age were protected against the disease. The reactions in the vaccinated birds were quite satisfactory. About 90 per cent of the vaccinated birds went drowsy; about 10 per cent had diarrhoea, 2 per cent paralysis—the affected birds getting allright in one or two months, and mortality was only 1 per cent. Stoppage of egg production was noticed in 14 per cent of the birds, and the period of offlay ranged from 2 to 8 weeks.

One hundred and thirty-three specimens of liver, spleen, brain, etc., received from the field staff, and suspected for Ranikhet disease were tested biologically on fowls of which 21 proved positive.

(ii) *Fowl pox.*—The disease was recorded in the District Poultry Farms, Chittoor and Koila, Poultry Research Station, Teynampet; and poultry units attached to the veterinary institutions at Salem, Coonoor and Chittoor. It occurred in an intensive form during cold months commencing from October to March.

The origin of the outbreaks has been reported to be mostly due to the movement of the poultry from markets to villages. The disease was more severe in exotic breeds than in the indigenous variety. In chicks, the disease was severe manifesting the cutaneous and the diphtheritic forms, while in adults, only the cutaneous form was seen. Comparatively, the mortality rate in chicks was high, while in adults it was negligible.

Six hundred and thirty-six birds from six weeks onwards in age were protected against fowl pox with fresh pigeon pox vaccine. Well defined takes were present at the seat of vaccination in the vaccinated birds between the fifth and the seventh day of vaccination, confirming that the birds were immune.

As prepared pigeon pox vaccine which has been kept for some days was found to be inefficient, the vaccine was freshly prepared in the field before it was actually made use of.

(iii) *Contagious coryza or Roup.*—This disease was diagnosed in the Livestock Research Station, Hosur, District Poultry Farms, Chittoor, Koila, Veterinary Biological Research Institute, Ranipet, and in the poultry demonstration units attached to Veterinary Hospitals.

The disease is characterized by a sub-acute or chronic course affecting chickens generally from 4 to 16 weeks with Catarrhal conjunctivitis and coryza followed by the development of caseous inspissated pus formations in the sinuses of the head and pharyngeal clifts. Soon dyspnoea and exophthalmus of the eye develop as a result of occlusion or stenosis of the upper respiratory tract as narries and pharynx and the eye ball are pushed out at first, due to intra-ocular pressure and later accumulation of caseous mass in the supra orbital fossa. The nostrils and beaks are soiled with thick slimy material having an offensive odour. Materials from the affected birds were plated out and a "diphtheroid" organism was isolated in pure culture.

A formalinized vaccine was prepared with the above strain of the organism, standardised to opacity No. 0.5 and tried as an experimental measure for vaccinating chicks. This vaccine was observed to confer a degree of resistance in the vaccines.

It is contemplating to continue this work to improve upon the vaccine, so as to mass vaccinate chicks against the disease. Two hundred and seventy-eight birds were protected with the vaccine S.O. 5 against coryza in the District Live-stock Farm, Koila, Chittoor and the poultry units attached to Veterinary Hospitals together with medication of birds with Lugol's iodine, in the proportion of one tea-spoon of iodine to a gallon of water.

In the meanwhile, in order to eradicate the disease from the affected farms, a progressive watch and destruction of affected, weak and susceptible chicks in the farms were followed. It was possible to build a disease free flock of birds in Hosur and other disease affected poultry units in the State. It is anticipated with these measures it would soon be possible to build clean, healthy and productive stock of poultry in all the farms and demonstration units in this State.

(iv) *Avian coccidiosis.*—This disease was noticed in the Agricultural Research Station, Aduthurai, and Poultry Research Station, Teynampet, in exotic chicks of six weeks old. They were drowsy and appeared as if chilled. On post-mortem examination of the affected ones, the caeca appeared hæmorrhagic and scrapings contained numerous bread ovoid oocysts of *Coccidia* belonging to the species "*Eimeria Tenella*".

Sub-spherical oocysts belonging to the species "*Eimeria Mitis*" were also seen in some older birds in their anterior small intestines but the mortality caused by this species in chicks was noticed to be every much less compared to *Eimeria Tenella*. The incidence of Coccidiosis was noticed to be greater in wet and in cold seasons than in summer months.

A practical method in the control of Coccidiosis is to maintain coccidial infection at a minimum level so that birds by ingestion of small numbers of oocysts get immune against subsequent heavy infection. Daily cleaning and frequent removal of droppings containing the infectious material was advised in order that the organisms which are being passed in the droppings may be prevented from developing into the infective stage. As a disinfectant for poultry houses, sprayings with strong cresol solution, application for a layer of slaked lime to the ground, putting feeding troughs and drinking vessels in boiling water at frequent intervals, burning or removing to remote areas the litter and other refuse which were contaminated with infected droppings were advised.

**Treatment.**—In the initial stage, a dose of Epsom salt in the ratio of 1 lb. for 300 chicks or 150 adults in drinking water is helpful. Sulphamezathine Sodium solution 16 per cent has been found to be very efficacious. Both the ailing ones and the incontacts were dosed simultaneously. In many cases, dosing for three days had been sufficient, but treatment for five days was necessary in severe outbreaks of coccidiosis, particularly with reference to chicks. The chicks so treated recovered from the attack and were subsequently found resistant to coccidiosis.

**Dosage.**—A dilution with Sulphamezathine sodium Solution 16 per cent was made in the ratio of 2 oz. to a gallon of water and the young chicks were allowed to have free access to the prepared solution substituted for drinking water. All other water-supply was withheld during the treatment.

Soluthiazole (M and B) was similarly tried and was found to be as efficacious as sulphamezathine in the successful treatment of coccidial infection.

In large flocks, treatment of each pen as soon as the disease appeared instead of all the pens when coccidiosis appeared in the flock was advised, the idea being to give the birds an opportunity to acquire a mild infection and to subsequently treat them so that they would later develop resistance to the disease. This treatment was, therefore, advised to be started as soon as an abrupt drop in the food consumption was noticed, or as soon as possible after the first few bloody droppings were seen.

The use of the drug as a preventive measure was not advised when the disease was not present, since the birds so treated later developed coccidiosis when the treatment was stopped because there was no opportunity for them to acquire immunity. The use of the drug was, therefore, recommended when the disease was present.

Of the two species of coccidia identified, viz., "*Eimeria Tenella*" and "*Eimeria Mitis*" the former was found in the blind guts or caeca affecting the health of the chicks very decidedly. This was the acute form of the disease in chicks producing extensive hæmorrhagic blood being present in the droppings. Chicks died very suddenly in large numbers as a result of this form of the disease.

The other species *Eimeria Mitis* was noticed in the anterior small intestines causing no noticeable damage to the intestinal wall, and did not cause mortality in birds.

(v) *Avian tuberculosis.*—Only one case of Tuberculosis was met with in a Rhode Island Red hen No. 67 aged about 2 years in the poultry unit attached to the Veterinary Hospital, Tirunelveli. The bird was fairly good in condition, but all of a sudden dropped down and died. On opening the abdominal cavity, yellowish tumours of varying size were seen in the liver and spleen. These tubercles when cut open, presented a solid greyish interior exhibiting a number of yellowish points. Smears from the affected organs contained Acid Fast Organisms "*Mycobacterium Tuberculosis*." Both biological and cultural tests are in progress towards the isolation of the organisms in a pure culture.

Tests with Avian Tuberculin obtained from the Indian Veterinary Research Institute, Izatnagar were carried out on 53 suspicious old birds in the poultry farms at Teynampet and Chittoor and all of them proved negative for the disease.

(vi) *Avian leucosis complex.*—The incidence of this disease was noticed in all the poultry farms and units. In all these centres, the birds affected were only the exotic ones save in one instance where an indigenous pullet of about 7 months old was found seized with the disease.

Birds affected were usually in the age groups of one to two years. In majority of the cases, visceral lymphomatosis was met with and the following symptoms were observed:—

Birds losing condition gradually becoming lighter in weight with deprived appetite and the comb and wattles becoming quite pale.

In certain other instances, birds fairly in good condition suddenly dropped down and died without manifesting any visible symptoms. On post-mortem examination, the liver, spleen and kidneys appeared as tumour-like masses and ovary yellowish in colour varying in size. The blood on examination was found to contain numerous lymphoid cells suggestive of fowl paralysis. The above mentioned cases were confirmed through histo-pathological examination for Avian Loucesis complex by the Principal, Madras Veterinary College, Madras.

**Prevention and control.**—Periodical culling out of birds having tumours of the skin, emaciation, extreme loss of flesh pale heads, pendulous crops, gaspy breathing and, swollen dropsical abdomen, and the systematic elimination of the diseased birds so that each bird is removed from the flock as soon as it shows visible signs of the disease by which the reservoir of infection may be diminished and the unprofitable birds eliminated were advised.

Since susceptibility or resistance to the disease is hereditary the officers in charge of the farms and units were advised to have only such birds that had not the disease for breeding purposes. For the same reason discarding of eggs obtained from birds suspected for Fowl Paralysis was advised.

(vii) *Salmonellosis.*—No case of Salmonella infection was met with among poultry during the year.

With a view to eliminate Salmonellosis among exotic birds, 345 birds were tested by the rapid whole bloodstained antigen method against Non-motile Salmonella Pullorum disease, and 105 birds against Motile Salmonella Pullorum disease or Salmonella Enteritidis in which infection occurs in the intestinal canal of birds in various types of acute inflammatory condition which is pathogenic to men. The results in all cases were negative.

(viii) *Parasitic infestations.*—Infestations with both internal and external parasites were found among the poultry kept in most of the farms and units in this State, and were found responsible for unthrifty condition, low egg yield and mortality among chicks in outbreaks of Fowl-pox.

**Internal parasites.**—Both round and tape worms were seen in almost all the farms visited. Of the round worms, *Ascaris* and *Heterakis* were usually met with and among tape worms. *Raillietina* and *Hymenolepis* species were the most common. The worms which were identified on post-mortem examination were preserved as museum specimens. Faecal samples were collected and examined and the extent of infection was studied.

Cestersol and Phenothiazine tablets were tried for the eradication of tape and round worms in birds. It had been studied that Cestersol was not efficient in expelling the tape worms and similarly the large round worms "*Ascaris*" did not respond to the phenothiazine treatment, but "*Heterakis*" the small caecal worm responded well to the treatment.

A satisfactory vermifuge so far tried both for round and tape worms was through administering fresh pulvissarexa, Oleum Chennapodium, Oleum Terebinthinea Extractum Filicis Liquidum followed by a dose of castor oil for every adult bird and for a chick the dose was halved.

Large number of tape and round worms were passed by the birds so treated and their condition and plumage improved after treatment.

**External parasites.**—Among these, lice, fleas and mites were met with in the poultry units attached to the Veterinary Hospitals, Kaliyampundi and Tirunelveli and in the Poultry Research Station, Teynampet.

**Lice.**—The species *Menopon* which was commonly met with responded well to the dusting of gammaxane once a fortnight.

**Fleas.**—The stick tight fleas, "*Echidno-phaga Gallinae*" were found in claspers in the grooves over the eyes, head and comb. Dusting with gammaxane once a fortnight eradicated this infestation.

*Mites*.—Cases of scaly legs caused by mites, "*Cnemidocoptes species*" were met with among birds in poultry farms and units. Treatment with Ascabilo, crude Petroleum and Kerosene emulsion was found to be specific for this kind of ailment and the affected birds were completely cured with 2 or 3 applications.

(ix) *Miscellaneous*.—Enquiry made of duck breeders in various centres in the State revealed that the diseases among ducks were rather rare.

Cases of Fowl Typhoid, *Agyptinella pullorum* and *Trichomoniasis* were not met with among poultry during the year.

*Specimens examined*.—Two hundred and fifty-eight specimens of blood smears, faeces, heart blood swabs, internal organs, etc., received from the field staff were examined.

Five hundred and seven specimens of blood smears, faeces, parasites, etc., were collected and examined in the course of tours during the year.

Fifty-four specimens of internal organs were sent to the Principal, Madras Veterinary College for histopathological examination of which 23 proved positive.

#### SCHEME FOR THE INVESTIGATION INTO THE DISEASES OF SHEEP AND GOATS.

155. The work done by the Assistant Disease Investigation Officer (Sheep and Goats) during the year is summarized below :—

(i) *Anthrax*.—The disease was reported from the districts of Nellore, Ramana-thapuram, Tiruchirappalli, Madurai, Tirunelveli, Tanjore, South Arcot and North Arcot. Its incidence has been reported from areas with soils of various types, viz., sandy, loamy and rocky which are subject to both wet and dry cultivation. The average range rainfall in these areas was between 19 and 30 inches. The disease occurred in a sporadic manner throughout the year with a tendency to become virulent at intervals. Such peak periods, in general, were during the months of June to September and again during the period from December to February in different places. Among the species of animals affected in most of the places, the disease was confined to sheep and goats only, and the cattle in these areas were free.

A number of fresh centres of infection was reported during the year. Anthrax spore vaccine supplied by the Indian Veterinary Research Institute had been made use of in a number of places and 11,000 spore vaccinations were done by the Assistant Disease Investigation Officer (Sheep and Goats) and the field staff during the year. An intensive study of the epidemiology of the disease and the effect of the Anthrax spore vaccine as a preventive was taken up in select places in Nellore district during the year under report. The observations carried out so far go to show that Anthrax occurs sporadically throughout the year with a tendency to be virulent in the months of June to September and again from December to February. The spore vaccine obtained from the Indian Veterinary Research Institute, Mukteswar, however, seems to be erratic in reaction set up at the site of vaccination in the vaccinated sheep and goats. Intense swelling, abscess formation and death have been reported from a number of places. The period of immunity conferred by the vaccine may be even less than three months and a study of their aspects under field conditions is in progress.

(ii) *Brucellosis among Sheep and Goats*.—In order to detect the incidence of this disease, samples of sera from different districts were tested with quick antigen and they proved negative for the disease. The work will be continued.

(iii) *Rinderpest among Sheep and Goats*.—The occurrence of this disease was reported from a few centres in Bellary district. The symptoms narrated were: salivation from the mouth, suspension of rumination, elevated temperature ulcers in the gums, emanation, foul odour and diarrhoea sometimes with blood tings from third to fourth day onwards. Death occurred on the fourth or fifth day after the on-set of symptoms. Serum simultaneous inoculations were done on 330 sheep and

40 goats by the field staff at one centre. It was reported that there were no further cases. The disease was met with among sheep and also among goats. Material such as bonemarrow received from an outbreak from the field staff was put into sheep but they did not develop the disease and the outbreak could not, therefore, be confirmed biologically. Attempts to confirm the disease by biological test and isolate strains of the virus from natural outbreaks among sheep and goats will be continued.

(iv) *Protozoal Infection*.—(Combined Sheep and Cattle Farm, Kurukuppil.—Mortality among sheep, more especially among lambs up to four or five months of age, are noticed to occur. *Theileria* seems to be common parasite found in the blood picture of most of these deaths. In order to put down this condition, periodical spraying of the flock with gammaxane formulation at weekly intervals was recommended so that the vectors, such as ticks, may be killed. Transmission experiments will be conducted to establish that *Theileria* are the causal agents.

(v) *Other diseases*.—(a) *Mortality at the Sheep Farm, Ootacamund*.—This farm was recently started with stock purchased from the villagers and a percentage of the foundation stock is not hardy enough. Lambs born in this farm have been dying within a few days to a few months of their birth, mostly due to weak births, and their inability to withstand the rigours of the weather on the Nilgiris. Investigation into the causes of death has not revealed anything significant. The disease was suspected for Entero-toxaemia, and several attempts were made to detect the presence of toxin in the intestinal contents of the carcasses by filtering the intestinal contents and injecting the filtrate intra-venously into rabbits. In no instance it proved lethal to rabbits. However, as an exploratory measure, the farm stock were protected with the Anaculture of *Cl. Welchii* type B and D during the year. To eliminate the possibility of pasteurellosis in the farm stock, Haemorrhagic Septicaemia vaccine had been used in the farm but no *pasteurella* has so far been isolated from the morbid materials.

