



ADMINISTRATION REPORT

OF THE

MADRAS ANIMAL HUSBANDRY DEPARTMENT

FOR THE YEAR
1949-50

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I. STAFF.

ADMINISTRATION.

Mr. T. J. Hurley continued to be in charge of the department throughout the year under report. On the merger of the Sandur State with this State, the Veterinary and Animal Husbandry work in that State was taken over by this department.

STAFF.

2. Mr. K. S. Nair who held the post of the Joint Director proceeded on leave from 15th July 1949 preparatory to retirement on 15th October 1949 and he was succeeded by Major T. Murari. The post of a Lecturer in Genetics at the

Madras Veterinary College sanctioned in the previous year was filled up. In addition, three posts, viz., one of Lecturer in Bacteriology, one post of Superintendent for District Livestock Farm in South Kanara and a Research Officer for a scheme wholly financed by the Indian Council of Agricultural Research were sanctioned. Government also sanctioned the post of a Special District Veterinary Officer for a period of six months to conduct mass inoculations against rinderpest in Visakhapatnam district. The sanction for this post expired during the year and was not renewed. The post of the Livestock Development Officer was ordered to be kept in abeyance, the post of Special District Veterinary Officer to survey the livestock requirements of the Tungabhadra Project area was discontinued on the expiry of the period sanctioned, and two posts (the District Veterinary Officer, Madras Milk Supply Union and the Dairy Development Officer) were transferred from the cadre of this department to the Co-operative Department. The sanctioned strength of the gazetted posts stood at 61 on 31st March 1950.

3. The sanctioned strength of Veterinary Assistant Surgeons on 31st March 1950 was 423 as detailed in Table IX.

II. EDUCATION.

MADRAS VETERINARY COLLEGE.

4. There was no change in the courses of study. The Diploma and the B.V.Sc. (Old Regulations) courses were continued for the students admitted in the previous years. The increase in the number of admissions to the B.V.Sc. Course in the previous years and the institution of the Livestock Inspectors' course in 1948-49, caused great congestion at the College. This was partly relieved by the transfer of the Livestock Inspectors' Course to the Livestock Research Station, Hosur and reducing the admissions to the B.V.Sc. Course from 100 to 80. Additions and alterations to the existing buildings were also sanctioned so as to provide more accommodation.

ADMISSIONS.

5. *B.V.Sc. Course.*—The number of admissions was reduced to 80 inclusive of 10 seats to non-Madras State students and 5 for demobilized personnel. But only one demobilized person joined the course and 8 seats were availed of by the other States as shown below :—

Mysore	4	Coorg	1
Orissa	3		
		Total	8

One candidate from the United States of Travancore and Cochin was admitted as a private student. The remaining seats reserved for the demobilized personnel and the other seats were, therefore, allotted to the applicants from this State. The communities to which the State students belonged were—

Non-Brahmans	29	Harijans	1
Backward Hindus	17	Christians	6
Brahmans	14	Muslims	4
		Total	71

The total number of admissions to the Degree course was 80 inclusive of 3 ladies.

Livestock Inspectors' Course.—The change in the venue of this course slightly affected the number admitted to this course. Out of 75 candidates selected for the course only 63 joined.

Strength.—The number of students in the two courses at the end of the year was 485 as against 390 in 1948-49. The distribution was as detailed below :—

B.V.Sc. Degree Course—

First-year Preliminary	88
Second-year Intermediate, Part I	111
Third-year Intermediate, Part II	82
Fourth-year (New Regulations 32, Old Regulations 15)	47
Fifth-year (Old Regulations)	29
Fourth-year Diploma	5

Veterinary and Livestock Inspectors' Course.

First year	63
Second year	60
	123

Total .. 485

TRAINING.

6. The first and second-year students of the B.V.Sc. Course had practical training in Livestock management at the Livestock Research Station, Hosur, for a period of one and a half months. The facilities at the Dairy cum Bull Farm, Visakhapatnam, were availed by deputing the third-year and fifth-year (Old Regulations) students for training on this farm for periods of one and a half and three months respectively. The hospital attached to the College afforded facilities for practical training and clinical work to the students of the third, fourth and fifth-year classes.

SCHOLARSHIPS.

7. The number and value of scholarships awarded to the students undergoing the B.V.Sc. Course remained as in the previous year. The distribution of scholarships according to the classes and communities is given below :—

Class.	Brahmans.	Non-Brahmans.	Christians.	Muslims.	Backward Hindus.	Harijans.	Total.
First year ..	5	11	3	2	3	1	25
Second year ..	5	14	2	1	4	..	26
Third year ..	6	10	2	1	6	..	25
Fourth year ..	6	13	4	2	..	..	25
Fifth year ..	10	4	..	..	..	..	14
Total ..	32	52	11	6	13	1	115

The stipend granted to the students in the Veterinary and Livestock Inspectors' Course was increased to Rs. 30 (Rs. 35 in the case of Harijans) from December 1949.

EXAMINATIONS.

8. *G.M.V.C. Diploma Course.*—A supplementary examination for Classes III and IV of the Diploma Course was held in September 1949. Five candidates in the third year and 11 candidates in the fourth year appeared and passed. In the annual examination for the final year, 20 appeared, out of whom 17 were successful.

9. *B.V.Sc. Degree Course*.—The results of the supplementary and annual examinations are tabulated below:—

Supplementary Examinations, October 1949.

	Number appeared.		Number passed.	
	Whole.	By parts.	Whole.	By parts.
Preliminary (N.R.) ..	4	55	1	49
Intermediate—				
Part I (N.R.) ..	7	62	..	40
Part II (N.R.) ..	1	22	1	20
Part II (O.R.) ..	1	3	1	2
Final (O.R.) ..	1	8	..	4

Annual Examinations, April 1950.

	Number appeared.		Number passed.	
	Whole.	By parts.	Whole.	By parts.
Preliminary (N.R.) ..	72	11	30	6
Intermediate—				
Part I (N.R.) ..	83	27	24	19
Part II (N.R.) ..	79	1	39	1
Final (O.R.) ..	30	5	17	3

The first batch of the B.V.Sc. (New Regulation) Degree students will take their final examination in June 1950.

10. *Livestock Inspectors' Course*.—All the sixty students who completed the first-year course passed the examination—45 in the annual examination in July 1949 and 15 in the supplementary examination in October 1949.

HOSTEL HEALTH AND ATHLETICS.

11. *Hostel*.—The problem of accommodating the large number of students at the College continued to be acute. The transfer of the Veterinary and Livestock Inspectors' Course to Hosur eased the situation, without affording any relief. On the whole 210 students were provided with some sort of lodging, 180 in the main hostel and 30 in other places. The temporary shed under construction is expected to be available in July 1950. Two messes—vegetarian and non-vegetarian were maintained by the students.

12. *Medical Inspection*.—The medical inspection of the students was conducted by Dr. Krishnan Nair and the general health of the students was satisfactory.

13. *Sports*.—The College teams participated in all the Inter-Collegiate tournaments. The College day and sports were held in February 1950 under the presidentship of Mr. T. J. Hurley, O.B.E., M.R.C.V.S., D.V.S.M., I.V.S., Director of Animal Husbandry, Madras, who distributed the prizes and trophies.

14. *The College Association*.—The Association held meetings at which papers on scientific and professional subjects were read and discussed. The Association took part in the Inter-Collegiate Oratorical contests and "Quiz" programme conducted by the All-India Radio. The annual number published by the Association had good response from the members by way of articles of a professional and general nature.

HOSPITAL.

15. The cases treated, operations and castrations performed for the three years ending 1949-50, are tabulated below:—

Table I.—Cases treated.

	1947-48.	1948-49.	1949-50.
In-patients—			
Bovines ..	235	291	276
Equines ..	98	117	84
Others ..	425	449	430
Out-patients—			
Bovines ..	2,694	2,919	3,152
Equines ..	149	170	151
Others ..	4,361	4,221	4,352
Total ..	7,962	8,167	8,445
Daily average attendance ..	101.0	102.75	106.1

ANIMAL HUSBANDRY OPERATIONS.

Table II.—Operations.

	1947-48.		1948-49.		1949-50.	
	Major.	Minor.	Major.	Minor.	Major.	Minor.
Bovines ..	116	155	148	135	114	157
Equines ..	10	21	9	6	6	7
Others ..	17	183	4	179	10	121
Total ..	143	359	161	320	130	285

Table III.—Castrations.