(b) *Suspected outbreaks of Entero-toxaemia*.—Outbreaks styled as obscure diseases among sheep were received from the districts of Coimbatore, Nellore, Tirunelveli and Madurai. The symptoms reported were: indifference to grazing and suddenly falling on the ground and with violent paddling movements of legs ending in death. In some instances, the ailing sheep were reported to have gone round in semi or complete circles. The course of the disease was from a few minutes to a few hours. The materials from the affected carcasses were not positive for Anthrax. The post-mortem lesions noticed were patchy congestion in the internal mucosa and no other characteristic lesion could be seen. From the sudden course of the disease and the nervous symptoms exhibited by the affected animals, the disease was suspected for Entero-toxaemia. Attempts were made to detect the presence of toxin in the intestinal contents of the carcasses, and while nothing significant could be detected in many evidence about the presence of toxin was found in some. An outbreak among sheep belonging to the sheep Breeders' Co-operative Society at Soundararajapuram near Bodinayakanur occurred. The intestinal contents and scrapings of the congested portion of a sheep carcass were filtered through several layers of cotton so as to remove all the coarse and dirt particles, and the filtrate injected into two apparently healthy Sheep procured locally. The injection was done intravenously, and the dose of the filtrate was 20 c.c. The two experimental sheep were under observation. Both of them became dull and showed hurried respiratory movements. One of the two became gradually sleepy, walked indifferently, swayed its head from side to side and lay on its side and began to kick its legs for a long time. Coma set in later on and death ensued in about three hours duration. The second sheep remained dull and sleepy for a number of hours and then returned to normal. One thousand three hundred and sixty-three experimental vaccinations were done during the year with Anaculture of *Clostridium Welchii* type B and D.

(c) *Suspected case of Encephalomyelitis in goats*.—A disease suspected for Encephalomyelitis occurred among the kids belonging to the American Arcot Mission, Katpadi. The symptoms shown by the ailing animals were staggering

gait and weakness in the loins. The animal gradually lies down on the abdomen or on its side being unable to stand on its legs. The appetite of the ailing ones is not impaired. But the affected ones die from a few days to several weeks after the appearance of symptoms.

The disease affects only young kids of about two to four months old and three such cases were reported during this year. Brain and spinal cords received were emulsified and the emulsion was swabbed inside the nostrils with friction into two experimental kids and these did not develop the disease. Specimens of brain and cord sent to the Indian Veterinary Research Institute for Histo-Pathological examination did not reveal characteristic picture of Encephalomyelitis. The condition will be investigated further in the coming years.

(d) *John's disease*.—The disease has been noticed among sheep in the Hosur Cattle Farm. Animals showing gastroenteritis and ultimately revealing myco-bacterium para-tuberculosis from the lesions are gradually increasing. Materials from such cases are being sent to the Indian Veterinary Research Institute, Mukteswar. The flock will be carefully examined periodically in future for this disease.

(e) *Sheep-pox*.—Outbreaks suspected for sheep-pox were noticed to occur in the districts of Guntur, Bellary, North Arcot, Chingleput, Coimbatore, Ramanathapuram, Tirunelveli and South Arcot. The symptoms shown by the ailing animals were elevation of temperature and rescola patches developing into hard nodules were noticed in many outbreaks. The vesicular stages were not marked. The hard plaque sent to the Indian Veterinary Research Institute in the past years was declared positive for sheep-Dermatitis believed to be a new virus disease. Attempts were made to conduct cross immunity test with the sheep-pox virus and for this purpose a sample of sheep-pox virus was obtained from the Indian Veterinary Research Institute, Mukteswar. It was found that the sheep-pox virus did not produce characteristic sheep-pox lesions in the experimental sheep. The Food and Agricultural Organization has been approached for supply of genuine sheep-pox virus, and on receipt of it cross-immunity tests will be conducted.

The Assistant Research Officer from the Indian Veterinary Research Institute toured the State during December 1951 and January 1952. Three affected centres in the North Arcot and Chingleput districts were visited. At two of these places, the lesions appeared to resemble the typical sheep-pox. The lesions contained a little fluid and the skin over them were easily peelable. But the crest of the lesions were convex and not umblicated. In the third centre, all the lesions seen were hard nodules. The Assistant Research Officer has taken with him materials from the scenes of the outbreaks for further study.

The Assistant Research Officer, Mukteswar, had brought with him sheep-pox scabs collected from the State of Bombay. In order to compare the Bombay and Madras strains the materials from Bombay were put into experimental sheep of this State. It was observed that they developed vesicular lesions. These sheep were later tested with the Madras strain of virus at the Veterinary Biological and Research Institute, Ranipet and found to be immune. The results showed that the two strains are immunologically similar.

*Preventive vaccinations*.—The virus from a local strain of the disease is being supplied from the Veterinary Biological and Research Institute, Ranipet for trial. This scab virus is emulsified in glycerine-saline and applied to a scarified part on the ear. The reaction observed after vaccination has not been uniform. In some places, the vaccinated animals did not contract the disease after vaccination while in some others, generalized form of the disease developed. Ovination with the material collected from an ailing sheep on the spot also had been done by the field staff or by country quacks. In certain centres, this has actually helped to a flare-up of the disease.

The vaccine that is at present used requires to be standardized. In the meantime experimental vaccination with the more scab virus is being carried out in the field. Four thousand eight hundred and thirty-nine vaccinations were done with the vaccine supplied by the Veterinary Biological and Research Institute, Ranipet, during the year.

### THE MADRAS HELMINTHIASIS SCHEME.

156. The study of the life-history of *Ascaris vitulorum* was continued and experiments were made on calves. Observations made on *Limnaca* and *Indoplanorbis* revealed their occurrence in new habitats and their relation to pH. Aestivation of these snails was noted for the first time in an area which was drying. Cercariae were released by these snails obtained from Ponneri, Madurai district, etc.

Worm burden with regard to *Hæmonchus*, *Paramphistomum* and *Moniezia* was assessed in about a dozen animals both ovine and bovine. In the experiments on host-specificity *Hæmonchus* larvae from calves established themselves in two goat-kids while in the prior experiment such larvae from a sheep failed to grow in a calf.

### KANGAYAM CATTLE IMPROVEMENT SCHEME.

157. The object of the scheme is to improve the milking qualities of the Kangayam cows without impairing the draught qualities of the male stock by selective breeding and feeding. The scheme was started on 31st July 1942 and the present sanction lasts till 31st March 1954.

The number of animals in the scheme at the commencement and the close of the year under report was as shown below:—

|                                            | On 1st April<br>1951. | On 31st March<br>1952. |
|--------------------------------------------|-----------------------|------------------------|
| Cows in milk .. .. .                       | 51                    | 50                     |
| Dry cows .. .. .                           | 29                    | 42                     |
| Heifers over two years of age .. .. .      | 30                    | 33                     |
| Heifer-calves over one year of age .. .. . | 19                    | 28                     |
| Heifers below one year of age .. .. .      | 29                    | 22                     |
| Young bulls over two years of age .. .. .  | 29                    | 28                     |
| Young bulls over one year of age .. .. .   | 32                    | 35                     |
| Bull-calves below one year of age .. .. .  | 35                    | 31                     |
| Young bullocks .. .. .                     | 21                    | 37                     |
| Breeding bulls .. .. .                     | 4                     | 4                      |
| Total .. .. .                              | 279                   | 310                    |

*Cows in milk*.—There were on an average 42.1 cows in milk with a daily individual average milk yield of 5.4 lb. during the year as against 51.4 cows and 4.6 lb. in the previous year.

There were 61 calvings during the year. One heifer calf was still-born with deformity and another heifer calf was deformed. The remaining 59 calves were normal. The average birth, weight, etc., of calves, born during the year under report and the previous year are given below:—

|                                        | 1951-52.<br>LB. | 1950-51.<br>LB. |
|----------------------------------------|-----------------|-----------------|
| Average birth weight of a calf .. .. . | 43.8            | 43.2            |
| Do. bull calf .. .. .                  | 45.8            | 45.7            |
| Do. heifer calf .. .. .                | 41.3            | 40.2            |
| Maximum birth weight of a calf .. .. . | 60.0            | 61.0            |
| Minimum birth weight of a calf .. .. . | 27.0            | 26.0            |

*Experimental work*.—With a view to stimulate milk secretion and also to ward off nervousness of heifers when they come into lactation, the udders of pregnant heifers were massaged about two months before calving.

Milk yield, fat contents of milk and pedigree records of all the animals were maintained. Fortnightly weights of calves were recorded with a view to study the rate of their growth. The testing of bullocks for draught qualities was taken up during the latter part of the year. On account of famine conditions they could not be subjected to ploughing test. The bullocks were put to dragging loads, carting and lifting water.

## THE MADRAS SHEEP BREEDING SCHEME.

158. The object of the scheme is to evolve a white woolly sheep yielding a larger quantity of better wool than the Bellary breed. The work is carried on under two heads (i) by selective breeding of the Bellary breed and (ii) Cross breeding the Bellary ewe with Bikaneri rams. The latter work is partly financed by the Indian Council of Agricultural Research.

The strength of the Bikaneri flock on 1st April 1951 was 91. There were 58 births and 5 deaths during the year leaving a balance of 144 sheep at the end of the year. In the Bikaneri flock, tan-faced white ram No. 1 and black-faced white ram No. 4 were at stud during the year. The average body weight of different classes of sheep for the two clipping seasons were as follows :—

| Class of sheep.   |    |    |    |    |    |    | Average body weights for two clipping seasons. |     |
|-------------------|----|----|----|----|----|----|------------------------------------------------|-----|
|                   |    |    |    |    |    |    | LB.                                            | OZ. |
| <i>Adults—</i>    |    |    |    |    |    |    |                                                |     |
| Rams              | .. | .. | .. | .. | .. | .. | 86                                             | 6   |
| Ewes              | .. | .. | .. | .. | .. | .. | 53                                             | 15  |
| <i>Yearlings—</i> |    |    |    |    |    |    |                                                |     |
| Rams              | .. | .. | .. | .. | .. | .. | 53                                             | 0   |
| Ewes              | .. | .. | .. | .. | .. | .. | 36                                             | 12  |

The average body measurements of sheep for the two clipping seasons were as follows :—

| Class of sheep.   | Average height in inches. | Average length in inches. | Average girth in inches. |
|-------------------|---------------------------|---------------------------|--------------------------|
| <b>Adults—</b>    |                           |                           |                          |
| Rams .. .. .      | 26.2                      | 28.2                      | 31.0                     |
| Ewes .. .. .      | 23.9                      | 24.7                      | 27.4                     |
| <b>Yearlings—</b> |                           |                           |                          |
| Rams .. .. .      | 21.4                      | 21.9                      | 23.6                     |
| Ewes .. .. .      | 22.4                      | 22.1                      | 24.2                     |

**Wool yield.**—Details of wool produced during the year are given below :—

| Class of sheep shorn. | Number of sheep shorn. |              | Average wool yield. |              | Average annual wool yield. |
|-----------------------|------------------------|--------------|---------------------|--------------|----------------------------|
|                       | First clip.            | Second clip. | First clip.         | Second clip. |                            |
|                       |                        |              | LB. OZ.             | LB. OZ.      | LB. OZ.                    |
| Rams .. .. .          | 10                     | 10           | 3 10                | 2 13         | 6 7                        |
| Ewes .. .. .          | 68                     | 67           | 2 5                 | 1 9          | 3 14                       |
| Rams (yearlings) ..   | 0                      | 6            | ..                  | 2 10         | 2 10                       |
| Ewes (yearlings) ..   | 0                      | 8            | ..                  | 2 0          | 2 0                        |

The sheep were shorn twice during the year once in September 1951 and again in March 1952. Lambs below 1 year were not shorn. All the sheep shorn were washed first in tank water before clipping. After drying all the sheep were shorn and the average number of sheep clipped during the year was 77.5 (78 during September and 77 during March) adults and 14 yearlings. The adults yielded 327 lb. 7 oz. of clean dry wool in both seasons. This works out at the rate of 4 lb. 3 oz. per head on an average. Again 14 yearlings yielded 3 lb. 7 oz. of clean dry wool during March. This works out at the rate of 2 lb. 7 oz. per head on an average.

The total wool yield of sheep in Bikaneri flock at the different stages of their growth and different services during 1951-52 is given in the table below :—

| Kind of sheep.        | Number of sheep shorn in both the seasons. | Total wool yield. |     |
|-----------------------|--------------------------------------------|-------------------|-----|
|                       |                                            | LB.               | OZ. |
| Bikaneri rams .. .. . | 20                                         | 64                | 6   |
| Bikaneri ewes .. .. . | 135                                        | 263               | 1   |
| Yearling rams .. .. . | 6                                          | 18                | 4   |
| Yearling ewes .. .. . | 8                                          | 16                | 3   |
|                       |                                            | 361               | 14  |

Some of the best performers in Bikaneri flock under different classes are as follows :—

| Wool yield. |         |        |         |            |         |         |         |  |  |
|-------------|---------|--------|---------|------------|---------|---------|---------|--|--|
| Rams.       |         | Ewes.  |         | Yearlings. |         |         |         |  |  |
| Number.     | Yield.  | Number | Yield.  | Rams.      |         | Ewes.   |         |  |  |
|             | LB. OZ. |        | LB. OZ. | Number.    | Yield.  | Number. | Yield.  |  |  |
|             |         |        |         |            | LB. OZ. |         | LB. OZ. |  |  |
| 1           | 8 6     | 62     | 5 15    | 17         | 3 12    | 72      | 2 7     |  |  |
| 6           | 7 2     | 28     | 5 4     | 14         | 3 6     | 75      | 2 7     |  |  |
| 4           | 6 12    | 57     | 5 1     | 12         | 3 2     | 77      | 2 5     |  |  |
| 8           | 6 8     | 40     | 4 15    | 15         | 3 0     | 73      | 2 1     |  |  |
| 9           | 6 3     | 3      | 4 15    | 13         | 2 8     | 76      | 1 15    |  |  |

**Wool grading.**—All the available sheep were shorn on the improved lines and the wool graded according to the quality, age of sheep and colour and stored separately for disposal. There is no demand for the wool and so all the wool are stored at the stores.

## SCHEME FOR THE COLLECTION AND COLLATION OF INFORMATION ON INDIGENOUS VETERINARY MEDICINES FROM ANCIENT LITERATURE.

159. The scheme continued to function till the end of the year. A separate report is being sent to the Indian Council of Agricultural Research on the scheme.

**Scheme for the testing of cattle with Tuberculin.**—This scheme which was financed by the Indian Council of Agricultural Research continued to function during the year under report till 31st July 1951 when it expired. The target fixed for the test was very nearly reached and 24,917 animals were tested in all with the following results :—

Statement showing the number of animals tested for Tuberculosis and the percentage of positive and doubtful reactors.

| Kind of animals. | Number of animals tested. | Number of positive reactors. | Percentage of positive reactors. | Number of doubtful reactors. | Percentage of doubtful reactors. |
|------------------|---------------------------|------------------------------|----------------------------------|------------------------------|----------------------------------|
| White cattle ..  | 17,911                    | 284                          | 1.6                              | 231                          | 1.3                              |
| Buffaloes ..     | 7,006                     | 195                          | 2.8                              | 186                          | 2.6                              |
| Total ..         | 24,917                    | 479                          | 1.9                              | 417                          | 1.6                              |

## IX. RURAL WELFARE.

160. (i) Special attention was paid to the centres and firkas selected for intensive work. In order to extend veterinary aid in the villages selected for rural reconstruction work, 42 Veterinary Assistant Surgeons, 22 Veterinary and Live-stock Inspectors and 32 Stockman Compounders were posted to the selected firkas and centres as against 34 Veterinary Assistant Surgeons, 15 Veterinary and Live-stock Inspectors and 32 Stockman Compounders in the previous year. The number of bulls stationed in the areas for stud purposes increased from 239 to 279 during the year under report. Twelve thousand and nine scrub bulls were castrated as against 12,985 in the previous year. Immunizing the cattle against contagious diseases was undertaken intensively and 99,348 inoculations were performed against 92,976 in 1950-51. The approved bulls stationed in the areas performed 28,344 services as against 9,060 in the last year.

(ii) There were 23 poultry units in the beginning of the year which increased to 46 at the end of the year. Twelve thousand nine hundred and thirty-three vaccinations were done against Rinderpest. Grading up of desi stock with exotic breeds was continued.

(iii) The selected firkas and centres in Malabar, Coimbatore, Tiruchirappalli, Madurai, Ramanathapuram, Tirunelveli, Bellary, Anantapur, Kurnool, Chittoor, Krishna, West Godavari, Tanjore, South Arcot, North Arcot and Salem were visited and propaganda on proper breeding and management of sheep was carried out. Deworming of sheep was also attended to in the centres in addition to the demonstration of shearing with improved Sheffield shears, grading of wool according to colour and quality. Emasculation of scrub rams was also undertaken. Improved shears were also sold in rural areas at concessional rates.

(iv) The two centres of the Village Livestock Improvement Scheme at Alur, Bellary district, and Saliamangalam, Tanjore district, continued to function during the year under report. A resume of the work done by this department during the year is furnished below:—

| Particulars.                                    | Alur.                      | Saliamangalam.      |
|-------------------------------------------------|----------------------------|---------------------|
| (1)                                             | (2)                        | (3)                 |
|                                                 | (Hallikar breeding bulls.) | (Umblacheri bulls.) |
| Number of services done .. .. .                 | 116                        | 279                 |
| Number of calves born .. .. .                   | 5                          | ..                  |
| Number of calves inspected .. .. .              | 5                          | ..                  |
| Number of calves registered for subsidy .. .. . | 4                          | ..                  |
| Immunization of cattle .. .. .                  | 4,594                      | 185                 |
| Castration of scrub bulls .. .. .               | 431                        | 236                 |
| Registration of female stock .. .. .            | 790                        | 829                 |

The District Veterinary Officers were instructed in consultation with the district boards to concentrate bull in the rural welfare areas.

(v) In G.O. Ms. No. 501, Rural Welfare, dated 18th May 1951, Government sanctioned the opening of three poultry production centres at Tirumangalam, Denduluru and Mulki firkas.

*Tirumangalam (Madurai district).*—The poultry production centre located at the Tamil Nad Grama Sevak Vidyalayam, Kallupatti was opened on 28th November 1951 with a foundation stock of 10 Rhode island red hens and 2 cocks. The Principal of the institution was instructed to hatch sufficient eggs to build up the stock. There is a Kangayam breeding bull in the institution which did two services during the year.

*Denduluru (West Godavari district).*—A site measuring 3 acres was taken over on lease by the Principal, Andhra Grama Sevak Vidyalayam, Gopannapalem, and the centre started to function with 9 Rhode island red hens and a cock. An Ongole breeding bull is maintained by the institution for stud purposes.

*Mulki (South Kanara district).*—The centre is located on a site measuring 3.10 acres in Kannigolli village. Ten Rhode island red hens and a cock were applied at the end of the year to start the centre.

## X. MISCELLANEOUS.

161. *Criminal poisoning.*—The Chemical Examiner to Government examined materials connected with cattle poisoning involving 74 animals. The number of cases of poisoning detected is as presented below:—

| Nature of material examined.         | Number of cases detected. | Kind of poison. |
|--------------------------------------|---------------------------|-----------------|
| Viscera and contents .. .. .         | 24                        | Arsenic.        |
| Do. .. .. .                          | 2                         | Oleander.       |
| Do. .. .. .                          | 3                         | Phosphine.      |
| Excreta and stomach contents .. .. . | 25                        | Arsenic.        |
| Do. .. .. .                          | 2                         | Oleander.       |
| Do. .. .. .                          | 5                         | Phosphine.      |
| Do. .. .. .                          | 1                         | Opium.          |
| Miscellaneous articles .. .. .       | 11                        | Arsenic.        |
| Do. .. .. .                          | 11                        | Oleander.       |
| Do. .. .. .                          | 3                         | Zinc phosphide  |
|                                      |                           | and two other   |
|                                      |                           | poisons not     |
|                                      |                           | specified.      |

162. The departmental staff examined and certified 202 cases of malacious injury and issued 132 post-mortem certificates.

163. *The Prevention of Cruelty to Animals Act.*—The total number of convictions under the Act during the year was 13,184 as against 15,561 in the previous year.

164. (i) *Forest department livestock.*—There was no contagious disease among the Livestock of the Forest department in the year under review. All the elephants, as usual, were protected against Anthrax. Four hundred and thirty-seven non-contagious cases were treated as against 362 in the previous year. Sixteen elephants were sold for a total sum of Rs. 1,15,300 on 30th May 1951 by the Forest department. The general condition of the Government elephants and other livestock was good.

(ii) A statement of livestock maintained by the Forest department is furnished below:—

Statement of livestock in the Forest department for 1951-52.

| Kind of animals.   | Number remaining on 1st April 1951. | Additions. |         |            |                    |        | Disposals. |            |       |              |        | Number remaining on 31st March 1952. |
|--------------------|-------------------------------------|------------|---------|------------|--------------------|--------|------------|------------|-------|--------------|--------|--------------------------------------|
|                    |                                     | Captures.  | Births. | Purchases. | Transfer receipts. | Total. | Sold.      | Destroyed. | Lost. | Transferred. | Total. |                                      |
| Elephants ..       | 135                                 | 34         | 5       | ..         | ..                 | 174    | 16         | ..         | 8     | ..           | 24     | 150                                  |
| Buffaloes ..       | 4                                   | ..         | ..      | 2          | ..                 | 6      | ..         | ..         | ..    | ..           | ..     | 6                                    |
| Bullocks ..        | 2                                   | ..         | ..      | ..         | ..                 | 2      | ..         | ..         | ..    | ..           | ..     | 2                                    |
| Total for 1951-52. | 141                                 | 34         | 5       | 2          | ..                 | 182    | 16         | ..         | 8     | ..           | 24     | 158                                  |

165. *Meat inspection.*—Eight municipalities engaged their own Veterinary Assistant Surgeons for inspection of meat in the respective municipal slaughter houses. The Madras Corporation has its own staff of Veterinary personnel for meat inspection work. Sixty-seven municipalities and 55 panchayat boards in the State utilized the part-time services of the Veterinary Assistant Surgeons of this department, who were stationed in the respective localities concerned for inspection of meat.

166. *Lethal chambers.*—The departmental staff, as usual, inspected the lethal chambers maintained by the local bodies for the destruction of dogs and reported on them with suggestions.

167. *Propaganda*.—(i) The departmental staff, explained to the public the aims and activities of the Animal Husbandry Department with the aid of leaflets, pamphlets, posters, magic lantern slides and cine films.

(ii) The skeleton propaganda unit of the department participated in fifteen major exhibitions and shows held in the State during the year. In addition, the unit participated in the Annual Park Fair and Exhibition conducted by the South Indian Athletic Association from December 1951 to January 1952 with the concerned departments of Government and demonstrated in a combined visual display, measures and means, for self-sufficiency in food.

(iii) The following posters, charts and maps were prepared during the year under report :—

- (1) Average annual production of wool in different countries.
- (2) Percentage of wool production (graph).
- (3) Different kinds of yokes.
- (4) Map of Madras State showing Livestock Farms, Hospitals, etc. (for Information Department).
- (5) Number of approved stud bulls in the years 1945 to 1950.
- (6) Success—Arch of Nation's Wealth.
- (7) Five maps of Tungabhadra Project.
- (8) Deworming sheep (Chart I).
- (9) Deworming (Chart II).
- (10) Dipping of sheep.
- (11) Three plywood cut-models of Ongole, Sindhi and Kangayam cattle.
- (12) Two maps of Madras State showing the cattle routes, inoculation centres, grazing area, etc.
- (13) Wool production.
- (14) Importance of a stud ram.
- (15) Map of Veterinary Institutions and Minor Veterinary Dispensaries in firkas areas.
- (16) Washing of sheep before shearing.
- (17) Classing of wool.
- (18) Advantages of improved shears.
- (19) Anatomical parts of a fowl.
- (20) Black minorcas.
- (21) Sussex.
- (22) White leg horns.
- (23) Rhode island reds.
- (24) Madras State map showing artificial insemination.
- (25) Anconas.
- (26) Artificial insemination (Tamil poster).

(iv) The artists attached to the propaganda unit were deputed to take photographs of livestock stationed in the Government farms. During the year under report, the Government sanctioned the permanent retention of one Veterinary Assistant Surgeon, one artist and one lower division clerk attached to the propaganda unit of this department.

(v) In view of the importance of propaganda, this unit requires to be strengthened with additional staff, and provided with at least two propaganda vans. The vans that were previously used for propaganda were removed during the War and they have not been replaced.

168. *Glanders inspection*.—The Veterinary Assistant Surgeon in charge, Glanders Inspection, Madras City inspected 573 ponies and 22,154 bovines during the year under report. He regularly inspected animals in State hospitals and cattle yards in the City of Madras. Thirty one horses were landed at the Madras Port during the year and they were subjected to Mallein Test.

## XI. POST-WAR DEVELOPMENT SCHEMES.

169. *Veterinary aid*.—The opening of two new Veterinary Institutions at Nidubrolu and Tirupati and of 5 new touring billets in the districts of Bellary, Anantapur, Chittoor, Salem and South Kanara was sanctioned by the Government during the year. The Stockman-Compounders' Course was abolished and the Veterinary and Livestock Inspectors' Course continued.

170. *Livestock Improvement Scheme*.—A total of 94 bulls were purchased and distributed among suitable bailees for breeding purposes at a total cost of about one lakh of rupees during the year.

171. *Training abroad*.—A deputationist of the Madras Government to the United States of America for advance studies in the manufacture of biological products left India on 18th May 1949. On his return to India, he was posted to act as Superintendent, Veterinary Biological and Research Institute, Ranipet, with effect from 30th July 1951 afternoon.

172. *Information and Publicity*.—Materials were furnished for holding periodical Press Conference at Government level. In addition the department contributed materials for the bi-monthly publication of the Agricultural Newsletter.

173. All the schemes under this head continued to function during the year, except that the post of the Joint Director of Animal Husbandry was abolished and in its place two posts of Deputy Directors of Animal Husbandry were created.

## ANIMAL HUSBANDRY STATISTICAL WORK.

174. The following important statistical analysis in Animal Breeding was taken up during the year :—

(1) A preliminary statistical study of the Sindhi and Kangayam herds at the Livestock Research Station, Hosur—vide Publication Volume XX-VIII, No. 4 January 1952, of Indian Veterinary Journal.

(2) A study of progeny testing by Dam-Daughter comparison method of all the Sindhi sires at the Livestock Research Station, Hosur was undertaken. The Sire Index of all these bulls have been analysed (An article regarding this is under issue for publication in the Indian Veterinary Journal.)

(3) The breeding plan of the Sindhi herd at the Livestock Research Station, Hosur, for the year 1952-53 has been prepared with the aid of statistical study of the sires and progenies. All the selected bulls for the year trace their pedigree either on the Sire or Dam side to the proven Sire No. 38 whose performance was found to be highly significant.

(4) Randomisation was applied to all cows and heifers and classed under Sire groups with special emphasis on homogeneity within blocks in milk yield, number of lactations, age and preventing in breeding. This plan envisages a simultaneous observation of valid comparison between the daughters in each group under environmental constant.

The yield records of progeny from the above plan will stand statistical analysis for—

Testing the efficiency of breeding bulls through daughters average yield.

Progeny testing of bulls through dam-daughter comparison.

Evaluation of Sire index for each bull.

(5) The data collected on the experiment conducted at the Dairy-cum-Bull Farm, Visakhapatnam, on calf mortality was statistically analysed.

(6) The breeding plan for poultry at the Livestock Research Station, Hosur was drawn this year by selecting the cockerels after a pedigree study and other physical characters while the pellets were allotted to each cockerel by Randomisation.

(7) A statistical comparison of the Kangayam herd at Hosur with the Kangayam herd at Palayakottai was undertaken to ascertain the effects of environment, if any.

(8) The data collected at Palayakottai following the experiments conducted to improve the milk qualities of Kangayam cattle without impairing their draught quality was analysed to test the efficiency of bulls through Dam-Daughter comparison of progeny test.

(9) A correlational study was undertaken on primipara cows with respect to their milk yield, age of animal and weight of the animal respectively with emphasis on other relevant factors connected with milk yield.

(10) The co-efficient of variation of breeds was set up in order to plan experiments with Sindhi and Kangayam herds,

Statistical work on the selected problems in connection with Breeding, Nutrition and Disease control, already on hand will be continued in the year 1952-53 in continuation with the above work.

## XII. FINANCE.

175. A statement showing the receipts and charges of the department for the year under report is appended (Table VIII).

176. *Charges.*—The expenditure for the year was Rs. 62,58,628 as against Rs. 56,68,762 during 1950-51. The main factors which contributed to the increase in the expenditure during the year are mentioned below :—

(1) The sanction of the scheme for free distribution of Livestock and concentrates for amelioration of the conditions of the hill tribes in the Agency Areas.

(2) The sanction of Key Village Scheme and establishment of 7 Key Farm Centres at the Cattle Farms in the State.

(3) The employment of a larger number of labourers necessitated by increased agricultural operations in the Farms.

(4) The starting of a human Dispensary and a bee colony at the District Livestock Farm, South Kanara.

(5) The purchase of livestock for the District Livestock Farms, South Kanara and Malabar.

(6) The payment of compensation to the owners of farm sites at the Dairy-cum-Bull Farm, Visakhapatnam.

(7) The purchase of a lorry and other deadstock for the Dairy-cum-Bull Farm, Visakhapatnam.

(8) The increased number of animals maintained in the Livestock Farms of the department.

(9) The continuance of the scheme for the improvement of livestock (purchase of male breeding stock).

(10) The increased number of cows admitted into the Scheme for the Salvage of Dry Cows.

(11) The purchase of equipment for the laboratory and purchase of books, etc., for the library at the Veterinary Biological and Research Institute, Ranipet.

(12) The increased activities of the Veterinary Biological and Research Institute, Ranipet due to heavy demand for biological products from the field staff.

(13) The appointment of a Research Officer at the Veterinary Biological and Research Institute, Ranipet.

(14) The purchase of equipment for the Madras Veterinary College Hospital and furniture for the Hostel.

(15) The purchase of refrigerators for Veterinary Institutions.

(16) The purchase of stores under the international UNESCO coupon Scheme for the department.

(17) The drawal of house rent allowance by subordinate staff at increased rates.

(18) The additional staff sanctioned for the office of the Director of Animal Husbandry, Madras.

(19) The intensive tours of the Director and the Deputy Director of Animal Husbandry (Livestock) and the tours of Deputy Director of Animal Husbandry (Veterinary).

(20) The grant of leave on average pay to Sri P. P. Aippuru, Personal Assistant to Director of Animal Husbandry and appointment of a substitute.

(21) The grant of leave on average pay for eight months to Major T. Murari, Deputy Director of Animal Husbandry (Livestock), and appointment of a substitute.

(22) The appointment of two Deputy Directors of Animal Husbandry in the place of one Joint Director.

(23) The drawal of arrears of increment and personal pay of Sri V. R. Rajagopalan, Director of Animal Husbandry, Madras.

177. *Receipts.*—The receipts of the department during the year amounted to Rs. 7,72,466 as against 5,96,855 of the previous year.

The increase in the receipts is due to (1) the sale of a large number of used animals in the Veterinary Biological and Research Institute, Ranipet, (2) increased sale of milk and milk products on account of increased production at the farms during the year, (3) the continuance of the enhanced rates of fees for treatment and operation charges in all the Veterinary Institutions and (4) the increased sale of bone-meal and mineral mixture by the staff.

## XIII. PROGRAMME OF WORK.

178. The extent to which the programme of work for 1951-52 outlined in the Administration report for 1950-51 was implemented is indicated in the following paragraphs :—

(a) Research—

(1) Bacteriology of Bovine Mastitis in Madras (Madras Veterinary College).

(2) A preliminary study on the carcinogenesis and etiology of Horn Cancer in Bovines (Madras Veterinary College).

(3) Treatment of Bovine Nasal Schistosomiasis (Madras Veterinary College).

(4) Blood groups in sheep (Madras Veterinary College).

(5) Study of sterility in cattle.

The scheme No. 2 relating to Horn Cancer in Bovines was sent to the Indian Council of Agricultural Research. As it was subsequently noticed from the Administration Report of the Disease Investigation Officer, Baroda State that the etiology of Horn Cancer had been sufficiently studied, the Government agreed to drop this scheme. It has been agreed to take up the other schemes except No. 5 for consideration as Part II Schemes for 1952-53.