	1947-48.	1948-49.	1949-50.
Bovines ..	21	6	16
Equines ..	5	1	11
Others ..	13	14	11
Total ..	39	21	38

16. *Radiology*.—During the year 32 X-Ray photographs were taken for diagnostic purposes.

Ultra-violet Ray therapy was adopted in 6 cases, of which 4 were for skin diseases and 2 for conditions of paraplegia and the results were encouraging in nonspecific conditions.

SHOEING FORGE.

17. The number of horses shod and feet repaired including bullocks, were 543 as against 665 in last year. As usual, the students were given practical training in the art of scientific hot shoeing.

FEES.

18. The number of cases admitted into the College Hospital and fees realized during the past three years, are given below:—

Year.	Number of cases admitted.	Fees realized.		
		RS.	A.	P.
1947-48 ..	7,962	11,771	11	0
1948-49 ..	8,167	11,029	11	3
1949-50 ..	8,445	12,689	0	7

LABORATORY.

19. Nine thousand five hundred and six specimens were received in the College Laboratories for examination as against 9,907 in the previous year. The specimens were received from—

1 The Departmental Officers ..	5,659
2 Madras Veterinary College Hospital and Wards. ..	3,404
3 Livestock Sections of the department ..	369
4 Other departments ..	27
5 Others ..	47
Total ..	9,506

20. The following table shows the results of the examinations of the specimens:—

Sl. No.	Description.	Number of specimens.	
		Positive.	Suspicious.
1 Aegyptianella pullorum ..	..	1	..
2 Anaemic changes ..	..	117	..
3 Anaplasma sp. ..	..	1	..
4 Actinomyces ..	..	1	..
5 Adenocarcinoma ..	..	2	..
6 Adenoma ..	..	2	..
7 Anthrax ..	..	31	..
8 Auto-vaccine (for) ..	..	5	..
9 Avian leucosis complex ..	..	29	11
10 Babesia bivittata ..	..	115	..
11 Babesia caballi ..	..	3	..
12 Babesia canis ..	..	26	..
13 Babesia equi ..	..	3	..
14 Babesia gallinarum ..	..	1	..

Serial number.	Description.	Number of specimens.	
		Positive.	Suspicious.
16	Babesia gibsoni	15	..
17	Babesia motasi	5	..
18	Babesia mutans	6	..
19	Babesia sergenti	6	..
20	Blackquarter	28	4
21	Bovine lymphangitis	26	4
22	Brucellosis	4	2
23	Cirrhosis—liver	3	..
24	Cultural examination (for)	30	..
25	Cysts and growths	5	..
26	Demodex	53	..
27	Dermoid cyst	2	..
28	Ectoparasites	57	..
29	Epithelioma	90	..
30	Endothelimo	1	..
31	Fibroma	2	..
32	Fibroma sarcoma	6	..
33	Fowl cholera	2	1
34	Fowl spirochaetosis	1	..
35	Haemorrhagic septicaemia	85	5
36	Helminths	82	..
37	Helminthic lesions	12	..
38	Hepatozoon canis	25	..
39	Inflammatory tissues	57	..
40	Johne's disease	27	7
41	Larvae of Chrysomia sp.	1	..
42	Larvae of Hypoderma sp.	3	..
43	Leiomyofibroma	1	..
44	Lympho-sarcoma	10	..
45	Microfilaria (sheathed)	5	..
46	Microfilaria (unsheathed)	19	..
47	Mastitis	61	..
48	Melanoma	10	..
49	Microsporon	9	..
50	Miscellaneous	89	..
51	Myxo-fibroma	1	..
52	Myxo-sarcoma	1	..
53	Nasal polypus	5	..
54	Oedema-lung	7	..
55	Oocysts of coccidia	16	..
56	Oocysts of coccidia (Eimeria)	88	..
57	Ova of Ancylostomes sp.	447	..
58	Ova of Ascaris	176	..
59	Ova of D. Caninum	5	..
60	Ova of E. Gigantica	2	..
61	Ova of Hymenolepis sp.	1	..
62	Ova of Moniezia sp.	1	..
63	Ova of Raillietina sp.	1	..
64	Ova of S. Nasalis	229	..
65	Ova of Oxyuris equi	13	..
66	Ova of S. Spindalis	4	..
67	Ova of Spirocerca lupi	85	..
68	Ova of Strongyle sp.	587	..
69	Ova of Taenia sp.	4	..
70	Ova of Texacara	47	..
71	Ova of Trematodes	283	..
72	Ova of Trichuris sp.	21	..
73	Papilloma	6	..
74	Pneumonia	6	..
75	Psoroptes communis (skin disease)	11	..
76	Rickettsia canis	16	..
77	Rabies	58	..
78	Sarcoptes species	54	..
79	Spirochaetes	1	..
80	Strangles	2	..
81	Schistosoma nasalis	8	..
82	Suppurative Nephritis	1	..
83	Theileria mutans	213	..
84	Theileria sp.—cattle	14	..
85	Theileria sp.—sheep	8	..
86	Trichophyton	97	..

Serial number.	Description.	Number of specimens.	
		Positive.	Suspicious.
87	Tuberculosis	7	..
88	Trypanosoma evansi (Bovines)	30	..
89	Trypanosoma evansi (Equines)	27	..
90	Trypanosoma evansi (Canines)	15	..
91	Trypanosoma theileri	1	..
		3,775	34
1 Negatives		..	5,134
2 Materials of insignificant nature or unspecified		..	462
3 Materials unfit for examination		..	101
Total		3,775	34
Grand Total		9,506	

PARASITOLOGY DEPARTMENT.

21. The total number of clinical materials received from the staff of the Department, the College Hospital, Private Bodies, etc., amounted to 5,866 the details being—

Nature of material.	Positive.	Negative.	Total.
Blood smear	632	1,988	2,620
Faeces	1,357	811	2,168
Scrapings	189	358	547
Nasal washings	229	85	314
Helminths and ecto parasites	217	..	..

PATHOLOGY DEPARTMENT.

22. The combined Department of Pathology and Bacteriology was bifurcated and they began to function separately from 2nd July 1949 onwards.

Autopsies.—The number of autopsies performed during the year was 251 as against 170 of last year. The details are as below :—

(1) Canines	..	..	106
(2) Felines	..	..	9
(3) Bovines	..	..	56
(4) Caprines	..	..	2
(5) Equines	..	..	14
(6) Poultry	..	..	58
(7) Buck	..	..	2
(8) Monkey	..	..	1
(9) Rabbit	..	..	2
(10) Zebra	..	..	1
Total	..	..	251

The following interesting conditions were met within the course of autopsies :—

- (1) Traumatic pericarditis in a she-buffalo.
- (2) Gangrenous pneumonia in a buffalo bull.
- (3) Acute Theileriosis in a cow.
- (4) Piroplasmosis in a mare.
- (5) Rupture of the stomach in 2 horses.
- (6) Rupture of the diaphragm in a zebra.
- (7) Rupture of the stomach in a dog.
- (8) Ascites due to cirrhosis of the liver in 6 dogs.
- (9) Ascites due to diffuse lipomatous growth in a dog.
- (10) Spirocerca "tumour" in the thoracic part of the oesophagus was seen in 42 dogs and in the stomach wall in one case. Besides the above, Spirocerca lupi was found to cause aneurysms in the posterior aorta in 5 dogs.

- (11) Generalised lymphosarcoma in 2 dogs.
 (12) Hydropericardium in a dog due to enlarged bronchial and mediastinal lymph glands.
 (13) Diro-filaria worms were seen in the right auricle of a dog.
 (14) Rupture of the oviduct in 3 hens and of the yolk sac in a hen.

23. *Chemico-legal cases*.—During the year under report, three chemico-legal autopsies were performed—2 in cows and the other in a she-buffalo. The Chemical Examiner has reported the presence of arsenic in materials sent from a cow and the results for the other two are awaited.

The departmental museum was rearranged with additional specimens collected during the course of autopsies this year.

BACTERIOLOGY DEPARTMENT.

24. *Auto-vaccines*.—An improved method of preparation of auto-vaccine was introduced and three cases of Otorrhoea treated, were very encouraging.