## (b) Education—

(1) Proposals to give effect to the recommendations of the University Commission in respect of accommodation, staff, equipment, etc., have been submitted to Government and their orders are awaited.

(2) The proposal for the introduction of a scheme for medical inspection of the students has been ordered to be dropped for the present.

(c) *Veterinary aid*—(1) *Veterinary Institutions*.—Out of the two Veterinary institutions programmed during the year, one at Nidubrolu in Guntur district was opened. The other at Tirupati was not opened as the Tirupati-Tirumalai Devasathanams refused to contribute their share of the expenditure. The Government have approved the proposals to open a Veterinary dispensary at Kalahasti in Chittoor district.

(2) *Touring billets*.—The programme of opening five touring billets during the year was implemented. The billets were opened at following places:—

Denkanikottah in Salem district.

Kuppam in Chittoor district.

Penukonda in Anantapur district.

Kudligi in Bellary district.

Kota in South Kanara district.

(d) *Livestock improvement*—(1) *Animal Nutrition and Genetics sections in the Livestock Research Station, Hosur Cattle Farm*.—The Nutrition Scheme was deferred. Orders of Government are awaited with regard to the Animal Genetics scheme.

(2) *Chintaladevi Farm*.—The Government agreed with the proposal to take over young stock at the Livestock Research Station, Lam, and arrangements to transfer the stock from Lam to Chintaladevi are in progress.

(3) *Introduction of Tharparkar breed at the Livestock Research Station, Hosur Cattle Farm*.—Pedigreed Tharparkar bulls and cows were not available for purchase from any of the Government farms in the Madhya Pradesh State. Further endeavours will be made during 1952-53.

(4) Appointment of a special committee for Toda Welfare with a view to formulate a scheme to organize a dairy was not considered necessary by the Government.

(5) A breed association for Ongole breed of cattle was organized.

(6) The Pilot Key Village Scheme for Ongole Cattle was dropped.

(7) Orders are awaited with regard to the scheme for opening artificial insemination centres on a Regional basis.

(8) The scheme for the maintenance of a flock of Mandya rams in the Livestock Research Station, Hosur Cattle Farm, was implemented.

(9) A scheme for the opening of a sheep farm on a zonal basis at Hindupur has been submitted to the Government as a Part II scheme for 1952-53.

(10) Four additional village shearing and grading centres of wool were opened during the year.

(11) Proposals for the establishment of a Regional sheep farm (financed by the Indian Council of Agricultural Research) and improvement of woolly type of sheep on the Nilgiris have been submitted and orders are awaited.

(12) A sub-committee constituted by Government have suggested the establishment of a Poultry Farm on a commercial basis. The proposals are under examination.

## PROGRAMME OF WORK FOR 1952-53.

179. The following items denote the broad outlines of the programme of work proposed or expected to be undertaken during 1952-53.

(a) *Veterinary aid*.—(1) Opening of five new Veterinary dispensaries in Guntur, East Godavari, Chingleput, Madurai and Visakhapatnam districts.

(2) Opening of seven touring billets (Minor Veterinary Dispensaries) in Tanjore, Visakhapatnam, Ramanathapuram, North Arcot, Chingleput, Tirunelveli and Guntur districts.

(3) Appointment of 40 Veterinary and Livestock Inspectors.

(4) Opening of seven well-equipped clinical laboratories in charge of a Clinical Pathologist in each district headquarters Veterinary hospitals.

(5) Opening of a special Minor Veterinary Dispensary at Tiruvottiyur.

(6) A comprehensive scheme for eradication of Rinderpest to be enforced throughout the State including border districts, as approved and recommended by the State Livestock Improvement Board.

(7) Scheme for the eradication, control and research on contagious abortion in Madras State, as recommended by the State Livestock Improvement Board.

(8) Equipping the remaining district headquarters Veterinary institutions with cold storage facilities with a view to ensure the potency of biological and other medicines.

(b) *Education*.—(1) Implementation of the University Commission recommendations in respect of staff, equipment, etc., to the extent possible.

(2) Starting of a flaying school at the Madras Veterinary College.

(c) *Disease control*.—(1) Manufacture of Anti-anthrax serum, Brucella Abortus vaccine, Antigen for Plate Test and Tube Test, improving the technique of preparation of Blackquarter vaccine, preparation of Anthrax spore vaccine and laponized Rinderpest Vaccine at the veterinary Biological and Research Institute, Ranipet.

(2) Opening of a Biological sub-station at Bellary to serve the Rayalaseema area.

(3) Work on deep freeze-drying and SPIN FREEZE DRYING of Rinderpest goat virus and laponized virus and its use in the field without serum, as an experimental measure.

(d) *Investigation and Research*.—(1) Continuance of the technical programmes of the Disease Investigation Officers.

(2) Continuance of the research into Bovine Nasal Schistosomiasis, blood groups in sheep and Bacteriology of Bovine Mastitis in the Madras Veterinary College.

(3) Organization and establishment of a Statistical Section in the Animal Husbandry department to deal with problems of Animal Breeding, Nutrition and Disease control in the Madras State.

TABLE I.—Statistics of mortality from contagious diseases and other causes among livestock in the Madras State during the year 1951-52 (as furnished by the Collectors).

| Kinds of animals. |         | Nature of diseases. |        |          |          |             |                         |               |                 |            |
|-------------------|---------|---------------------|--------|----------|----------|-------------|-------------------------|---------------|-----------------|------------|
|                   |         | Glanders.           | Surra. | Dourine. | Anthrax. | Rinderpest. | Hæmorrhagic Septicæmia. | Blackquarter. | Foot and Mouth. | Sheep-pox. |
| (1)               | (2)     | (3)                 | (4)    | (5)      | (6)      | (7)         | (8)                     | (9)           | (10)            |            |
| Equines           | .. ..   | 7                   | ..     | ..       | ..       | ..          | ..                      | ..            | ..              |            |
| Bovines—          |         |                     |        |          |          |             |                         |               |                 |            |
| Cattle            | .. ..   | 39                  | ..     | 983      | 5,148    | 4,295       | 4,579                   | 142           | ..              |            |
| Buffaloes         | .. ..   | ..                  | ..     | 51       | 812      | 813         | 106                     | 1             | ..              |            |
| Ovines—           |         |                     |        |          |          |             |                         |               |                 |            |
| Sheep             | .. ..   | ..                  | ..     | 706      | 96       | ..          | ..                      | ..            | 468             |            |
| Goats             | .. ..   | ..                  | ..     | 74       | ..       | ..          | ..                      | ..            | ..              |            |
| Canines—          |         |                     |        |          |          |             |                         |               |                 |            |
| Dogs              | .. ..   | ..                  | ..     | ..       | ..       | ..          | ..                      | ..            | ..              |            |
| Total             | 1951-52 | ..                  | 46     | ..       | 1,814    | 6,056       | 5,108                   | 4,685         | 143             | 468        |
|                   | 1950-51 | ..                  | 4      | ..       | 695      | 3,842       | 4,680                   | 5,551         | 250             | 188        |
|                   | 1949-50 | ..                  | 205    | ..       | 2,521    | 1,698       | 8,189                   | 6,942         | 290             | 293        |

## Nature of diseases—cont.

| Kinds of animals. | Nature of diseases—cont. |                   |       |         |                                          |                            |               |                                                      |
|-------------------|--------------------------|-------------------|-------|---------|------------------------------------------|----------------------------|---------------|------------------------------------------------------|
|                   | Goat-pox.                | Pneumo-pneumonia. | Seab. | Rabies. | Other contagious and parasitic diseases. | Total contagious diseases. | Other causes. | Grand total of contagious diseases and other causes. |
| (11)              | (12)                     | (13)              | (14)  | (15)    | (16)                                     | (17)                       | (18)          | (19)                                                 |
| Equines           | ..                       | ..                | ..    | ..      | ..                                       | ..                         | ..            | 7                                                    |
| Bovines—          |                          |                   |       |         |                                          |                            |               |                                                      |
| Cattle            | ..                       | ..                | ..    | ..      | ..                                       | ..                         | ..            | 15,186                                               |
| Buffaloes         | ..                       | ..                | ..    | ..      | ..                                       | ..                         | ..            | 1,788                                                |
| Ovines—           |                          |                   |       |         |                                          |                            |               |                                                      |
| Sheep             | ..                       | ..                | ..    | ..      | ..                                       | ..                         | ..            | 1,870                                                |
| Goats             | ..                       | ..                | ..    | ..      | ..                                       | ..                         | ..            | 80                                                   |
| Canines—          |                          |                   |       |         |                                          |                            |               |                                                      |
| Dogs              | ..                       | ..                | ..    | ..      | 48                                       | ..                         | ..            | 48                                                   |
| Total             | 1951-52                  | ..                | ..    | ..      | 48                                       | ..                         | ..            | 18,374                                               |
|                   | 1950-51                  | ..                | ..    | ..      | 341                                      | ..                         | ..            | 15,601                                               |
|                   | 1949-50                  | ..                | ..    | ..      | 214                                      | ..                         | ..            | 22,266                                               |

TABLE II.—Summary of results of preventive inoculations in the Madras State during the year 1951-52.

| 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. |           |
|---------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------|------------------------------------------------------------|-------------------------------------------------|--------------------------------------|-----------|
| (1)                                                                             | (2)                                                       | (3)                | (4)                                                        | (5)                                             | (6)                                  |           |
| 1 Rinderpest .. .. .                                                            | Serum simultaneous with goat virus (in outbreak areas). } | Madras             | .. 766                                                     | 753                                             | 470,812                              |           |
|                                                                                 | Serum simultaneous with goat virus (in clean areas). }    |                    | .. .. .                                                    | ..                                              | ..                                   |           |
|                                                                                 | Serum alone method (in actual outbreak areas). }          |                    | .. .. .                                                    | ..                                              | ..                                   |           |
|                                                                                 | Goat spleen tissue vaccine (in clean areas). }            |                    | .. .. .                                                    | ..                                              | ..                                   |           |
| Total for 1951-52                                                               |                                                           |                    | .. 766                                                     | 753                                             | 470,812                              |           |
| 2 Haemorrhagic Septicæmia ..                                                    | Vaccine alone method.                                     | Madras             | .. 953                                                     | 984                                             | 297,738                              |           |
| 3 Blackquarter .. .. .                                                          | Do.                                                       | Do.                | .. 1,229                                                   | 1,255                                           | 348,222                              |           |
| 4 Anthrax .. .. .                                                               | Serum alone method ..                                     | Mukteswar          | .. 159                                                     | 147                                             | 68,352                               |           |
|                                                                                 | Spore vaccine method.                                     | Do.                | .. .. .                                                    | ..                                              | ..                                   |           |
| 5 Sheep-pox .. .. .                                                             | ....                                                      | ....               | .. 33                                                      | 32                                              | 10,805                               |           |
| 6 Fowl-pox .. .. .                                                              | ....                                                      | ....               | .. 8                                                       | 7                                               | 1,200                                |           |
| 7 Fowl-cholera .. .. .                                                          | ....                                                      | ..                 | .. .. .                                                    | ..                                              | ..                                   |           |
| [Total (3) to (7)] ..                                                           |                                                           |                    | 1951-52 ..                                                 | 1,429                                           | 424,579                              |           |
|                                                                                 |                                                           |                    | 1950-51 ..                                                 | 3,193                                           | 2,776                                | 1,162,545 |
|                                                                                 |                                                           |                    | 1949-50 ..                                                 | 2,318                                           | 3,642                                | 1,827,269 |

|                          | Number of animals which died un inoculated in the course of outbreaks. |          |         | Number of animals inoculated. |          |         | Number of animals which died of the disease in affected villages. |          |         |
|--------------------------|------------------------------------------------------------------------|----------|---------|-------------------------------|----------|---------|-------------------------------------------------------------------|----------|---------|
|                          | Bovines.                                                               | Equines. | Others. | Bovines.                      | Equines. | Others. | Bovines.                                                          | Equines. | Others. |
| (7)                      | (8)                                                                    | (9)      | (10)    | (11)                          | (12)     | (13)    | (14)                                                              | (15)     | (16)    |
| 1 Rinderpest             | 8,522                                                                  | 60       | 188     | 406,609                       | ..       | 6,557   | 12                                                                | ..       | ..      |
|                          | ..                                                                     | ..       | ..      | 205,996                       | ..       | 755     | ..                                                                | ..       | ..      |
|                          | ..                                                                     | ..       | ..      | 21,970                        | ..       | ..      | ..                                                                | ..       | ..      |
|                          | ..                                                                     | ..       | ..      | 91                            | ..       | ..      | ..                                                                | ..       | ..      |
| Total for 1951-52        | 8,522                                                                  | 60       | 188     | 634,696                       | ..       | 7,312   | 12                                                                | ..       | ..      |
| 2 Hæmorrhagic Septicæmia | 4,811                                                                  | ..       | 7       | 215,813                       | ..       | 458     | 13                                                                | ..       | ..      |
| 3 Blackquarter           | 5,725                                                                  | ..       | ..      | 139,014                       | ..       | 500     | ..                                                                | ..       | ..      |
| 4 Anthrax                | 50                                                                     | ..       | 154     | 804                           | ..       | 1,021   | ..                                                                | ..       | ..      |
|                          | 574                                                                    | ..       | 893     | 19,138                        | ..       | 7,952   | ..                                                                | ..       | ..      |
| 5 Sheep-pox              | 565                                                                    | ..       | ..      | ..                            | ..       | 6,474   | ..                                                                | ..       | ..      |
| 6 Fowl-pox               | 40                                                                     | ..       | ..      | ..                            | ..       | 975     | ..                                                                | ..       | ..      |
| 7 Fowl-cholera           | ..                                                                     | ..       | ..      | ..                            | ..       | ..      | ..                                                                | ..       | ..      |
| [Total (3) to (7)]       | 6,904                                                                  | ..       | 547     | 200,756                       | ..       | 16,922  | 13                                                                | ..       | ..      |
|                          | 6,904                                                                  | ..       | 547     | 200,756                       | ..       | 16,922  | 13                                                                | ..       | ..      |
| Grand total              | 14,898                                                                 | ..       | 3,188   | 708,087                       | ..       | 6,985   | 512                                                               | ..       | 66      |
|                          | 17,981                                                                 | ..       | 857     | 800,629                       | ..       | 18,799  | 277                                                               | ..       | 60      |

TABLE III.—Statement showing the number of animals treated and castrated at the Veterinary hospitals and dispensaries in the State of Madras during the year 1951-52.

| Government institutions and private institutions. |            | Number of veterinary institutions. | Number of Veterinary Assistant Surgeons employed. | Number of in-patients treated. |         |        |       |
|---------------------------------------------------|------------|------------------------------------|---------------------------------------------------|--------------------------------|---------|--------|-------|
|                                                   |            |                                    |                                                   | Bovines.                       | Equines | Others | Total |
| (1)                                               | (2)        | (3)                                | (4)                                               | (5)                            | (6)     | (7)    |       |
| Government institutions ..                        | 147        | 149                                | 10,559                                            | 718                            | 1,846   | 18,421 |       |
| Total {                                           | 1950-51 .. | 146                                | 148                                               | 7,860                          | 2,050   | 11,178 |       |
|                                                   | 1949-50 .. | 140                                | 142                                               | 10,374                         | 1,024   | 12,381 |       |

| Government institutions .. | Number of out-patients treated. |          |         | Grand total of in- and out-patients treated during the year. | Total number of cases supplied with medicine but not brought to the institutions. | Castrations performed. |          |         |        |
|----------------------------|---------------------------------|----------|---------|--------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------|----------|---------|--------|
|                            | Bovines.                        | Equines. | Others. |                                                              |                                                                                   | Bovines.               | Equines. | Others. |        |
| (8)                        | (9)                             | (10)     | (11)    | (12)                                                         | (13)                                                                              | (14)                   | (15)     |         |        |
| Government institutions .. | 242,080                         | 10,195   | 74,324  | 326,599                                                      | 10,645                                                                            | 47,049                 | 96       | 22,279  |        |
| Total {                    | 1950-51 ..                      | 267,428  | 15,058  | 78,725                                                       | 352,898                                                                           | 2,915                  | 45,460   | 173     | 16,199 |
|                            | 1949-50 ..                      | 247,804  | 9,763   | 83,000                                                       | 337,898                                                                           | 4,828                  | 50,845   | 180     | 12,461 |

TABLE IV.—Statement showing the number of animals treated and castrated by Veterinary Assistant Surgeons on tour during the year 1951-52.

| (1)        | Number of Veterinary Assistant Surgeons. | Number of villages visited by the Veterinary Assistant Surgeons. | Castrations performed. |         |         | Total number of castrations performed and cases treated. |
|------------|------------------------------------------|------------------------------------------------------------------|------------------------|---------|---------|----------------------------------------------------------|
|            |                                          |                                                                  | Bovines.               | Equines | Others. |                                                          |
| (1)        | (2)                                      | (3)                                                              | (4)                    | (5)     | (6)     | (7)                                                      |
| 1951-52 .. | 178                                      | 17,216                                                           | 40,348                 | 9       | 4,245   | 179,999                                                  |
| 1950-51 .. | 185                                      | 18,219                                                           | 46,229                 | 303     | 10,355  | 198,713                                                  |
| 1949-50 .. | 123                                      | 26,878                                                           | 50,920                 | 16      | 4,596   | 234,941                                                  |

| (1)        | Treated for contagious diseases. |          |         | Treated for non-contagious diseases. |          |         | Total number of castrations performed and cases treated. |
|------------|----------------------------------|----------|---------|--------------------------------------|----------|---------|----------------------------------------------------------|
|            | Bovines.                         | Equines. | Others. | Bovines.                             | Equines. | Others. |                                                          |
| (1)        | (7)                              | (8)      | (9)     | (10)                                 | (11)     | (12)    | (13)                                                     |
| 1951-52 .. | 19,695                           | 50       | 451     | 100,887                              | 1,570    | 12,735  | 179,999                                                  |
| 1950-51 .. | 16,576                           | 42       | 1,126   | 105,007                              | 2,013    | 17,065  | 198,713                                                  |
| 1949-50 .. | 33,248                           | 225      | 1,706   | 86,171                               | 1,077    | 6,004   | 234,941                                                  |

TABLE V (a).—Statement showing the number of approved bulls at stud in the State of Madras during the year 1951-52.

| Serial number and district. | Present on 1st April 1951. |               |         | Obtained during the year. |               |         | Casualties, transfers, etc. during the year. |               |         |
|-----------------------------|----------------------------|---------------|---------|---------------------------|---------------|---------|----------------------------------------------|---------------|---------|
|                             | Government.                | Local bodies. | Others. | Government.               | Local bodies. | Others. | Government.                                  | Local bodies. | Others. |
| (1)                         | (2)                        | (3)           | (4)     | (5)                       | (6)           | (7)     | (8)                                          | (9)           | (10)    |
| 1 Visakhapatnam ..          | 16                         | 13            | 20      | 1                         | 11            | 5       | 2                                            | 1             | 18      |
| 2 East Godavari ..          | 14                         | ..            | 39      | 1                         | 6             | 1       | 1                                            | ..            | 21      |
| 3 West Godavari ..          | 7                          | ..            | 19      | 3                         | 1             | ..      | 1                                            | ..            | 1       |
| 4 Krishna ..                | 15                         | ..            | 18      | ..                        | ..            | ..      | ..                                           | ..            | 29      |
| 5 Guntur ..                 | 2                          | ..            | 4       | 6                         | 5             | 17      | 1                                            | ..            | 7       |
| 6 Nellore ..                | 10                         | ..            | 61      | ..                        | ..            | 4       | 2                                            | 1             | 3       |
| 7 Cuddapah ..               | 22                         | ..            | 12      | 2                         | ..            | 11      | ..                                           | ..            | 7       |
| 8 Anantapur ..              | 15                         | ..            | 87      | 2                         | ..            | ..      | 1                                            | 2             | 7       |
| 9 Bellary ..                | 12                         | 7             | 11      | 3                         | ..            | ..      | 7                                            | 17            | 7       |
| 10 Kurnool ..               | 6                          | ..            | 24      | 6                         | ..            | ..      | ..                                           | ..            | ..      |
| 11 Madras ..                | 20                         | 19            | ..      | ..                        | 14            | ..      | ..                                           | ..            | 12      |
| 12 Chingleput ..            | 7                          | ..            | 7       | 1                         | 2             | ..      | ..                                           | ..            | 7       |
| 13 Chittoor ..              | 12                         | 9             | 23      | 7                         | 1             | 3       | ..                                           | ..            | ..      |
| 14 North Arcot ..           | 7                          | ..            | 18      | 5                         | ..            | ..      | ..                                           | ..            | 27      |
| 15 South Arcot ..           | 6                          | ..            | 2       | 3                         | 4             | ..      | ..                                           | 5             | 2       |
| 16 Tanjore ..               | 12                         | 9             | 127     | 1                         | ..            | ..      | ..                                           | ..            | 4       |
| 17 Tiruchirappalli ..       | 5                          | ..            | 13      | 19                        | 15            | 17      | ..                                           | ..            | 8       |
| 18 Madurai ..               | 20                         | ..            | 27      | 1                         | ..            | ..      | ..                                           | ..            | 34      |
| 19 Ramanathapuram ..        | 4                          | 3             | 9       | 11                        | 3             | ..      | ..                                           | ..            | 42      |
| 20 Tirunelveli ..           | ..                         | ..            | 41      | 81                        | ..            | ..      | ..                                           | ..            | 5       |
| 21 Coimbatore ..            | 51                         | 160           | 168     | 10                        | 20            | 15      | 1                                            | 10            | 6       |
| 22 The Nilgiris ..          | 7                          | 24            | 20      | 19                        | 3             | ..      | ..                                           | 24            | 1       |
| 23 Salem ..                 | 55                         | 1             | 10      | 5                         | ..            | 4       | ..                                           | ..            | 1       |
| 24 South Kanara ..          | 5                          | ..            | 4       | 45                        | ..            | ..      | ..                                           | ..            | ..      |
| 25 Malabar ..               | ..                         | ..            | ..      | ..                        | ..            | ..      | ..                                           | ..            | ..      |
| Total .. { 1951-52 ..       | 329                        | 245           | 704     | 183                       | 51            | 128     | 27                                           | 59            | 229     |
| { 1950-51 ..                | 317                        | 208           | 875     | 100                       | 98            | 404     | 84                                           | 55            | 412     |
| { 1949-50 ..                | 193                        | 154           | 806     | 165                       | 81            | 292     | 41                                           | 32            | 223     |

Number of approved bulls at stud.

Net cost for issue and maintenance of stud bulls.

Population of cows over three years.

Number of bulls.

| Serial number and district. | Balance on hand on 31st March 1952. |               |         |        | Net cost for issue and maintenance of stud bulls. |               |         |          | Population of cows over three years. |        | Number of bulls. |        | Number of cows covered during the year. |
|-----------------------------|-------------------------------------|---------------|---------|--------|---------------------------------------------------|---------------|---------|----------|--------------------------------------|--------|------------------|--------|-----------------------------------------|
|                             | Government.                         | Local bodies. | Others. | Total. | Government.                                       | Local bodies. | Others. | Total.   | (22)                                 | (23)   | (24)             | (25)   |                                         |
| (1)                         | (14)                                | (15)          | (16)    | (17)   | (18)                                              | (19)          | (20)    | (21)     | (22)                                 | (23)   | (24)             | (25)   | (26)                                    |
| 1 Visakhapatnam ..          | 16                                  | 13            | 25      | 54     | ..                                                | ..            | ..      | 14,967   | 200,000                              | 2,000  | 1,962            | 1,722  | 1,722                                   |
| 2 East Godavari ..          | 13                                  | ..            | 32      | 45     | ..                                                | ..            | ..      | 24,866   | 200,458                              | 2,004  | 1,959            | 2,456  | 2,456                                   |
| 3 West Godavari ..          | 6                                   | ..            | 4       | 10     | ..                                                | ..            | ..      | 5,906    | 165,428                              | 1,654  | 1,628            | 2,216  | 2,216                                   |
| 4 Krishna ..                | 17                                  | ..            | 15      | 32     | ..                                                | ..            | ..      | 12,232   | 261,184                              | 2,611  | 2,532            | 2,863  | 2,863                                   |
| 5 Guntur ..                 | 11                                  | ..            | 3       | 14     | ..                                                | ..            | ..      | 4,944    | 118,214                              | 1,182  | 1,176            | 728    | 728                                     |
| 6 Nellore ..                | 15                                  | 6             | 49      | 69     | ..                                                | ..            | ..      | 15,978   | 237,354                              | 2,374  | 2,303            | 4,509  | 4,509                                   |
| 7 Cuddapah ..               | 22                                  | ..            | 16      | 38     | ..                                                | ..            | ..      | 10,380   | 78,640                               | 786    | 752              | 537    | 537                                     |
| 8 Anantapur ..              | 15                                  | ..            | 41      | 56     | ..                                                | ..            | ..      | 9,349    | 14,439                               | 1,444  | 1,392            | 2,458  | 2,458                                   |
| 9 Bellary ..                | 14                                  | 5             | 8       | 27     | ..                                                | ..            | ..      | 7,610    | 94,515                               | 945    | 921              | 1,079  | 1,079                                   |
| 10 Kurnool ..               | 11                                  | ..            | 17      | 28     | ..                                                | ..            | ..      | 8,794    | 91,486                               | 915    | 886              | 4,662  | 4,662                                   |
| 11 Madras ..                | 13                                  | 2             | 14      | 29     | ..                                                | ..            | ..      | 15,407   | 3,817                                | 383    | 4                | 1,045  | 1,045                                   |
| 12 Chingleput ..            | 8                                   | ..            | 9       | 17     | ..                                                | ..            | ..      | 3,602    | 195,537                              | 1,955  | 1,938            | 807    | 807                                     |
| 13 Chittoor ..              | 19                                  | 10            | 14      | 43     | ..                                                | ..            | ..      | 5,491    | 239,835                              | 2,398  | 2,860            | 1,417  | 1,417                                   |
| 14 North Arcot ..           | 12                                  | ..            | 8       | 20     | ..                                                | ..            | ..      | 6,174    | 336,319                              | 3,363  | 3,843            | 786    | 786                                     |
| 15 South Arcot ..           | 9                                   | 4             | 2       | 15     | ..                                                | ..            | ..      | 4,471    | 414,848                              | 4,143  | 4,134            | 440    | 440                                     |
| 16 Tanjore ..               | 13                                  | 4             | 100     | 117    | ..                                                | ..            | ..      | 27,197   | 323,014                              | 3,230  | 3,082            | 1,046  | 1,046                                   |
| 17 Tiruchirappalli ..       | 22                                  | 15            | 23      | 65     | ..                                                | ..            | ..      | 14,589   | 230,827                              | 2,308  | 2,243            | 3,326  | 3,326                                   |
| 18 Madurai ..               | 14                                  | ..            | 89      | 53     | ..                                                | ..            | ..      | 15,289   | 273,584                              | 2,736  | 2,685            | 3,416  | 3,416                                   |
| 19 Ramanathapuram ..        | 16                                  | 8             | 6       | 25     | ..                                                | ..            | ..      | 1,408    | 607,666                              | 588    | 556              | 958    | 958                                     |
| 20 Tirunelveli ..           | 35                                  | ..            | 7       | 42     | ..                                                | ..            | ..      | 5,788    | 141,500                              | 1,415  | 1,370            | 2,267  | 2,267                                   |
| 21 Coimbatore ..            | 60                                  | 170           | 141     | 371    | ..                                                | ..            | ..      | 94,925   | 329,189                              | 3,292  | 3,073            | 25,906 | 25,906                                  |
| 22 The Nilgiris ..          | ..                                  | ..            | 15      | 44     | ..                                                | ..            | ..      | 12,090   | 15,589                               | 160    | ..               | ..     | ..                                      |
| 23 Salem ..                 | 26                                  | 8             | 15      | 49     | ..                                                | ..            | ..      | 10,746   | 362,016                              | 3,620  | 3,575            | 1,889  | 1,889                                   |
| 24 South Kanara ..          | 58                                  | ..            | 8       | 66     | ..                                                | ..            | ..      | 19,247   | 205,494                              | 2,055  | 1,989            | 2,353  | 2,353                                   |
| 25 Malabar ..               | 50                                  | ..            | 3       | 53     | ..                                                | ..            | ..      | 21,656   | 327,708                              | 3,277  | 3,268            | 1,110  | 1,110                                   |
| Total .. { 1951-52 ..       | 495                                 | 234           | 604     | 1,333  | ..                                                | ..            | ..      | 3,73,084 | 5,518,751                            | 50,599 | 49,631           | 69,976 | 69,976                                  |
| { 1950-51 ..                | 329                                 | 245           | 704     | 1,278  | ..                                                | ..            | ..      | 3,65,768 | 5,029,518                            | 50,295 | 49,030           | 68,078 | 68,078                                  |
| { 1949-50 ..                | 317                                 | 203           | 875     | 1,395  | ..                                                | ..            | ..      | 2,33,514 | 5,029,513                            | 50,295 | 48,900           | 56,361 | 56,361                                  |

TABLE V (b).—Statement showing the number of approved buffalo bulls at stud in the State of Madras during the year 1951-52.

| Serial number and district. | Present on 1st April 1951. |               |         | Obtained during the year. |               |         |                      |               |         | Casualties, transfers, etc., during the year. |               |         |
|-----------------------------|----------------------------|---------------|---------|---------------------------|---------------|---------|----------------------|---------------|---------|-----------------------------------------------|---------------|---------|
|                             |                            |               |         | Number.                   |               |         | Average price fixed. |               |         |                                               |               |         |
|                             | Government.                | Local bodies. | Others. | Government.               | Local bodies. | Others. | Government.          | Local bodies. | Others. | Government.                                   | Local bodies. | Others. |
| (1)                         | (2)                        | (3)           | (4)     | (5)                       | (6)           | (7)     | (8)                  | (9)           | (10)    | (11)                                          | (12)          | (13)    |
| 1 Visakhapatnam ..          | 8                          | ..            | 4       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | 8       |
| 2 East Godavari ..          | 13                         | ..            | 60      | ..                        | ..            | 17      | ..                   | ..            | ..      | ..                                            | ..            | 17      |
| 3 West Godavari ..          | 7                          | ..            | 19      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 4 Krishna ..                | 6                          | 1             | 30      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 5 Guntur ..                 | 2                          | ..            | 11      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 6 Nellore ..                | 4                          | ..            | 15      | ..                        | ..            | 1       | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 7 Cuddapah ..               | 9                          | ..            | 5       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 8 Anantapur ..              | ..                         | ..            | 2       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 9 Bellary ..                | 1                          | ..            | 7       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 10 Kurnool ..               | 1                          | ..            | 5       | ..                        | ..            | 2       | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 11 Madras ..                | ..                         | ..            | 4       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 12 Chingleput ..            | ..                         | ..            | 4       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 13 Chittoor ..              | ..                         | ..            | 2       | ..                        | ..            | 1       | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 14 North Arcot ..           | 3                          | ..            | ..      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 15 South Arcot ..           | ..                         | ..            | ..      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 16 Tanjore ..               | 2                          | ..            | 14      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 17 Tiruchirappalli ..       | 5                          | ..            | 13      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 18 Madurai ..               | 10                         | ..            | 4       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 19 Ramanathapuram ..        | 6                          | ..            | 3       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 20 Tirunelveli ..           | 1                          | ..            | 4       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 21 Coimbatore ..            | 3                          | ..            | 15      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 22 The Nilgiris ..          | ..                         | ..            | 1       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 23 Salem ..                 | 1                          | ..            | ..      | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 24 South Kanara ..          | 7                          | ..            | 1       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| 25 Malabar ..               | 2                          | ..            | 3       | ..                        | ..            | ..      | ..                   | ..            | ..      | ..                                            | ..            | ..      |
| Total ..                    | 86                         | 1             | 226     | 65                        | ..            | 45      | ..                   | ..            | ..      | 12                                            | 1             | 57      |
| 1951-52 ..                  | 86                         | 1             | 226     | 65                        | ..            | 45      | ..                   | ..            | ..      | 12                                            | 1             | 57      |
| 1950-51 ..                  | 98                         | ..            | 318     | 24                        | ..            | 60      | ..                   | ..            | ..      | 31                                            | 1             | 154     |
| 1949-50 ..                  | 71                         | 3             | 296     | 41                        | ..            | 94      | ..                   | ..            | ..      | 19                                            | 2             | 87      |