25. *Biological tests*.—Biological tests were conducted with materials suspected for Anthrax, Blackquarter, Haemorrhagic septicæmia, Fowl Cholera and Tuberculosis, with the following results:—

Serial number.	Name of the disease.	Positive.	Negative.	Total.
1	Anthrax	3	32	35
2	Blackquarter	7	23	30
3	Tuberculosis	6	6	12
4	Haemorrhagic Septicæmia	13	1	14
5	Fowl cholera	1	1	2
6	Brucellosis	1	1	2
	Total	16	76	92

PHYSIOLOGY DEPARTMENT.

26. During the year, 757 specimens were received from the College Hospital and analysed, as against 725 of the previous year. The details are as below:—

Specimens.	Details.				Total.
	Dogs.	Equines.	Bovines.	Others.	
1 Urine for analysis	557	14	17	1	589
2 Blood for differential counts	55	1	7	1	64
3 „ total cell count	39	2	1	1	42
4 „ Hemoglobin estimation	16	1	1	1	19
5 „ Urea estimation	2	1	1	1	5
6 „ Co-ox index	2	1	1	1	5
7 Serum for calcium estimation	9	10	2	1	22
8 „ Phosphorous do.	1	1	1	1	4
9 „ Magnesium do.	1	1	1	1	4
10 Ascitic fluid for estimation	5	1	1	1	8
11 Vomut for examination	2	1	1	1	5
					757

27. The following abnormal constituents were observed in the samples of urine received for examination:—

Constituent.	Dogs.	Horses.	Bovines.	Total.
1 Albumin	213	1	2	216
2 Bile Pigments	9	1	1	11
3 Hemoglobin	29	1	1	31
4 Pus cells	51	1	1	53
5 Red blood corpuscles	34	1	1	36
6 Casts	21	1	1	23

28. A few essential appliances such as Brodie Operation table and the respiration pump were obtained this year and therefore it was possible to show some of

the demonstrations included in the revised syllabus. Additional extensions to the laboratory have been taken up on hand.

PHARMACOLOGY DEPARTMENT.

29 The Laboratory for this section is being enlarged. Students of the III and IV year classes of the B. V. Sc., degree course received detailed training. Twenty-five thousand and four prescriptions were dispensed during the year as against 24,005 in the previous year, the daily average being 68.5.

ANIMAL HUSBANDRY AND MEDICINE DEPARTMENTS.

30. This department was strengthened with the creation of the post of a Lecturer in Genetics. As usual the theoretical and practical instructions on the subjects were supplemented by excursional tours.

SPECIAL FEATURES.

31. *Pathology Department*.—*Actinomyces* was detected in a buffalo heifer. An orangesized granulomatous lesion was present in the shoulder region.

Avian leucosis complex was detected histo-pathologically from materials received from several chicks and a few adult birds. In the majority of the cases, liver was tumified and friable. Two cases of this disease were seen during the course of autopsy.

Spirochaetosis in fowls.—Four cases of this disease were confirmed in the course of autopsy.

32. *Bacteriology Department*.—*John's disease*.—This disease was confirmed in 25 specimens received during the year. Four of these were from sheep and the rest 21 from bovines including two buffaloes. Seven specimens were suspicious for the disease.

Tuberculosis.—An open case of Tuberculosis in a cow was detected from the materials received from the Madras Veterinary College Hospital. A case of Tuberculosis in the farm at Kambakkam was also diagnosed.

As a result of a thorough investigation of the materials received from the Government Dairy Farm, Waltair, acid-fast bacteria morphologically not unlike myco-tuberculosis were detected in 6 samples of material received from the farm. Three of those were from calves below six months of age. Two cases of tuberculosis in buffaloes were diagnosed in the same farm. Biological tests were conducted with six samples of milk for tuberculosis with negative results.

Mastitis.—Sixty-one samples of milk suspected for Mastitis were examined during the year. Besides different types of Staphylococci and Streptococci and organisms of B. coli group, four cases of Mastitis due to organisms resembling *Corynebacterium pyogenes* were detected.

Brucellosis.—Twenty-five samples of sera and synovial fluids were examined during this year. Agglutination tests conducted revealed four cases positive for *Brucella abortus* infection, while one was suspicious. One case of synovial fluid from a bullock from Mannargudy gave a very high titre. Smears from the stomach of an aborted foetus received from the Livestock Research Station, Hosur, showed organisms morphologically indistinguishable from those of *Brucella abortus*.

33. *Parasitology Department*.—*Babesiosis in sheep*.—This disease in sheep though not common, was recorded in five cases in Kurukuppi sheep and cattle farm. The organism responsible was identified as *Babesia motasi*, and all the animals affected died of the infection.

Theileriasis in sheep.—Heart blood smears from a sheep of the Kurukuppi Farm revealed numerous Koch's Blue Bodies. Perhaps this is the first record of an outbreak of Theileriasis in sheep in the Madras State. Two ailing animals that were secured from that farm for further work showed only a mild infection with *Theileria*. Hence this organism could not in any way be incriminated for the diseased condition of these two sheep.

Rickettsia canis.—Only a few cases of this were recorded during the year.

Trypanosomiasis.—Surra in animals—bovine, equine, and canine—was also fairly prevalent during the year.

Aegyptianella pullorum.—Blood smears from a dead fowl revealed this organism in good numbers. Organisms resembling *Aegyptianella pullorum* were also seen in blood smears of a few more dead fowls.

Hypoderma larvae.—Warbles was recorded in five Sindhi animals imported into this State from North India.

Ornate ticks.—A few samples of Ornate ticks were received from Coimbatore and East Godavari districts. They were identified as of *Amblyomma species*.

Dirofilaria immitis.—Specimens of "Heart worm" were recovered from the right auricle of an Alsatian dog. This is the first record in South India. The full history of the dog regarding its stay abroad or about its parentage was not available, except that it was in Madras for a considerable time.

34. *General*.—A course of five lectures on "Meat Inspection" was given to the B.Sc. students of the Medical College.

The Board of honorary visitors was reconstituted by Government with Dr. T. Satagopan, M.D., as President.

III. THE VETERINARY, BIOLOGICAL AND RESEARCH INSTITUTE (SERUM INSTITUTE), RANIPET.

35. *Accommodation and equipment*.—The Institute completed two years of its working at Ranipet. Alterations, improvements and facilities for the efficient working of the Institute costing about Rs. 64,300 have been sanctioned. The works are expected to be taken up in 1950-51. A cold storage room was constructed at a cost of Rs. 20,760 during the year. The name of the Institute was changed to the Veterinary Biological and Research Institute, Ranipet.

36. *Livestock and Fodder*.—One thousand one hundred and eighteen adult he buffaloes, 256 buffalo calves, 1,305 goats, 59 sheep and 7 bull calves were purchased during the year, as against 373 adult he-buffaloes, 208 buffalo calves, 686 goats and 40 sheep in the previous year. Ninety-two buffaloes, 52 buffalo calves, 1,274 goats and 20 sheep died and 1,031 buffaloes, 201 buffalo calves, 33 goats and 23 sheep were sold after use.

PRODUCTION OF SERUM, VIRUS AND VACCINES.

37. *Anti-Rinderpest serum*.—During the year 35 brews of Anti-Rinderpest serum yielding 1,356,780 doses were produced utilizing 1,025 adult he-buffaloes. The average yield per animal was 1,324 doses as against 1,544 in the previous year. The issues amounted to 1,369,815 doses as against 505,380 doses in 1948-49. The inoculation of a large number of cattle in the Visakhapatnam district which has been an endemic area for Rinderpest for a long period accounted for the increase.

38. *Rinderpest bull virus*.—One hundred and six buffalo calves were utilized to produce 28,975 c.c. of bull virus. The issues increased from 3,475 c.c. in 1948-49 to 8,325 c.c. There was a mortality of 41 calves or 38.7 per cent of the number used as against 27.4 per cent in the previous year.

39. *Rinderpest goat virus*.—The two strains of goat virus, viz., the Madras strain No. 2 and the Mukteswar strain No. 2 were continued. One thousand two hundred and fifty-eight goats were used of which 105 or 8.3 per cent could not be bled for virus due to unsatisfactory reactions. The production amounted to 659,400 c.c. as against 357,825 c.c. in the previous year. Five lakhs forty three thousand seven hundred and one c.c. were issued the corresponding figure for 1948-49 being 214,492 c.c. The potency of each strain was tested periodically and found to be effective.

40. *Hæmorrhagic Septicæmia vaccine*.—The demand for this product continued to be heavy. Six lakhs seventy-two thousand six hundred and sixty doses of 5 c.c. were manufactured during the year, as against 511,510 doses in the previous year. The issues increased from 490,270 doses in 1948-49 to 680,220 doses in the year under report. Each brew of the vaccine was tested for safety before issue.

41. *Blackquarter vaccine*.—The demand for this product was greater than in the previous year. The production therefore increased from 476,292 doses of 5 c.c. in 1948-49 to 719,030 doses. Seven lakhs twenty-three thousand two hundred and sixty-five doses were issued as against 473,568 doses in the previous year.

42. *Fowl cholera serum*.—One brew of 725 doses was manufactured as against 1,200 doses in 1948-49. The issues amounted to 715 doses as against 815 doses in the previous year.

43. *Fowl cholera vaccine*.—Three brews of 2,530 doses were manufactured and 1,455 doses were issued. The corresponding figures for 1948-49 were 1,975 and 900, respectively.

44. *Fowl-pox vaccine*.—Strains of pigeon pox and fowl pox virus were obtained from the Lister Institute, London. Six thousand four hundred and eighty-two doses were manufactured and issued to the field, as against 3,370 in the previous year.

45. *Bovine lymphangitis vaccine*.—Four brews of 528 courses of treatment were manufactured and 520 courses were issued.

46. *Sheep-pox vaccine*.—Eight hundred doses of vaccine were prepared and issued to the Assistant Disease Investigation Officer (Sheep and Goats) during the year.

47. *Other sera and vaccines*.—Sera and vaccines as detailed below were purchased from Indian Veterinary Research Institute for use in the field.

	Doses.		Doses.
Anti-Anthrax serum	3,480	Tuberculin Avian—Concentrated ..	100
Tuberculin—Concentrated	1,060	Johnin	210

EXPERIMENTS AND RESEARCH.

48. *Lapinised Rinderpest vaccine*.—A study of the Lapinised Rinderpest vaccine was undertaken during the year. No reaction was noticed in any of the rabbits used in the experiments.

49. *Fowl-pox vaccine*.—Experiments to study the presence of virus in the internal organs of a case of fowlpox were conducted during the year. Liver and spleen removed from an ailing fowl at the height of the disease were found to be pathogenic for fowls inoculated with this material. Typical lesions of pox developed one month after the date of infection.

50. *Bovine Lymphangitis vaccine*.—A fresh strain of the causal organism was isolated from a calf suffering from Bovine Lymphangitis. Experiments were conducted on seven bull-calves. Out of five bull-calves that were injected subcutaneously with 10 c.c. of 48 hours old liver broth culture of Bovine Lymphangitis, only two of them reacted developing abscesses near the seat of injection. The organisms were isolated in a pure form from the lesions.

51. *Sheep-pox vaccine*.—Experiments to find out the minimum infective dose of virus were undertaken during the year and work in this connexion is in progress.

52. *Brucella Abortus Bangi*.—Brucella abortus antigens for tube test as well as quick test were produced. It was found that both the products compared very favourably with the Mukteswar products. More than sixty sera were tested

by the tube method and about thirty by quick test. The results compared very favourably with the Mukteswar products. About 200 c.c. of tube antigen were supplied to the Veterinary Investigation Officer for his use.

A vaccine for protection against Brucellosis in cattle was prepared and tested on six calves. Two calves were given Mukteswar vaccine for comparative study. The sera of all the calves before vaccination gave negative result for agglutination. After twelve days of vaccination, their sera were again tested for agglutination. All the sera were positive for agglutination tests with some difference in the end titre.

53. *Circling disease in sheep*.—Work on circling disease of sheep was done during the year. The causal organism simulating *Listerella* species was isolated from the brain of affected sheep in actual outbreak. Cultural, morphological, biochemical and serological tests were conducted. A paper on the above disease was published in the Indian Veterinary Journal.

LABORATORY.

54. *Specimens examined*.—During the year under report, 4,910 specimens were examined. Of these 4,908 were blood and culture smears and 2 were faeces. Of the blood and culture smears examined 46 gave positive results as detailed below :—

Anthracooid organisms	8	Spirochaetes	1
Theileria	18	Pasturella septica	1
Post-mortem invaders	6	Blackquarter (<i>Clostridium chauvoei</i>)	1
Trypanosomes	5	Hæmoproteus columbae	1
Microfilaria	4	Plasmodium	1
Total			46

Of the two specimens of dung examined, one was positive for coccidiosis.

55. *Post-mortem examination*.—One thousand four hundred and thirty-seven autopsies (92 buffaloes, 51 buffalo calves, 20 sheep and 1,274 goats) were conducted. The following were the parasites met with in order of frequency :—

- | | |
|--------------------------|----------------------|
| (1) Strongylidæ species. | (3) Taenidæ species. |
| (2) Trematodes. | (4) Hydatid cysts. |

SALE OF BIOLOGICAL PRODUCTS.

56. The sale of products during the year as detailed below realized Rs. 14,864.

Hæmorrhagic septicæmia vaccine	17,400 doses.
Blackquarter vaccine	51,900 "
Anti-rinderpest serum	41,180 "
Bull virus	290 c.c.
Goat virus	115 c.c.

COST OF PRODUCTION.

57. The cost of production of the major products for 1948-49 as per audited figures of the Accountant-General, Madras, was.

	Pies per dose.
Anti-rinderpest serum	16.81 (5 c.c.)
Rinderpest virus products	18.76 (1 c.c.)
Hæmorrhagic Septicæmia vaccine	5.99 (5 c.c.)
Blackquarter vaccine	7.11 (5 c.c.)

IV. LIVESTOCK SECTION.

ADMINISTRATION.

58. Major T. Murari was in charge of the office of the Livestock Development Officer from 1st April 1949 to 14th July 1949, when he took charge of the office of the Joint Director of Animal Husbandry. Since then the post of the Livestock Development Officer was ordered to be kept in abeyance.

PROVINCIAL LIVESTOCK IMPROVEMENT BOARD.

59. *Provincial Livestock Improvement Board meetings*.—Three meetings of the Provincial Livestock Improvement Board were held at Visakhapatnam on 27th April 1949, at Hosur on 28th August 1949, at Ranipet on 22nd and 23rd March 1950. Some of the subjects considered by the Board were :—

- (1) A scheme for the improvement of the Burgur breed of cattle.
- (2) The scheme of key villages as recommended by the Cattle Preservation and Development Committee.
- (3) Artificial insemination and the possibility of extending it to centres outside Madras City.
- (4) Slaughter of cattle—whether legislation banning the slaughter of any kind of cattle and establishing Gosadans for old and unproductive cattle will be practicable propositions.
- (5) Cross-breeding with foreign breeds for high milk production.
- (6) Supply of milch cattle to officers in Madras City.
- (7) A scheme for the formation of a Breed Association for Ongoles.

Government approved item (3), and the other items were under consideration of Government.

60. Government sanctioned the opening of a cattle farm in Malabar district and another in South Kanara. The Criminal Tribes Settlement at Chintaldevi in Nellore district, with the land and buildings, was transferred to this department on 1st April 1949. It is proposed to maintain dry stock, as a feeder farm to the Livestock Research Station (Lam) Guntur.

61. The total livestock maintained on the farms of the department at the end of the year was :—

Cows and heifers	1,493
Breeding and young bulls	377
Calves	543
Work cattle and horses	153
Stallions	6
Sheep	562

At the end of the year there were 1,395 approved bulls and 398 buffalo bulls at stud. The number of services performed by them was 60,033 and 12,375, respectively.

62. In order to relieve the congestion at the Madras Veterinary College, the Veterinary and Livestock Inspectors' Course held at the Madras Veterinary College was shifted to the Livestock Research Station, Hosur. The B.V.Sc., students received practical training in Animal Husbandry and farm management at the Livestock Research Station, Hosur and the Dairy-cum Bull Farm, Visakhapatnam.

LIVESTOCK RESEARCH STATION, HOSUR.