## Number of approved bulls at stud.

## Net cost for issue and maintenance of stud bulls.

## Population of approved buffaloes over three years according to census.

## Number of bulls.

## Number of approved buffaloes covered during the year.

| Balance on hand on<br>31st March 1952. |                  |         |        |             |               |         |        |           |        |        |        | Population of<br>buffaloes over<br>years according<br>census. | Required to be<br>maintained<br>at 1 per 100. | Short of re-<br>quirements. | Number<br>of<br>buffaloes cov-<br>ered<br>during the year. |
|----------------------------------------|------------------|---------|--------|-------------|---------------|---------|--------|-----------|--------|--------|--------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------|------------------------------------------------------------|
| Government.                            | Local<br>bodies. | Others. | Total. | Government. | Local bodies. | Others. | Total. |           |        |        |        |                                                               |                                               |                             |                                                            |
| (14)                                   | (15)             | (16)    | (17)   | (18)        | (19)          | (20)    | (21)   | (22)      | (23)   | (24)   | (25)   |                                                               |                                               |                             |                                                            |
| 1 Visakhapatnam ..                     | 3                | ..      | 1      | 4           | ..            | ..      | ..     | 15,000    | 1,500  | 1,496  | 289    |                                                               |                                               |                             |                                                            |
| 2 East Godavari ..                     | 19               | ..      | 60     | 79          | ..            | ..      | ..     | 214,247   | 2,142  | 2,058  | 5,987  |                                                               |                                               |                             |                                                            |
| 3 West Godavari ..                     | 9                | ..      | 22     | 31          | ..            | ..      | ..     | 156,839   | 1,568  | 1,527  | 3,059  |                                                               |                                               |                             |                                                            |
| 4 Krishna ..                           | 7                | ..      | 37     | 44          | ..            | ..      | ..     | 201,184   | 2,012  | 2,575  | 1,977  |                                                               |                                               |                             |                                                            |
| 5 Guntur ..                            | 11               | ..      | 6      | 17          | ..            | ..      | ..     | 354,500   | 3,545  | 3,532  | 719    |                                                               |                                               |                             |                                                            |
| 6 Nellore ..                           | 5                | ..      | 14     | 19          | ..            | ..      | ..     | 255,850   | 2,559  | 2,540  | 1,439  |                                                               |                                               |                             |                                                            |
| 7 Cuddapah ..                          | 7                | ..      | 8      | 15          | ..            | ..      | ..     | 147,813   | 1,478  | 1,459  | 199    |                                                               |                                               |                             |                                                            |
| 8 Anantapur ..                         | ..               | ..      | 2      | 2           | ..            | ..      | ..     | 87,997    | 880    | 878    | 53     |                                                               |                                               |                             |                                                            |
| 9 Bellary ..                           | 9                | ..      | 1      | 10          | ..            | ..      | ..     | 80,974    | 810    | 799    | 353    |                                                               |                                               |                             |                                                            |
| 10 Kurnool ..                          | 6                | ..      | 5      | 11          | ..            | ..      | ..     | 169,130   | 1,691  | 1,683  | 457    |                                                               |                                               |                             |                                                            |
| 11 Madras ..                           | 3                | ..      | 4      | 7           | ..            | ..      | ..     | 4,413     | 44     | 40     | 325    |                                                               |                                               |                             |                                                            |
| 12 Chingleput ..                       | 2                | ..      | 2      | 4           | ..            | ..      | ..     | 88,225    | 882    | 879    | 108    |                                                               |                                               |                             |                                                            |
| 13 Chittoor ..                         | 3                | ..      | 2      | 5           | ..            | ..      | ..     | 91,251    | 913    | 908    | 36     |                                                               |                                               |                             |                                                            |
| 14 North Arcot ..                      | 3                | ..      | ..     | 3           | ..            | ..      | ..     | 65,091    | 657    | 453    | 267    |                                                               |                                               |                             |                                                            |
| 15 South Arcot ..                      | 1                | ..      | ..     | 1           | ..            | ..      | ..     | 65,408    | 654    | 653    | 49     |                                                               |                                               |                             |                                                            |
| 16 Tanjore ..                          | 2                | ..      | 9      | 11          | ..            | ..      | ..     | 128,399   | 1,284  | 1,268  | 1,046  |                                                               |                                               |                             |                                                            |
| 17 Tiruchirappalli ..                  | 5                | ..      | 15     | 20          | ..            | ..      | ..     | 118,908   | 1,189  | 1,119  | 1,177  |                                                               |                                               |                             |                                                            |
| 18 Madurai ..                          | 5                | ..      | 5      | 10          | ..            | ..      | ..     | 84,988    | 850    | 840    | 1,457  |                                                               |                                               |                             |                                                            |
| 19 Ramanathapuram ..                   | 5                | ..      | 2      | 7           | ..            | ..      | ..     | 52,782    | 527    | 518    | 449    |                                                               |                                               |                             |                                                            |
| 20 Tirunelveli ..                      | 10               | ..      | 5      | 15          | ..            | ..      | ..     | 91,913    | 912    | 907    | 841    |                                                               |                                               |                             |                                                            |
| 21 Coimbatore ..                       | ..               | ..      | ..     | ..          | ..            | ..      | ..     | 108,722   | 1,087  | 1,090  | 574    |                                                               |                                               |                             |                                                            |
| 22 The Nilgiris ..                     | 8                | ..      | 17     | 25          | ..            | ..      | ..     | 10,230    | 102    | 101    | ..     |                                                               |                                               |                             |                                                            |
| 23 Salem ..                            | 1                | ..      | ..     | 1           | ..            | ..      | ..     | 98,692    | 987    | 984    | 24     |                                                               |                                               |                             |                                                            |
| 24 South Kanara ..                     | 8                | ..      | 1      | 9           | ..            | ..      | ..     | 50,323    | 503    | 495    | 791    |                                                               |                                               |                             |                                                            |
| 25 Malabar ..                          | 7                | ..      | 2      | 9           | ..            | ..      | ..     | 44,280    | 448    | 488    | 47     |                                                               |                                               |                             |                                                            |
| Total .. { 1951-52 ..                  | 139              | 1       | 315    | 354         | ..            | ..      | ..     | 2,385,722 | 23,499 | 23,378 | 21,158 |                                                               |                                               |                             |                                                            |
| 1950-51 ..                             | 86               | ..      | 226    | 312         | ..            | ..      | ..     | 2,119,014 | 21,195 | 21,542 | 19,453 |                                                               |                                               |                             |                                                            |
| 1949-50 ..                             | 71               | 3       | 296    | 369         | ..            | ..      | ..     | 2,319,074 | 23,195 | 22,798 | 12,855 |                                                               |                                               |                             |                                                            |

TABLE V (c).—Statement showing the number of horses, donkeys and stallions at stud in the State of Madras during the year 1951-52.

| District.            | Number as on 1st April 1951. |               |         | Obtained during the year. |               |         | Casualties. |               |         | Balance on 31st March 1952. |               |         | Number of mares covered.  |          | Population of mares. |          |
|----------------------|------------------------------|---------------|---------|---------------------------|---------------|---------|-------------|---------------|---------|-----------------------------|---------------|---------|---------------------------|----------|----------------------|----------|
|                      |                              |               |         |                           |               |         |             |               |         |                             |               |         |                           |          |                      |          |
|                      | Government.                  | Local bodies. | Others. | Government.               | Local bodies. | Others. | Government. | Local bodies. | Others. | Government.                 | Local bodies. | Others. | Horses.                   | Donkeys. | Horses.              | Donkeys. |
| (1)                  | (2)                          | (3)           | (4)     | (5)                       | (6)           | (7)     | (8)         | (9)           | (10)    | (11)                        | (12)          | (13)    | (14)                      | (15)     | (16)                 | (17)     |
| Coimbatore West ..   | 2                            | ..            | ..      | ..                        | ..            | ..      | ..          | ..            | ..      | 2                           | ..            | ..      | 27                        | ..       | ..                   | ..       |
| Coimbatore East ..   | 2                            | ..            | ..      | ..                        | ..            | ..      | ..          | ..            | ..      | 2                           | ..            | ..      | 51                        | ..       | ..                   | ..       |
| Hosur Cattle Farm .. | 1                            | ..            | ..      | ..                        | ..            | ..      | ..          | ..            | ..      | 1                           | ..            | ..      | 3                         | ..       | ..                   | ..       |
|                      |                              |               |         |                           |               |         |             |               |         |                             |               |         | plus 38 outside services. |          |                      |          |
| Total ..             | 5                            | ..            | ..      | ..                        | ..            | ..      | ..          | ..            | ..      | 5                           | ..            | ..      | 119                       | ..       | 6,145                | 28,285   |
| 1951-52 ..           | 5                            | ..            | ..      | ..                        | ..            | ..      | ..          | ..            | ..      | 5                           | ..            | ..      | 119                       | ..       | 6,145                | 28,285   |
| 1950-51 ..           | 8                            | ..            | 3       | 1                         | ..            | ..      | ..          | ..            | ..      | 8                           | ..            | 3       | 71                        | ..       | 6,145                | 28,285   |
| 1949-50 ..           | 8                            | ..            | 2       | ..                        | ..            | ..      | ..          | ..            | ..      | 8                           | ..            | ..      | 123                       | ..       | 6,145                | 28,285   |

TABLE VI.—Abstract of particulars regarding cattle fairs and shows held during the year 1951-52 in the State of Madras.

|                                                    |                       |
|----------------------------------------------------|-----------------------|
| Year ..                                            | 1951-52.              |
| Total number of shows and fairs ..                 | 107                   |
| Total number of stock present—                     |                       |
| Bulls ..                                           | 23,118                |
| Bullocks ..                                        | 66,091                |
| Cows ..                                            | 14,878                |
| Young stock ..                                     | 10,134                |
| Buffaloes ..                                       | 9,412                 |
| Camels ..                                          | 21                    |
| Ponies ..                                          | 220                   |
| Other animals ..                                   | 3,976                 |
| Total number of animals sold—                      |                       |
| Bulls ..                                           | 7,358                 |
| Average price ..                                   | ..                    |
| Bullocks ..                                        | 18,074                |
| Average price ..                                   | ..                    |
| Cows ..                                            | 2,085                 |
| Average price ..                                   | ..                    |
| Buffaloes ..                                       | 1,087                 |
| Average price ..                                   | ..                    |
| Young stock ..                                     | 367                   |
| Average price ..                                   | ..                    |
| Ponies ..                                          | ..                    |
| Average price ..                                   | ..                    |
| Other animals ..                                   | ..                    |
| Average price ..                                   | ..                    |
| Price money awarded—                               |                       |
| Amount realised in fees ..                         | RS. A. P. 250 0 0     |
| Total number of animals that competed for prize .. | 13,315                |
| From provincial funds ..                           | RS. A. P. 14,385 0 0  |
| From local funds ..                                | 5,690 0 0             |
| Other sources ..                                   | 18,230 4 6            |
| Total ..                                           | 38,305 4 6            |
| Amount actually awarded ..                         | RS. A. P. 19,555 12 0 |
| Number of medals, prizes, etc., awarded ..         | 3,440 0 0             |

TABLE VII.—Statistics of livestock slaughtered in recognised slaughter-houses in the State of Madras during the year 1951-52.

| Year.         | Number of recognized slaughter-houses for |                  |                     |                  |                  |                  |                  |                  | Number of unlicen-<br>sed slaughter-<br>houses. | Number of animals slaughtered. |                            |         |               |
|---------------|-------------------------------------------|------------------|---------------------|------------------|------------------|------------------|------------------|------------------|-------------------------------------------------|--------------------------------|----------------------------|---------|---------------|
|               | Cattle and<br>buffaloes.                  |                  | Sheep and<br>goats. |                  | Pigs.            |                  | Others.          |                  |                                                 | Cows.                          | Bulls<br>and<br>buffaloes. | Calves. | He-buffaloes. |
|               | Govern-<br>ment.                          | Local<br>bodies. | Govern-<br>ment.    | Local<br>bodies. | Govern-<br>ment. | Local<br>bodies. | Govern-<br>ment. | Local<br>bodies. |                                                 |                                |                            |         |               |
|               |                                           |                  |                     |                  |                  |                  |                  |                  |                                                 |                                |                            |         |               |
| (1)           | (2)                                       | (3)              | (4)                 | (5)              | (6)              | (7)              | (8)              | (9)              | (10)                                            | (11)                           | (12)                       | (13)    | (14)          |
| 1951-52 .. .. | 95                                        |                  | 1                   | 296              | ..               | 27               | ..               | 5                | ..                                              | 33,891                         | 76,124                     | 740     | 29,582        |
| 1950-51 .. .. | 1                                         | 110              | 3                   | 358              | 1                | 19               | ..               | 3                | 11                                              | 29,398                         | 67,334                     | 151     | 33,601        |
| 1949-50 .. .. | 104                                       |                  | 3                   | 352              | 1                | 15               | 1                | 12               | 8                                               | 28,035                         | 64,877                     | 2,874   | 19,547        |

|          | Number of animals slaughtered—cont. |           |           |        |                   | Slaughter fee per head. |            |                     |       |         |     |    |    |     |    | Total animals slaughtered. |    |     |    |    |     |    |           |
|----------|-------------------------------------|-----------|-----------|--------|-------------------|-------------------------|------------|---------------------|-------|---------|-----|----|----|-----|----|----------------------------|----|-----|----|----|-----|----|-----------|
|          | Shee-<br>buffaloes.                 | Sheep.    | Goats.    | Pigs.  | Other<br>animals. | Cattle.                 | Buffaloes. | Sheep and<br>goats. | Pigs. | Others. |     |    |    |     |    |                            |    |     |    |    |     |    |           |
|          | (15)                                | (16)      | (17)      | (18)   | (19)              | (20)                    | (21)       | (22)                | (23)  | (24)    | RS. | A. | P. | RS. | A. |                            | P. | RS. | A. | P. | RS. | A. | P.        |
| 1951-52. | 12,266                              | 1,485,367 | 837,793   | 7,690  | 1,380             | {                       | 0          | 4                   | 0     | 0       | 4   | 0  | 0  | 0   | 6  | 0                          | 2  | 0   | 0  | 2  | 0   | {  | 2,504,838 |
|          |                                     |           |           |        |                   |                         | 20         | to                  | 0     | 0       | to  | 0  | 1  | 2   | 0  | 5                          | 0  | to  | 0  | to | 0   |    | 6         |
| 1950-51. | 8,158                               | 1,663,388 | 1,097,257 | 8,846  | 1,718             | {                       | 0          | 4                   | 0     | 0       | 4   | 0  | 0  | 0   | 6  | 0                          | 2  | 0   | 0  | 2  | 0   | {  | 2,909,851 |
|          |                                     |           |           |        |                   |                         | 20         | to                  | 0     | 0       | to  | 0  | 1  | 2   | 0  | 5                          | 0  | to  | 0  | to | 0   |    | 6         |
| 1949-50. | 9,903                               | 1,579,102 | 1,137,003 | 12,889 | 4,715             | {                       | 0          | 4                   | 0     | 0       | 2   | 6  | 0  | 0   | 6  | 0                          | 0  | 6   | 0  | 2  | 0   | {  | 2,858,945 |
|          |                                     |           |           |        |                   |                         | 20         | to                  | 0     | 0       | to  | 0  | 8  | 0   | 0  | 8                          | 0  | 1   | to | 0  | to  |    | 0         |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52.

|                                                     | RS.      | RS.      |
|-----------------------------------------------------|----------|----------|
| <i>Receipts.</i>                                    |          |          |
| XXX. Veterinary—                                    |          |          |
| (a) Veterinary College fees ..                      | 69,300   |          |
| (b) Other receipts ..                               | 6,99,466 |          |
| (c) Collection of payments for services rendered .. | 6,457    |          |
| (d) Deduct refunds ..                               | — 2,757  |          |
|                                                     |          | 7,72,466 |

|                                    | RS.    | RS.      |
|------------------------------------|--------|----------|
| <i>Charges.</i>                    |        |          |
| 41. Veterinary—a. Superintendence— |        |          |
| A. Direction—                      |        |          |
| 1 Pay of officers ..               | 28,518 |          |
| 2 Pay of establishment ..          | 36,847 |          |
| 3 Allowances ..                    | 29,731 |          |
| 4 Office contingencies ..          | 11,236 |          |
| 5 Other charges ..                 | 38,723 |          |
|                                    |        | 1,45,055 |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52—cont.