63. (i) *Cattle*.—The strength on 1st April 1949 was 1,393. One hundred and nine head of cattle were either purchased or received from other stations and 333 calves were born. One hundred and forty-six animals were auctioned, 61 sold for breeding and 347 transferred to other stations. Deaths and destructions accounted

for 43. The stock at the end of the year was 1,238 (excluding three horses) as detailed below:—

Breed.	Cows and heifers.	Bulls and young bulls.	Calves.	Work cattle.	Total.
Kangayam	319	107	125	13	564
Scindhi	253	108	94	1	456
Hallikar	17	37	10	13	77
Cross-breed	25	2	12	29	68
Tharparkars	..	..	..	6	6
Murrahs	10	2	..	..	12
Girs	39	8	8	..	55
Total	663	264	249	62	1,238

(ii) *Calvings*. The number of calves born during the year was 333 as against 331 in the previous year as detailed below:—

Breed.	Number born.	Sex.		Sex ratio.	
		Heifers.	Bulls.	Heifers per centage.	Bulls per centage.
Kangayam	135	73	62	54.0	46.0
Scindhi	116	51	65	44.0	56.0
Hallikar	62	21	31	50.0	50.0
Cross-breed	12	5	7	41.7	58.3
Girs	8	5	3	62.5	37.5

(iii) *Veterinary Hospital*.—The number of cases treated at the Veterinary Hospital of the Livestock Research Station, Hosur was 762 as against 705 in the previous year. The average daily attendance was 48.48. One thousand one hundred and thirteen animals were protected against Rinderpest and 469 against Blackquarter.

The number of cases treated for some of the diseases were:—

Cattle.—

Ephemeral fever	79
Contagious abortion	4
Coccidiosis	19
Piroplasmosis	2
Johne's disease	13
Foot and Mouth	884
Sterility	56
Mastitis	17

Sheep.—

Johne's disease	12
Sheep scab	2

LIVESTOCK RESEARCH STATION, LAM (GUNTUR).

64. (i) *Cattle*.—The strength of cattle on 1st April 1949 was 358. Fourteen animals were received from other stations, 12 were transferred, 36 were sold and 22 auctioned. There were 20 deaths and 71 births. The stock, on 31st March 1950 was 353 as detailed below:—

Breed.	Cows and heifers.	Bulls and young bulls.	Calves.	Work cattle.	Total.
Ongole	148	60	48	26	282
Murrah (buffaloes)	45	12	13	..	70
Hallikar	..	..	..	1	1
Total	193	72	61	27	353

(ii) *Calvings*.—There were 56 births in the Ongole herd of which 32 were heifer calves and 24 bull calves. In the buffalo herd there were 15 births—eight heifer calves and 7 bull calves.

(iii) *Health of cattle*.—During the year 701 cases were treated for non-contagious diseases, as against 571 cases of last year. All the animals were protected against Haemorrhagic Septicemia and Blackquarter during the year. Thirty-nine specimens were sent to the Madras Veterinary College for microscopical examinations.

(iv) *Cultivation*.—The excessive rains brought by the South-West Monsoon and the failure of the North-East Monsoon greatly interfered with the agricultural operations on the farm.

(v) *Chintaldevi Farm*.—The farm at Chintaldevi with a small herd of 15 cattle, was taken over on 1st April 1949. Orders of Government to utilize the farm for rearing dry stock, are awaited. During the year 222,000 lb. of fodder were raised.

THE DAIRY-cum-BULL FARM, VISAKHAPATNAM.

65. (i) *Cattle*.—The strength of cattle on 1st April 1949 was 185. Six hundred and twenty-six animals were purchased, 35 were auctioned. There were 179 deaths and 129 births. The stock on 31st March 1950 was 726 as detailed below:—

Breed.	Cows and heifers.	Bulls and young bulls.	Calves.	Work cattle.	Total.
Murrah buffaloes	448	15	178	..	641
Jaffarbadly buffaloes	49	6	..	..	55
Ongoles	..	..	..	30	30
Total	497	21	178	30	726

(ii) *Calvings*.—There were 122 births in the Murrah buffalo herd of which 56 were heifer calves and 66 bull calves. In the Jaffarbadly herd there were 7 births—six heifer calves and one bull calf.

(iii) *Health of cattle*.—Deaths among calves accounted for 136. Measures are being taken to reduce the mortality.

(iv) *Cultivation*.—The pasture area was divided into four paddocks. Fodder crops were raised in 129.58 acres and the following quantities of fodder were harvested.

	LB.		LB.
Maize	42,864	Guinea grass	42,760
Cholam	10,07,914	Buffaloe grass	3,010
Pillipersara	48,701	Napier grass	22,470
Cumbu	63,360	Lucerne	36,081
Horsegram	13,917	Kollaganjam	10,290
Berseem	30,985	Sweet potato	9,300
Teosinte	9,900		

COMBINED CATTLE AND SHEEP FARM, KURUKUPPI.

66. (i) *Buildings*.—The construction of the buildings sanctioned for the farm has not yet been completed. The sheds for cattle and the quarters for the Superintendent and other staff were in progress.

(ii) *Cattle*.—The Hallikar herd was transferred to this Farm from the Livestock Research Station, Hosur. There were seven births and 3 deaths in the herd. The strength on 31st March 1950, excluding a horse, was 231 as detailed below:—

Cows and heifers	136	Work cattle	22
Bulls and Young bulls	19		
Calves	54		231

(iii) *Sheep*.—The stock on 1st April 1949 was 145 inclusive of 20 Bikanir rams. One hundred and fifty-one Bellary ewes were purchased for the Sheep Breeding Scheme at Livestock Research Station, Hosur. One hundred and fifteen lambs were born. Nine were disposed of, 4 transferred and 57 died. The balance on 31 March 1950 was 341.

One hundred and fifty-two sheep were shorn, obtaining 203 lb. of wool, the average yield per head worked out to 1.33 lb.

BREEDING BULLS AT STUD.

67. (i) *In Veterinary Institutions*.—The number of bulls maintained at the Veterinary Institutions for breeding increased from 102 to 121 during the year. In addition, three bulls at Sugalinetta and 11 at the Madras Veterinary College were maintained. Three bulls were also stationed at the Madras Corporation Cattle Depots.

(ii) *In the Premium Scheme*.—During the year 378 bulls were admitted into the scheme and 304 removed from the scheme, leaving a balance of 1,205 bulls at the end of the year.

(iii) *Purchases by the co-operative societies*.—The following Milk Supply Unions purchased bulls during the year under report:—

Co-operative Milk Supply Union, Taramangalam	..	One Scindhi.
City Co-operative Milk Society, Mathurai	..	.. One Kangayam.
Co-operative Milk Supply Union, Vellore	..	.. One Scindhi.
Co-operative Milk Supply Union, Chittoor	..	.. One Hallikar.

(iv) *Schemes worked by the local boards*.—During the year grants were made to some District Boards for purchase of bulls as detailed below:—

District Board.	Amount of grant, Rs.	Number of bulls purchased.	Total number of bulls in the District Board Scheme.
Coimbatore	10,000	51	143
Tiruchirappalli	2,800	7	7
South Arcot	400	2	3
Mathurai	400	2	2
Bellary	1,500 (a)	—	6 (a) not utilized.
Tanjore	—	—	11
Salem	—	—	12

(v) *Scheme to assist Sugalis in Kurnool district*.—The three Ongole bulls stationed at Sugalinetta in Kurnool district performed 389 services and the total amount spent on their maintenance amounted to Rs. 2,623-4-3.

(vi) *Special tracts*.—Two Ongole bulls continued to be stationed in the Visakhapatnam agency, and they performed 84 services during the year.

(vii) The statement below gives comparative figures of bulls at stud and their performances for three years:—

					1947-48.	1948-49.	1949-50.
Number of bulls—							
Bulls	..	..	..	..	1,122	1,153	1,395
Buffalo-bulls	..	..	..	..	356	370	398
Total					1,478	1,523	1,793
Number of services performed—							
Bulls	..	..	..	..	43,859	57,123	60,033
Buffalo-bulls	..	..	..	..	17,411	18,887	12,375
Total					61,270	76,010	72,408

LIVESTOCK IMPROVEMENT SCHEME.

68. (i) *Male stock distribution scheme*.—During the year under review 154 bulls (37 Kangayam, 8 Hallikar, 49 Ongole, 25 Scindhis and 35 Murrah buffaloes) were purchased under the above scheme. In addition 25 Nellore rams, 12 Tellichery bucks, and 17 Madur (local) rams were purchased for distribution. The graded Scindhis purchased from the Anamalai and Golden Rock, etc., in the previous year, were distributed in Malabar and South Kanara districts.

(ii) *Bulls issued from Government Farms*.—The number of bulls issued from the Government farms during the year is given below:—

	1948-49.	1949-50.
Ongole bulls	18	36
Kangayam bulls	15	36
Hallikar bulls	18	18
Scindhi bulls	18	11
Murrah buffaloes	12	4
Cross-bred	Nil.	2
Total	81	107

(iii) *Subsidy to heifer-calves*.—The scheme which was in operation in the districts of Guntur, Nellore, Anantapur, Chittoor, Coimbatore and Salem was not renewed on the expiry of the sanction.

(iv) *Madras City Calf Subsidy Scheme*.—Two hundred and forty-one milkmen owning 6,928 cows and buffaloes were registered. The number of calves admitted into the scheme was 1,085, consisting of Ongoles 451, cross-bred heifers 435 and buffalo-heifers 199. Eighty-five calves were removed from the scheme. Subsidy at the rate of Rs. 35 per head was paid for 1,000 calves.

(v) *Assistance to private cattle-breeders*.—In order to render some financial assistance to private cattle breeders in the State, Government during the year, sanctioned Rs. 1,00,000 (Rs. 60,000 for the award of subsidy and Rs. 40,000 for grant of loans). Breeders owning a minimum strength of 25 pure bred animals in the breeds of Kangayam, Ongole, Scindhi, Hallikar and Umblacheri are eligible for the subsidy, which is subject to a maximum of Rs. 2,000 to any one breeder. The subsidy is to be paid subject to certain conditions at the rate of Rs. 60 per calf born. The loans granted on proper security are repayable in ten equal instalments, compounded of principal and interest at 5 per cent per annum.

CATTLE BREEDING ASSOCIATIONS.

69. (i) *Cattle Breeding Society at Mecheri (Salem district)*.—The society continued to maintain 12 Hallikar bulls at stud. They performed 733 services. Three hundred and forty calves (198 bull and 142 heifer) were born. A subsidy of Rs. 2,933-13-0 was paid to the society as premium for the bulls and pay and allowances of a Stockman compounder employed in the scheme.

(ii) The Kangayam Cattle Breeding and Marketing Co-operative Society, Tiruppur, which was functioning for the past five years was closed under orders of Government, at the end of the year under report.

(iii) The Anchetty Co-operative Cattle Breeding and Marketing Society continued to function during the year under report. The society purchased four bulls which increased the strength to 9. The number of services performed was 499.

(iv) *Others*.—The Cattle Breeders Associations at Anaparti in East Godavari district, at Saraswathipalli in Cuddapah district at Kumbala in South Kanara district and the Anamalai Hills Cattle Society continued to function. Cattle Breeding Society at Odugathur and another at Kalasapakkam were formed during the year under report.

CATTLE SHOWS AND EXHIBITIONS.

70. (i) The cattle shows at Ongole, Tiruppur and Valparai were held as usual. The department conducted 64 one day cattle shows. In addition, grants were made to 11 shows organized by non-official agencies. All the shows were popular and contributions were made by the public of the locality towards prizes and other expenses. The department participated in all the important exhibitions.

(ii) A sum of Rs. 3,763 was awarded by the Collectors out of the discretionary grants vested in them, for the following purposes:—

	RS.
Cattle improvement	260
Poultry improvement	623
Cattle shows and exhibitions	2,800
Others	80
Total ..	3,763

CASTRATIONS.

71. The total number of castrations performed during the year and for the previous two years were:—

1947-48	118,222
1948-49	149,137
1949-50	118,966

DAIRYING.

Livestock Research Station, Hosur.

72. The average number of cows, in all herds, maintained during the year was 490.4 of which 218.5 were in milk, as against 421 and 194.2, respectively in the previous year. The total milk yield for the year was 666,278.5 lb. showing a daily average of 8.3 lbs. for cows in milk, and 3.8 lbs. for all the herds. The corresponding figures for the previous years were 652,835.5 lb., 9 lbs. and 4.3 lbs. respectively.

(a) *Scindhi herd*.—Of an average of 162 animals in the herd, 81.6 animals were in milk yielding 3,72,090.5 lbs. of milk. The daily average yield worked out to 12.5 lbs. per cow in milk and 6.3 lbs. for the whole herd as against 14.5 lbs. and 7.1 lbs., respectively, in the previous year.

The following are some of the outstanding performers during the year:—

Cow number.	Total milk yield in lb.	Number of days in milk.	Daily average for the lactation in lb.
298	10,738.0	318	33.8
256	8,975.0	391	22.9
309	8,435.0	281	30.0
271	7,667.0	288	26.6
227	7,613.5	300	25.4
228	7,325.0	338	20.5
303	7,203.5	329	21.9
89	7,059.0	291	24.6

Ninety-seven cows completed their lactations during the year. Their performances are classed into the following groups:—

	Number of cows.	Percentage to total.
Below 3,000 lb.	35	35
Between 3,000 and 4,000 lb.	23	24
.. 4,000 and 5,000 lb.	21	22
.. 5,000 and 6,000 lb.	7	7
.. 6,000 and 7,000 lb.	3	3
.. 7,000 and 8,000 lb.	5	5
Above 8,000 lb.	3	3
Total ..	97	100

(b) *Kangayam herd*.—The average number of cows in the herd was 210 of which 94.9 were in milk. The total milk yield was 197,068.5 lb. The average daily yield per cow in milk was 5.7 lb. and for the whole herd 2.5 lb. The corresponding figures for the previous years were 6.1 lb. and 2.6, respectively. Some of the best milkers were:—

Cow number.	Milk yield in lb.	Days in milk.	Daily average for the lactation in lb.
398	4,173.5	301	13.9
536	4,057.0	281	14.4
412	3,148.0	244	12.9
616	2,822.0	267	10.1
718	2,426.5	248	9.8
523	2,409.0	288	8.4

(c) *Hallikar herd*.—The foundation stock for the Combined Sheep and Cattle Farm, Kurukuppi, was transferred from the Livestock Research Station, Hosur. The average number maintained was 68 cows of which 25.2 were in milk, yielding 30,553 lb. with a daily average of 3.4 lb. and 1.3 lb. for cows in milk and for the whole herd respectively, as against 4.4 lb. and 2.2 lb. respectively in the previous year.

(d) *Cross-bred*.—Out of a total average strength of 18.3 animals, 8.8 cows remained in milk and they yielded 37,027 lb. of milk with a daily individual average of 11.6 lb. for cows in milk and 5.6 lb. for the whole herd as against 12.9 lbs. and 5.1 lb. respectively in the previous year.

(e) *Gir herd*.—This breed was introduced in May 1949 and appears to thrive well. Out of an average number of 34 cows, 7.9 cows were in milk and they yielded 28,091.5 lb. of milk, with a daily individual average of 11.1 lbs. for cows in milk. Some of the cows in the herd, which are at present in milk, have proved to be very good performers and a few have yielded over 30 lb. of milk per day.

(f) *Buffaloes*.—The two she-buffaloes which were in milk were disposed of as they were not fit for breeding.

(g) *Disposal of milk and milk products*.—231,562 lb. of milk were sold and 19,616½ lbs. converted into butter. 1,060 lbs. of butter were made for sale.

Livestock Research Station, Lam (Guntur).

73. (a) *Ongole herd*.—There were on an average 41.3 cows in milk yielding 1,04,906.5 lb. of milk with a daily individual average of 6.8 lb. for cows in milk and 3.3 lb. for the whole herd of 84.9 as against 8.3 lb. and 3.8 lb. respectively in the previous year.

(b) *Buffalo herd*.—There were on an average 16.3 buffaloes in milk yielding 60,142.0 lb. of milk with a daily individual average of 10.1 lb. over the buffaloes in milk and 5.2 lb. over the whole herd of 30.1 as against 11.8 and 2.2 in the previous years.

The best milkers were:—

Cow number.	Total milk yield in lb.	Number of days in milk.	Daily average for the lactation in lb.	Remarks.
Ongole cow No. 357	3,834.0	342	11.2	1st lactation.
330	3,609.5	369	9.9	2nd ..
Murrah buffalo No. 109	3,820.5	504	11.5	3rd ..
15H	5,310.0	436	12.2	3rd ..