|                                              | RS.      | RS.      |
|----------------------------------------------|----------|----------|
| <i>Charges—cont.</i>                         |          |          |
| 41. Veterinary—a. Superintendence—cont.      |          |          |
| B. District Officers—                        |          |          |
| 1 Pay of officers ..                         | 76,122   |          |
| 2 Pay of establishment ..                    | 62,993   |          |
| 3 Allowances ..                              | 89,850   |          |
| 4 Office contingencies ..                    | 34,885   |          |
| 5 Other charges ..                           | ..       | 2,63,850 |
| C. Post-war Reconstruction—                  |          |          |
| I. Direction—                                |          |          |
| 1 Pay of officers ..                         | 22,055   |          |
| 2 Pay of establishment ..                    | 2,254    |          |
| 3 Allowances ..                              | 13,404   |          |
| 4 Office contingencies ..                    | 1,201    | 38,914   |
| II. District officers—                       |          |          |
| 1 Pay of officers ..                         | 25,588   |          |
| 2 Pay of establishments ..                   | 19,045   |          |
| 3 Allowances ..                              | 30,324   |          |
| 4 Other contingencies ..                     | 14,658   | 89,616   |
| 41. Veterinary—b. Subordinate Establishment— |          |          |
| A. Excluding Post-war Reconstruction—        |          |          |
| I. Ordinary areas—                           |          |          |
| 1 Pay of establishment ..                    | 4,07,092 |          |
| 2 Allowances ..                              | 2,50,974 |          |
| 3 Office contingencies ..                    | 24,299   |          |
| 4 Purchase of sera including freight ..      | 12,482   | 6,94,847 |
| II. Scheduled areas—                         |          |          |
| 1 Pay of establishment ..                    | 5,711    |          |
| 2 Allowances ..                              | 4,393    |          |
| 3 Contingencies ..                           | 610      | 10,714   |
| B. Post-war Reconstruction—                  |          |          |
| I. Ordinary areas—                           |          |          |
| 1 Pay of establishment ..                    | 72,364   |          |
| 2 Allowances ..                              | 58,417   |          |
| 3 Other charges ..                           | 1,684    | 1,32,465 |
| II. Scheduled areas—                         |          |          |
| 1 Pay of establishment ..                    | 3,558    |          |
| 2 Allowances ..                              | 2,050    |          |
| 3 Contingencies ..                           | 172      | 5,780    |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52—cont.

|                                                                                  | RS.      | RS.      |
|----------------------------------------------------------------------------------|----------|----------|
| <i>Charges—cont.</i>                                                             |          |          |
| I. Veterinary—c. Hospitals and Dispensaries—                                     |          |          |
| A. Excluding Post-War Reconstruction—                                            |          |          |
| I. Ordinary areas—                                                               |          |          |
| 1 Pay of establishment .. .. .                                                   | 3,06,695 |          |
| 2 Allowances .. .. .                                                             | 97,667   |          |
| 3 Office contingencies .. .. .                                                   | 2,25,351 |          |
| 4 Other charges .. .. .                                                          | 1,75,759 |          |
| 5 Grant to the Madras Corporation for veterinary dispensaries.                   | 2,400    |          |
|                                                                                  |          | 8,07,872 |
| II. Scheduled areas—                                                             |          |          |
| Pay of establishment and travelling allowance .. .. .                            | 3,725    |          |
| Dearness allowance .. .. .                                                       | 634      |          |
| Other charges .. .. .                                                            |          |          |
| Dearness allowance to menials .. .. .                                            | 3,113    |          |
|                                                                                  |          | 7,472    |
| B. Post-War Reconstruction—                                                      |          |          |
| 1 Pay of establishment .. .. .                                                   | 11,616   |          |
| 2 Allowances .. .. .                                                             | 4,489    |          |
| 3 Office contingencies .. .. .                                                   | 10,900   |          |
|                                                                                  |          | 27,005   |
| 41. Veterinary—d. Education and Research.                                        |          |          |
| A. Veterinary College—                                                           |          |          |
| 1 Pay of officers .. .. .                                                        | 55,086   |          |
| 2 Pay of establishments .. .. .                                                  | 69,008   |          |
| 3 Allowances and honoraria .. .. .                                               | 51,440   |          |
| 4 Office contingencies .. .. .                                                   | 44,684   |          |
| 5 Other charges .. .. .                                                          | 1,96,104 |          |
|                                                                                  |          | 4,16,322 |
| B. Veterinary Investigation—                                                     |          |          |
| 1 Pay of staff .. .. .                                                           | 7,004    |          |
| 2 Allowances .. .. .                                                             | 5,982    |          |
| 3 Office contingencies .. .. .                                                   | 2,154    |          |
| 4 Mobile Laboratory .. .. .                                                      | 3,418    |          |
|                                                                                  |          | 18,558   |
| C. Enquiry into the Helminthiasis of cattle—                                     |          |          |
| 1 Pay of officers .. .. .                                                        | 4,560    |          |
| 2 Pay of establishments .. .. .                                                  | 2,190    |          |
| 3 Allowances .. .. .                                                             | 2,391    |          |
| 4 Office contingencies .. .. .                                                   | 571      |          |
| 5 Contribution to Indian Council of Agricultural Research Provident Fund .. .. . | 37       |          |
|                                                                                  |          | 9,749    |
| D. Investigation into the diseases of poultry—                                   |          |          |
| 1 Pay of officers .. .. .                                                        | 3,249    |          |
| 2 Pay of establishments .. .. .                                                  | 1,479    |          |
| 3 Allowances .. .. .                                                             | 3,768    |          |
| 4 Other charges .. .. .                                                          | 1,228    |          |
|                                                                                  |          | 9,724    |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52—cont.

|                                                                                                       | RS.      | RS.      |
|-------------------------------------------------------------------------------------------------------|----------|----------|
| <i>Charges—cont.</i>                                                                                  |          |          |
| 41. Veterinary—d. Education and Research—cont.                                                        |          |          |
| E. Post-War Reconstruction—                                                                           |          |          |
| (i) Technical training in the United Kingdom and United States of America .. .. .                     | 456      |          |
| (ii) Allowances to candidates for technical training in the United States of America .. .. .          | 2,753    |          |
| (iii) Investigation into the diseases of sheep and goats—                                             |          |          |
| 1. Pay of officers .. .. .                                                                            | 3,904    |          |
| 2. Pay of establishments .. .. .                                                                      | 1,133    |          |
| 3. Allowances .. .. .                                                                                 | 3,708    |          |
| 4. Other charges .. .. .                                                                              | 1,459    |          |
|                                                                                                       |          | 10,204   |
| (iv) Education and training of demobilized personnel maintenance allowances and cost of books .. .. . | 1,342    |          |
| (v) Veterinary College—                                                                               |          |          |
| 1. Pay of officers and establishment .. .. .                                                          | 9,262    |          |
| 2. Allowances .. .. .                                                                                 | 2,361    |          |
| 3. Office contingencies .. .. .                                                                       | 637      |          |
|                                                                                                       |          | 12,260   |
| F. Indigenous drugs scheme—                                                                           |          |          |
| 1 Pay of officers .. .. .                                                                             | 2,716    |          |
| 2 Pay of establishment .. .. .                                                                        | 826      |          |
| 3 Allowances .. .. .                                                                                  | 3,221    |          |
| 4 Office contingencies .. .. .                                                                        | 142      |          |
|                                                                                                       |          | 6,905    |
| G. Scheme for tuberculin testing of cattle—                                                           |          |          |
| 1 Pay of establishment .. .. .                                                                        | 6,116    |          |
| 2 Allowances .. .. .                                                                                  | 4,726    |          |
| 3 Other charges .. .. .                                                                               | 109      |          |
|                                                                                                       |          | 10,952   |
| 41. e. Other charges—                                                                                 |          |          |
| A. Veterinary Biological and Research Institute, Ranipet—                                             |          |          |
| 1 Pay of officers .. .. .                                                                             | 4,657    |          |
| 2 Pay of establishment .. .. .                                                                        | 32,165   |          |
| 3 Allowances .. .. .                                                                                  | 14,761   |          |
| 4 Office contingencies .. .. .                                                                        | 79,398   |          |
| 5 Other charges .. .. .                                                                               | 2,07,787 |          |
|                                                                                                       |          | 3,38,768 |
| B. Manufacture of Ranikhet disease vaccine—                                                           |          |          |
| 1 Pay of officers .. .. .                                                                             | 3,308    |          |
| 2 Pay of establishment .. .. .                                                                        | 4,175    |          |
| 3 Allowances .. .. .                                                                                  | 3,583    |          |
| 4 Other charges .. .. .                                                                               | 7,376    |          |
|                                                                                                       |          | 18,447   |
| 41. f. Breeding operations—                                                                           |          |          |
| B. Research stations—                                                                                 |          |          |
| 1 Pay of officers .. .. .                                                                             | 5,934    |          |
| 2 Pay of establishments .. .. .                                                                       | 35,886   |          |
| 3 Allowances .. .. .                                                                                  | 25,178   |          |
| 4 Other charges .. .. .                                                                               | 7,81,544 |          |
|                                                                                                       |          | 8,48,542 |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52—cont.

|                                                                         | RS.    | RS.    |
|-------------------------------------------------------------------------|--------|--------|
| Charges—cont.                                                           |        |        |
| 41. f. Breeding operations—cont.                                        |        |        |
| 9. Scheme for the formation of a Breeders' Association for Ongoles—     |        |        |
| 1. Pay of establishment .. .. .                                         | 1,168  |        |
| 2 Allowances .. .. .                                                    | 793    |        |
| Other charges Contingencies .. .. .                                     | 25     |        |
|                                                                         | <hr/>  | 1,986  |
| D. Pony Breeding Improvement Scheme—                                    |        |        |
| 1 Miscellaneous .. .. .                                                 | 4,392  |        |
| 2 Dearness allowance .. .. .                                            | 849    |        |
|                                                                         | <hr/>  | 5,241  |
| E. Poultry Development Scheme—                                          |        |        |
| 1 Pay of officers .. .. .                                               | 4,560  |        |
| 2 Pay of establishment .. .. .                                          | 11,432 |        |
| 3 Allowances .. .. .                                                    | 9,301  |        |
| 4 Other charges .. .. .                                                 |        |        |
| 5 Dearness allowance to menials .. .. .                                 | 45,120 |        |
| 6 Schemes for sub-idizing poultry farms }                               |        |        |
|                                                                         | <hr/>  | 70,413 |
| F. Other charges—                                                       |        |        |
| Grants to Agricultural Association Exhibition Committees, etc.          | 17,572 |        |
| Contribution to—                                                        |        |        |
| (a) Local bodies for purchase and maintenance of breeding bulls .. .. . | 25,480 |        |
| (b) American Arcot Mission for poultry improvement .. .. .              | 9,417  |        |
| (c) Mecheri Co-operative Cattle Breeding Society .. .. .                | 2,935  |        |
|                                                                         | <hr/>  | 55,404 |
| G. Scheme for the salvage of dry cows—                                  |        |        |
| 1 Pay of establishment .. .. .                                          | 5,078  |        |
| 2 Allowances .. .. .                                                    | 4,341  |        |
| 3 Other charges and Dearness allowance to menials .. .. .               | 65,718 |        |
|                                                                         | <hr/>  | 75,137 |
| H. Post-war Reconstruction—                                             |        |        |
| (i) Scheme for the development of sheep and goats—                      |        |        |
| Pay of officers .. .. .                                                 | 3,311  |        |
| Pay of establishment .. .. .                                            | 2,439  |        |
| Allowances .. .. .                                                      | 7,278  |        |
| Other charges .. .. .                                                   | 2,779  |        |
| Dearness allowance to menials }                                         |        |        |
|                                                                         | <hr/>  | 15,807 |
| C. Livestock Improvement Scheme—                                        |        |        |
| 1. Cattle Improvement—                                                  |        |        |
| Scheme to assist Sugalis .. .. .                                        | 2,837  |        |
| Dearness allowance to menials .. .. .                                   | 444    |        |
|                                                                         | <hr/>  | 3,281  |
| 2. Sheep Breeding Scheme—                                               |        |        |
| Sheep Breeding Scheme .. .. .                                           | 7,574  |        |
| Dearness allowance to staff .. .. .                                     | 669    |        |
| Dearness allowance to menials .. .. .                                   | 1,392  |        |
|                                                                         | <hr/>  | 9,635  |

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1951-52—cont.

|                                                                                                    | RS.       | RS.       |
|----------------------------------------------------------------------------------------------------|-----------|-----------|
| Charges—cont.                                                                                      |           |           |
| 41. f. Breeding operations—cont.                                                                   |           |           |
| C. Livestock Information Scheme—cont.                                                              |           |           |
| 3. Other charges—                                                                                  |           |           |
| Maintenance of cattle .. .. .                                                                      | 99,147    |           |
| Premia for maintenance of breeding bulls .. .. .                                                   | 1,64,480  |           |
| Dearness allowance to menials .. .. .                                                              | 12,873    |           |
| Scheme for the improvement of Kangayam breed of cattle.                                            | 32,455    |           |
| Dearness allowance to staff .. .. .                                                                | 1,504     |           |
| Dearness allowance to menials .. .. .                                                              | 1,426     |           |
|                                                                                                    | <hr/>     | 3,11,885  |
| Scheme to maintain a flock of Mandya rams at Livestock Research Station, Hosur Cattle Farm.        | ..        |           |
| Scheme for the improvement of sheep in Ananthapur district.                                        | 150       |           |
| Scheme for the improvement of woolly breed of sheep in the districts.                              | ..        |           |
| Scheme for the improvement of milch goats in South Kanara district.                                | 210       |           |
| 4. Scheme for formation of a Kangayam Breeders' Co-operative Society.                              | ..        |           |
| 5. Scheme for improvement of mutton or hairy type of sheep ..                                      | 8         |           |
| 6. Subsidy to Pattagar, Palayakottai .. .. .                                                       | 15,000    |           |
| Subsidy to owners of calves .. .. .                                                                | 63,200    |           |
| 7. Scheme for the grant of subsidy to owners of calves in Madras City—Pay of Establishment .. .. . | 3,155     |           |
| Allowances .. .. .                                                                                 | 1,737     |           |
| Other charges—Contingencies .. .. .                                                                | 18,176    |           |
|                                                                                                    | <hr/>     | 23,068    |
| 8. (i) Scheme for the improvement of woolly sheep in the Nilgiris—                                 |           |           |
| Pay of establishment .. .. .                                                                       | 3,883     |           |
| Allowances .. .. .                                                                                 | 3,870     |           |
| Other charges—Dearness allowance to menials .. .. .                                                | 23,630    |           |
|                                                                                                    | <hr/>     | 31,383    |
| (ii) Scheme for the improvement of Livestock—                                                      |           |           |
| Pay of Establishment .. .. .                                                                       | ..        |           |
| Allowances .. .. .                                                                                 | ..        |           |
| Other charges .. .. .                                                                              | 1,00,897  |           |
| (iii) District farms—                                                                              |           |           |
| Pay of Officers .. .. .                                                                            | 6,232     |           |
| Pay of Establishment .. .. .                                                                       | 28,222    |           |
| Allowances .. .. .                                                                                 | 14,607    |           |
| Other charges .. .. .                                                                              | 10,00,269 |           |
|                                                                                                    | <hr/>     | 10,49,330 |
| (iv) Cattle breeding farms—                                                                        |           |           |
| Pay of officers .. .. .                                                                            | 8,209     |           |
| Pay of establishments .. .. .                                                                      | 15,824    |           |
| Allowances .. .. .                                                                                 | 13,768    |           |
| Other charges .. .. .                                                                              | 3,03,240  |           |
|                                                                                                    | <hr/>     | 3,41,211  |

TABLE X.—*Examination results of the Madras Veterinary College, 1951-52.*

| Number of students admitted.   |               |                                       |                                       |                                        |        | Educational qualifications.         | Results of the examination. |
|--------------------------------|---------------|---------------------------------------|---------------------------------------|----------------------------------------|--------|-------------------------------------|-----------------------------|
| (1)                            | (2)           | (3)                                   | (4)                                   | (5)                                    | (6)    | (7)                                 | (8)                         |
| Number of scholarship holders. | Free tuition. | Rs. 200 per annum (full tuition fee). | Rs. 120 per annum (full tuition fee). | Rs. 80 per (tuition fee for two terms) | Total. | Intermediate in Arts or in Science. | B.A. and B.Sc. and Honours. |
| 99                             | 8             | 71                                    | 281                                   | 4                                      | 314    | 292                                 | 22                          |
|                                |               |                                       |                                       |                                        |        |                                     | Appeared.                   |
|                                |               |                                       |                                       |                                        |        |                                     | (9)                         |

**Actual**—B.V.Sc. Preliminary—83,  
 B.V.Sc. Intermediate, Part I—96,  
 B.V.Sc. Intermediate, Part II—78,  
 B.V.Sc. Final (Old Regulation)—27  
 and B.V.Sc. Final (New Regulation)—  
 77.  
**Supplementary**—B.V.Sc. Preliminary—42,  
 B.V.Sc. Intermediate, Part I—61,  
 B.V.Sc. Intermediate, Part II—58,  
 B.V.Sc. Final (Old Regulation)—9  
 and B.V.Sc. Final (New Regulation)—  
 51.