Disposal of milk.—56,452 lb. of milk were sold and 2,878 lb. converted into ghee.

The Dairy-Cum-Bull Farm, Visakhapatnam.

74. (a) *Murrah herd*.—Out of 212.4 she-buffaloes in the herd, 125.5 were in milk on an average and they yielded 472,041.5 lb. of milk. The daily individual average was 9.9 lb. per she-buffalo in milk and 5.9 lb. for the whole herd, as against 9.0 lb. and 5.7 lb. respectively in the previous year.

(b) *Jaffarabadi herd*.—Out of 248 she-buffaloes 89 were in milk on an average. They yielded 24,213.5 lb. of milk with a daily individual average of 7.5 lb. for she-buffaloes in milk and 2.7 lbs. for the whole herd.

The Dairy handled 496,225 lb. of milk of which 364,214 lb. were sold. The pasteurisation plant was installed during the year. The other equipments for the processing of milk are awaited.

75. *Karukuppi Farm*.—The total milk yield for the year was 27,268 lb. of which 19,359 lbs. were sold.

Private Dairy Farms.

76. Some of the dairy farms functioning in the State were—

(1) The Dairy Farm at Nandigama managed by Sri S. A. P. Prasad, the products of which are daily sent to Vijayavada.

(2) A Dairy Farm at Chingleput managed by a refugee Pandit Amarnath with a Government grant of Rs. 2,000.

(3) The Lalgudi Sivagnanam Co-operative Milk Supply Union.

(4) Jesuit Father's Dairy, Kodaikanal.

(5) Dairy of the Zamindar of Neikarabatti (Mathurai district).

(6) The Dairy, Mohammedipalli, Proddatur of Cuddapah district.

(7) Dairy of the Zamindar of Idayakottai, Palni, Mathurai district.

(8) St. Joseph's College and St. Paul's Seminary Dairies, Tiruchirappalli.

SALVAGE OF DRY COWS.

77. The scheme for the salvage of dry cows in the City of Madras continued to function. There were 203 cows on 1st April 1949. Two hundred and twenty-six cows were admitted into the scheme and 208 returned to the owners—149 after calving and 59 before calving at the request of the owners. There were eight deaths and two animals were returned being unfit for salvage. There were two hundred and eleven cows in the scheme on 31st March 1950. In order to facilitate the transport of feeds and the cows after calving a lorry has been provided for the scheme.

Five bulls (four Ongoles and one Sindhi) were maintained on the farm for the service of the cows admitted into the scheme.

An alternate site for locating the farm has been selected if the construction of the proposed dam should submerge the present farm site. Pending a final decision on this subject, the construction of buildings sanctioned for the farm, has been held in abeyance.

Cattle pentas.

78. The cattle resorting to the Nallamalais in Cuddapah district for grazing were inoculated against Rinderpest in three camps—two in Cuddapah district and one in Nellore district. Eleven thousand four hundred and fifty-seven cattle were protected.

Pony breeding.

79. Of the eight stallions at the beginning of the year, one died and another was removed from stud. The remaining six were stationed at the veterinary institutions at Pollachi, Coimbatore, Erode, Tiruppur and Salem and at the Livestock Research Station, Hosur Cattle Farm. They performed 123 services during the year.

Pig breeding.

80. Under the Firka Development Scheme, four boars and four sows were purchased and distributed in Guntur district. The Sacred Heart College and the Belgian Convent at Kodaikanal continued to maintain Berkshire pigs. There are some Yorkshire crosses in South Kanara district. There is a small piggery at Narasapur with some Bobbili pigs.

SHEEP FARMING AND DEVELOPMENT.

81. (i) The Sheep and Goat Development Officer surveyed the districts of Ramanathapuram, Mathurai, Chingleput, Chittoor, Krishna and South Kanara to formulate measures for improvement of sheep and goats in the tract.

(ii) The distribution of rams to improve the mutton or hairy breed of sheep was continued. Twenty-one Mandya rams in Hosur taluk (Salem district), 6 in Avanashi taluk (Coimbatore district) and 25 Nellore rams in Chingleput district and 2 in North Arcot district and 17 rams of the local breed in the Tirumangalam firka (Ramanathapuram) were distributed. Nineteen ewes and two rams of the Mandya breed were introduced in the Araku Valley (Visakhapatnam district).

(iii) The two Sheep Demonstration Units continued to function with headquarters at Coimbatore and Bellary. During the year the units visited 371 villages, conducted 85 shearing demonstrations, and trained 89 shepherds in the proper methods of shearing sheep and grading wool. The units also participated in 11 exhibitions and shows. They also assisted the Soundararajapuram Co-operative and Sheep-Breeding Society and the Kodaikanal Municipality in purchasing the stock required for them.

SHEEP FARM, DUNSANDLE, OOTACAMUND.

82. The farm on the Nilgiris to salvage the white woolly sheep was opened in December 1948 with a flock of two rams, 58 ewes and 9 lambs. During the year, Government sanctioned a scheme for developing this farm with a flock of 200 ewes and 10 rams, so as to improve the breed by selective breeding. The ultimate aim is to grade up the promising stock with Merino rams.

The number sanctioned for the farm could not be purchased as good stock in sufficient numbers were not available for purchase. During the year, 46 lambs were born, 14 ewes and 29 lambs died. The stock at the end of the year was 82 consisting of 6 rams, 48 ewes and 28 lambs. The wool yield per head averaged 2.88 lbs. for rams and 1.63 lbs. for ewes.

GOAT REARING.

83. In order to improve the local breed of goats 50 bucks of the Tellicherry breed were distributed in the districts of South Kanara and Malabar. Two private farms in South Kanara maintained a herd of 50 goats in each.

POULTRY.

84. (i) *General*.—The poultry development work in the State was attended to by the Poultry Development Officer. He periodically inspected the poultry units in veterinary institutions and on agricultural stations, the schemes subsidized by Government and participated in all important shows and exhibitions. The students of the Agricultural Colleges at Coimbatore and Bapatla and the Madras Veterinary College were given a course of lectures in poultry husbandry.

(ii) *Livestock Research Station, Hosur*.—White Leghorns, Rhode Island Reds and Black Minorcas and Turkeys were maintained on the farm. During the year Light Sussex and Austrolops were introduced.

(a) *Fowls*.—There were on 1st April 1949, 1,435 birds. During the year 1,981 chicks were hatched in the incubators, 17 were received from the Indian Veterinary Research Institute and 10 were purchased. Six hundred and sixty-seven were sold and 56 transferred to other stations. Deaths and destructions accounted for 1,703. The stock on 31st March 1950 remained at 1,007.

(b) *Turkeys*.—Nine Turkeys were purchased for breeding and 55 poultry were hatched in the farm. Eleven were sold and 38 died leaving a balance of 47 at the end of the year.

(c) A small number of Muscovy ducks was maintained for instructional purposes.

(d) *Laying hens*.—The average number of laying hens increased from 125 to 191 during the year under report. But the average yield of eggs per hen dropped from 127 to 98.8. The fall in the egg yield was partly due to "Roup" which affected the laying pullets and irregular supply of the usual poultry feed.

However, there were a few good layers whose performances were—

				Egg yield in the year.
White Leghorns Hen No. 602	..	..	..	181
Rhode Island Red Hen No. 514	..	..	..	225
Do. 616	..	..	..	184
Black Minorca Hen No. 623	..	..	..	250
Do. 637	..	..	..	212
Do. 610	..	..	..	193
Do. 620	..	..	..	193
Do. 552	..	..	..	186
Do. 512	..	..	..	181

(e) The receipt and disposal of eggs were—

Receipt.				Disposal.			
Opening balance	..	..	113	Used for hatching	..	..	5,054
Hens' eggs	..	..	18,665	Sold for setting	..	..	3,506
Turkeys' eggs	..	..	1,171	Sold for table	..	..	8,944
Ducks	..	..	159	Otherwise used	..	..	2,340
				Closing balance	..	..	264
Total	..	..	20,108	Total	..	..	20,108

(iii) *Livestock Research Station, Lam.*—The Rhode Island Red birds were maintained on this farm with a small number in White Leghorns. There were 154 birds on 1st April 1949. During the year 303 chicks were hatched and three cocks were received from the Poultry Research Station, Madras. Two hundred and eighteen birds died during the year. Four were sold and 11 (all White Leghorns) transferred to the Veterinary Hospital, Ongole. The stock at the end of the year was 227. In addition, a small flock of Muscovy and Khaki Campbell ducks were maintained and they numbered 11 at the end of the year.