### Results of the examination—cont.

| Results of the examination—cont.                   |                                                                  | Employment of graduates.                               |                                                    |
|----------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------|
| <p><b>Passed.</b></p> <p>(10)</p>                  | <p>Instructions prolonged on account of failure.</p> <p>(11)</p> | <p>Receipts.</p> <p>(12)</p>                           | <p>Expenditure.</p> <p>(13)</p>                    |
| <p><b>Employment of graduates.</b></p> <p>(14)</p> | <p>Total number passed.</p> <p>(15)</p>                          | <p>In the service of Local Government.</p> <p>(16)</p> | <p>In the service of other bodies.</p> <p>(17)</p> |
| <p>In private practice.</p> <p>(18)</p>            | <p>Number unemployed.</p> <p>(19)</p>                            | <p>Remarks.</p> <p>(20)</p>                            |                                                    |

(a) Cattle and buffaloes.

[illegible]

**(b) Sheep.**

| Name and address<br>of the farm.             |                 | Area of the farm. |                           | Purpose<br>for                                                                                                                           | Strength of the flock<br>in each breed.                                                        |                               |                     |                     |
|----------------------------------------------|-----------------|-------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------|---------------------|---------------------|
|                                              |                 | Total.<br>(A).    | Under cultivation<br>(B). |                                                                                                                                          | Breed.<br>(C).                                                                                 | Name.<br>(D).                 | Ewes.<br>(E).       | Lambs.<br>(F).      |
| Livestock Station,<br>Ottawa Farm.           | Rennet<br>Hater | 1,650-91          | 1112-24                   | To raise white woolly sheep better in quality and quantity of fleece yield as well as in the carcass weight than the local Romney sheep. | Romney<br>I Cross<br>Romney<br>Graded II<br>Cross<br>Graded III<br>Cross<br>Graded IV<br>Cross | ..<br>12<br>1<br>2<br>1<br>.. | 8<br>22<br>11<br>.. | 8<br>20<br>70<br>10 |
|                                              |                 |                   |                           | For comparative study and distribution of rams.                                                                                          | Romney<br>Rohmer                                                                               | 12<br>16                      | 20<br>74            | 12<br>55            |
|                                              |                 |                   |                           | For distribution of rams.                                                                                                                | Mendys                                                                                         | 4                             | 60                  | 20                  |
|                                              |                 |                   |                           | To study the performance with reference to blood estimate.                                                                               | Nights                                                                                         | 8                             | ..                  | ..                  |
|                                              |                 |                   |                           | For property study.                                                                                                                      | Nights<br>Romney<br>graded I<br>cross                                                          | ..                            | ..                  | 11                  |
| Combined Sheep and Cattle Farm,<br>Karakopp. |                 | 264               | 170                       | To improve the Romney type of sheep and issue of rams.                                                                                   | Romney<br>Rohmer<br>Rohmer—<br>Romney<br>Cross F.I.                                            | 75<br>6<br>16                 | 272<br>24           | 121<br>127          |
| Sheep Farm, Dunsmuir, Ootacamund.            |                 | 100               | About 10                  | To improve the Nighthorn sheep.                                                                                                          | Nights                                                                                         | 24                            | 100                 | 70                  |

|                                              |              | Number of rams<br>issued during the year   |                   |                          | Average wool yield<br>per year |              |               | Remarks.                 |
|----------------------------------------------|--------------|--------------------------------------------|-------------------|--------------------------|--------------------------------|--------------|---------------|--------------------------|
|                                              |              | This year<br>(9)                           | Last year<br>(10) | Year before last<br>(11) | Rams<br>(12)                   | Ewes<br>(13) | Lambs<br>(14) |                          |
| Livestock Station,<br>Ottawa Farm.           | Rennet Hater | 1                                          | 2                 | ..                       | 20°                            | 21½          | ..            | * Only for one shearing. |
|                                              |              | 1                                          | 12                | ..                       | 0.11                           | 0.7          | ..            |                          |
|                                              |              | 6                                          | 4                 | ..                       | 7.0                            | 2.12         | ..            |                          |
|                                              |              | 1                                          | ..                | ..                       | 0.12                           | ..           | ..            |                          |
|                                              |              | 12                                         | 10                | 1                        | 5.0                            | 2.7          | 2.5           |                          |
|                                              |              | ..                                         | 3                 | ..                       | 0.7                            | 2.14         | 2.0           |                          |
|                                              |              | ..                                         | ..                | ..                       | 1.0°                           | 0.0°         | ..            |                          |
|                                              |              | ..                                         | ..                | ..                       | 2.4                            | ..           | ..            |                          |
|                                              |              | ..                                         | ..                | ..                       | ..                             | ..           | ..            |                          |
| Combined Sheep and Cattle Farm,<br>Karakopp. |              | 45                                         | ..                | ..                       | 2.6                            | 1.7          | 2.0           |                          |
|                                              |              | ..                                         | ..                | ..                       | 0.1                            | ..           | ..            |                          |
|                                              |              | (not intended for issue for stud purposes) |                   |                          | Not shown during the year      |              |               | For one dip only         |
| Sheep Farm, Dunsmuir, Ootacamund.            |              | 6                                          | ..                | ..                       | 1.70                           | 1.24         | 1.6           |                          |

TABLE XI (b).—Statement showing the location and other particulars of Livestock Farms in the State of Madras during the year 1951-52—cont.

## (b) Sheep—cont.

| Area of the farm.                                                                          |         |                    | Purpose of the farm and stock.                                                                                  | Number of birds in each breed.                                                         |                                    |                                       |                                            |
|--------------------------------------------------------------------------------------------|---------|--------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------|---------------------------------------|--------------------------------------------|
| Name and address of the farm.                                                              | Total.  | Under cultivation. |                                                                                                                 | Bred.                                                                                  | Cocks.                             | Hens.                                 | Chickens.                                  |
| (1)                                                                                        | (2)     | (3)                | (4)                                                                                                             | (5)                                                                                    | (6)                                | (7)                                   | (8)                                        |
|                                                                                            | AOS.    | AOS.               |                                                                                                                 |                                                                                        |                                    |                                       |                                            |
| Livestock Research Station, Hoor, Cattle Farm.                                             | 1,65.91 | 1,112.36           | Supply of hatching eggs and breeding stock of exotic varieties to the public, Poultry Demonstration Units, etc. | W.L. ..<br>R.I.R. ..<br>B.M. ..<br>Australop. ..<br>Crom. ..<br>Deaf ..<br>Pea fowl .. | 6<br>7<br>18<br>1<br>..<br>..<br>1 | 49<br>44<br>80<br>12<br>..<br>..<br>1 | 264<br>246<br>146<br>100<br>..<br>..<br>.. |
| Livestock Research Station, Guntur.                                                        | 357.06  | 210.84             | To maintain poultry and supply eggs and birds to the public.                                                    | R.I.R. ..<br>M. Ducks ..<br>K.C. Ducks ..<br>Deaf ..<br>W.L. ..                        | 5<br>1<br>1<br>..<br>..            | 22<br>4<br>1<br>..<br>..              | 172<br>1<br>..<br>..<br>..                 |
| District Poultry Farm, Vankhapattanam attached to the Dairy-Cum-Bull Farm, Vankhapattanam. | 165     | 135                | To supply cock-crests, eggs, etc.                                                                               | W.L. ..<br>R.I.R. ..<br>Deaf ..                                                        | 5<br>3<br>..                       | 8<br>10<br>2                          | 122<br>74<br>..                            |
| District Livestock Farm, South Kanara district.                                            | 700     | 500                | Do.                                                                                                             | R.I.R. ..<br>W.L. ..<br>Deaf ..                                                        | 5<br>4<br>..                       | 47<br>22<br>17                        | 22<br>11<br>11                             |
| District Poultry Farm, Chittoor.                                                           | 12.91   | ..                 | Do.                                                                                                             | W.L. ..<br>R.I.R. ..                                                                   | 7<br>2                             | 11<br>..                              | 96<br>7                                    |
| District Poultry Farm, Cuddapah.                                                           | 18.16   | 8                  | Do.                                                                                                             | R.I.R. ..<br>W.L. ..                                                                   | 1<br>..                            | 21<br>..                              | 104<br>60                                  |
| District Poultry Farm, Channarayana.                                                       | 22.23   | ..                 | Do.                                                                                                             | W.L. ..<br>R.I.R. ..<br>Ducks ..<br>Turkeys ..                                         | 3<br>4<br>1<br>1                   | 24<br>30<br>3<br>2                    | 155<br>60<br>1<br>1                        |
| Poultry Research Station, Tenampet, Madras.                                                | 9.08    | 20 cents           | Research work on poultry and supply of birds and eggs.                                                          | W.L. ..<br>R.I.R. ..<br>B.M. ..<br>L.S. ..<br>W.S. ..<br>Deaf ..                       | 11<br>11<br>5<br>7<br>..<br>2      | 31<br>60<br>25<br>20<br>..<br>11      | 180<br>59<br>77<br>90<br>..<br>68          |

W.L. — White Leghorn.  
L.S. — Light SussexR.I.R. — Rhode Island Red.  
M. Ducks — Muscovy Ducks  
W.S. — White Sussex.B.M. — Black Minorca.  
K.C.D. — Khaki Campbell Ducks.

TABLE XI (b).—Statement showing the location and other particulars of Livestock Farm in the State of Madras during the year 1951-52—cont.

## (b) Sheep—cont.

| Name and address of the farm.                                                              | Number of cockerels kept for breeding during the year. |                              |                                 | Number of hatching eggs sold during the year. |                             |                             | Average annual egg-yield per hen.                 |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------|---------------------------------|-----------------------------------------------|-----------------------------|-----------------------------|---------------------------------------------------|
|                                                                                            | Year under report.                                     | Last year.                   | Year before last.               | Year under report.                            | Last year.                  | Year before last.           |                                                   |
| (1)                                                                                        | (2)                                                    | (3)                          | (4)                             | (5)                                           | (6)                         | (7)                         | (8)                                               |
| Livestock Research Station, Hoor, Cattle Farm.                                             | 6<br>7<br>18<br>..<br>..<br>..                         | 4<br>3<br>9<br>1<br>..<br>.. | 11<br>12<br>11<br>1<br>..<br>.. | 908                                           | 2,446                       | 2,430                       | 120.2                                             |
| Livestock Research Station, Guntur.                                                        | 4<br>..<br>..<br>..<br>..                              | 1<br>..<br>..<br>..<br>..    | ..<br>..<br>..<br>..<br>..      | 430<br>4<br>..<br>..<br>..                    | 609<br>10<br>..<br>..<br>.. | 247<br>..<br>..<br>..<br>.. | 10.8                                              |
| District Poultry Farm, Vankhapattanam attached to the Dairy-Cum-Bull Farm, Vankhapattanam. | 5<br>..<br>..<br>..                                    | ..<br>..<br>..<br>..         | ..<br>..<br>..<br>..            | 265<br>..<br>..<br>..                         | ..<br>..<br>..<br>..        | ..<br>..<br>..<br>..        | 68 for 9 months                                   |
| District Livestock Farm, South Kanara district.                                            | ..<br>..<br>..<br>..                                   | ..<br>..<br>..<br>..         | ..<br>..<br>..<br>..            | 161<br>..<br>..<br>..                         | ..<br>..<br>..<br>..        | ..<br>..<br>..<br>..        | Do.                                               |
| District Poultry Farm, Chittoor.                                                           | 34<br>..<br>..<br>..                                   | 10<br>..<br>..<br>..         | ..<br>..<br>..<br>..            | 600<br>..<br>..<br>..                         | 437<br>..<br>..<br>..       | 107<br>..<br>..<br>..       | 120                                               |
| District Poultry Farm, Cuddapah.                                                           | ..<br>..<br>..<br>..                                   | ..<br>..<br>..<br>..         | ..<br>..<br>..<br>..            | 371<br>..<br>..<br>..                         | 113<br>..<br>..<br>..       | 1,208<br>..<br>..<br>..     | 68                                                |
| District Poultry Farm, Channarayana.                                                       | 56<br>..<br>..<br>..                                   | 21<br>..<br>..<br>..         | 9<br>..<br>..<br>..             | 1,170<br>..<br>..<br>..                       | 1,428<br>..<br>..<br>..     | 1,517<br>..<br>..<br>..     | 10.70<br>20.00<br>..<br>..                        |
| Poultry Research Station, Tenampet, Madras.                                                | 607<br>..<br>..<br>..                                  | 430<br>..<br>..<br>..        | 106<br>..<br>..<br>..           | 4,101<br>..<br>..<br>..                       | 2,806<br>..<br>..<br>..     | 1,348<br>..<br>..<br>..     | 121.2<br>108.1<br>117.0<br>122.2<br>147.2<br>79.6 |

MADRAS,  
9th July 1952.V. R. RAJAGOPALAN,  
Director of Animal Husbandry.



DEVELOPMENT DEPARTMENT

**G.O. No. 5269, 8th December 1952**

Administration Report—Animal Husbandry Department—1951-52—Recorded with remarks.

---

READ—the following paper :—

From the Director of Animal Husbandry, dated 9th and 15th July 1952,  
Roc. No. 386-VI/52.

---

Order—No. 5309, Development, dated 8th December 1952.

Recorded.

2. The permanent post of the Livestock Development Officer was abolished during the year and in its place a permanent post of Deputy Director of Animal Husbandry (Livestock) was created to help the Director in the administration of the department in matters relating to livestock. The temporary post of Joint Director of Animal Husbandry was also abolished during the year and in its place a temporary post of Deputy Director of Animal Husbandry (Veterinary) to assist the Director in matters relating to subjects other than livestock has been employed.

3. The Central Agricultural Farm at Pudukkottai was taken over by the Animal Husbandry department and a District Livestock Farm has been opened during the year under report to serve the needs of Tiruchirappalli and Tanjore districts.

4. The cost of production of the different products manufactured at the Veterinary Biological and Research Institute has appreciably increased during the year under report for which no special reasons have been assigned. The Government expect the Director and the Superintendent of the Institute to make every endeavour to keep down the cost of production to the minimum possible.

5. The Government feel that the general picture is disappointing. In many farms there is increased mortality and reduced income. In spite of the increase in the number of hospitals, the number of patients has fallen. Simultaneously, though the number of outbreak of epidemics was smaller, the number of deaths is higher.

6. The mortality in the Dairy-cum-Bull Farm at Visakhapatnam and the drawbacks in some of the poultry farms and poultry units that have come to the notice of the Government are being investigated into separately and orders passed.

(By order of the Governor)

J. M. LOBO PRAHU,  
*Secretary to Government.*

To the Director of Animal Husbandry.

- " Government of India, Ministry of Food and Agriculture.
- " Indian Council of Agricultural Research (with report).
- " Public Works (Information and Publicity) (with a copy of the report).
- " Superintendent, Government Press, Madras.