The egg yield for the year was 2,705 of which 1,064 were set for farm hatching and 250 were sold to the public for hatching.

(iv) *Poultry Research Station, Madras.*—The exotic breeds of White Leghorn, Rhode Island Reds and Black Minorcas and a flock of indigenous birds for selective breeding were continued to be maintained. In addition, a small flock of ducks and Turkeys were kept for demonstration and instructional purposes. The water-pump installed last year facilitated the growing of green feeds for the poultry.

(a) *Fowls.*—There were 527 birds on 1st April 1949. During the year 1,707 chicks were hatched on the farm and 145 were purchased or received from other stations. Five hundred and twenty-nine birds were sold and 192 transferred to other stations for breeding. One thousand and eleven birds died. The stock at the end of the year was 655 made up of 28 cocks, 215 hens and 41 chicks.

(b) *Egg yield.*—Seventy-six laying hens were maintained on an average and the egg yield amounted to 11,700, the average yield per hen worked out to 154 for the year. Two thousand five hundred and eight eggs were sold for setting, 5,605 eggs utilized for hatching on the farm, 707 issued to other stations and 1,588 sold for table. The percentage of hatching was 34.5.

The average egg yields for the different birds were—

White Leghorn	..	..	..	..	166.2
Rhode Island Red	..	..	..	..	161.3
Black Minorca	..	..	..	..	153.4
Indigenous	..	..	..	..	129.0

The analysis of the weights of the eggs of the indigenous fowls recorded during the year is tabulated below:—

				Percentage to total yield.	
Weight of eggs.				1949-50.	1948-49.
2 oz. and above	..	..	..	14	15
1½ to 2 oz.	..	..	..	57	45
1½ to 1¾ oz.	..	..	..	27	34
Below 1½ oz.	..	..	..	2	6

(c) *Training.*—A short course in poultry husbandry of 3 months' duration was introduced at the Poultry Research Station during the year. A fee of Rs. 50 is being charged for the course. Two candidates underwent the course. In addition, the B.V.Sc. students had practical classes in poultry farming at the farm.

(v) *Poultry production centre.*—The unit was continued at the Poultry Research Station, Madras, pending its transfer to the Dairy cum Bull Farm, Visakhapatnam. The stock on 1st April 1949 was 565. During the year 752 chicks were hatched and 58 were received from other stations. The mortality was heavy and accounted for 957. The stock on 31st March 1950 was 103 consisting of 8 cocks, 64 hens and 31 chicks. The number of eggs produced at the unit was 3,340 of which 772 were sold for setting and 2,325 were sold for hatching.

(vi) *District poultry farms.*—The three farms are located in temporary structures and proposals to construct permanent buildings are under consideration.

(a) *Cannanore.*—The farm opened in 1948 with White Leghorn made some progress during the year. Rhode Island Red was introduced during the year. Two incubators, one of 100-egg capacity and another of 50, were installed for hatching chicks. Three turkeys and a pair of ducks were also kept.

During the year 603 chicks were hatched on the farm. Two hundred and thirty-four birds were sold and 22 died. The stock at the end of the year was 305 consisting of 5 cocks, 29 hens, 160 chicks, 2 country hens, 7 turkeys and a pair of ducks.

The egg yield for the year was 2,692 excluding 50 from the turkeys. Fifty eggs were received from other stations for hatching. One thousand three hundred and sixty hens' eggs and 50 turkey eggs were utilized for hatching and 3,308 eggs sold for setting.

(b) *Chittoor.*—There were 12 White Leghorn birds on 1st April 1949. The Black Minorca and Rhode Island Red were also introduced during the year. Forty-six birds were obtained by purchase and transfer from other stations and 18 by hatching on the farm. Two hundred and twenty died and 9 were sold. The stock on 31st March 1950 was 110 made up of 5 cocks, 23 hens and 82 chicks.

The egg yield was 1,429 and 50 were received for hatching. Out of this, 805 were used for farm hatching and 167 were sold for hatching to the public.

(c) *Cuddapah.*—A well was sunk for providing water to the farm and to facilitate growing of feeds for poultry. Jonna was cultivated on the farm and 446 lbs. of grain and 3,716 lbs. of straw were harvested.

The strength on 1st April 1949 was 47 Rhode Island Red birds. During the year Black Minorca and White Leghorn were introduced. Eighty-four birds were received by transfer and 248 chicks were hatched. The mortality was heavy accounting for 221. Six were sold and 3 transferred to other stations. The stock at the end of the year was 149 made up of 4 cocks, 29 hens and 116 chicks.

The egg yield for the year was 1,291 and 373 were received from other stations. Out of this 1,981 were set for farm hatching and 232 transferred to other stations.

(vii) *Poultry units in veterinary institutions.*—There were 30 units and no new unit was opened during the year. These produced 22,515 eggs and hatched 7,850 eggs.

A statement of the working of these units is tabulated below:—

Place.	Breed.	Balance on 1st April 1949.	Sold for		Set for hatching.	Broken and fed to chicks.	Transfer.	Balance on 31st March 1950.	Receipts.	Expenditure.
(1)	(2)	(3)	Setting.	Table.	(6)	(7)	(8)	(9)	(10)	(11)
			(4)	(5)					RS.	RS.
1 Visakhapatnam	W.L.	..	74	89	48	..	..	..	..	367
2 Rajahmundry	W.L.	..	77	..	121	..	..	..	34	478
3 Kakinda	B.M.	..	240	27	261	29	..	8	40	495
4 Amalapuram	R.I.R.	..	135	6	54	..	..	6	13	115
5 Vijayavada	R.I.R.	..	213	1,071	..	296	..	..	102	575
6 Ongole	W.L.	..	141	258	967	..	..	..	129	283
7 Nellore	W.L.	..	119	137	..	12	..	..	50	300
8 Cuddapah	W.L.	17	839	46	473	85	253	30	82	897
9 Bellary	R.I.R.	17	..	969	199	44	..	..	84	143
10 Kurnool	B.M.	..	141	183	191	18	..	21	..	..
11 Chingleput	R.I.R.	25	213	331	26	68	..	17	127	1,055
12 Chittoor	..	..	..	..	..	..	..	..	..	..
13 Madanapalle	B.M.	..	59	193	262	14	..	9	19	909
14 Ranipet	W.L.	..	164	354	47	6	..	1	41	300
15 Cuddalore	W.L.	..	21	71	136	36	..	7	14	190
16 Tanjore	B.M.	16	318	723	230	9	..	12	161	258
17 Nagapattinam	R.I.R.	20	77	340	174	17	..	4	115	290
18 Tallakulam	W.L.	4	1,600	1,210	202	..	..	24	310	680
19 Periyakulam	B.M.	..	99	987	117	141	..	..	140	304
20 Devakkottai	B.M.	65	55	179	50	1	..	3	..	..
21 Tirunelveli	R.I.R.	..	1,027	28	298	44	..	8	287	551
22 Pollachi	R.I.R.	..	..	All total	1,724	..	..	..	263	505
23 Coonoor	B.M.	..	..	..	1,012	..	..	..	137	589
24 Ootacamund	W.L.	..	..	..	1,294	..	..	..	..	594
25 Erode	W.L.	3	671	..	1,295	38	..	23	151	620
26 Tiruppur	R.I.R.	8	963	..	274	..	..	10	241	943
27 Salem	B.M.	24	100	165	689	..	..	5	123	201
28 Mangalore	R.I.R.	7	143	..	93	1	..	12	102	204
29 Kozhikode	R.I.R.	..	464	87	52	..	..	..	..	..
30 Nandyal	B.M.	..	334	..	169	51	..	..	..	..

NOTE.—W.L.—White Leghorn.

R.I.R.—Rhode Island Red.

B.M.—Black Minorca.

(viii) *Poultry improvement in the districts.*—(a) The American Arcot Mission with a subsidy from Government continued to popularize poultry as a cottage industry through its auxiliary centres and model poultry units. The Mission sold 200 cocks of the exotic breeds and 263 eggs for setting at concession rates. The twelve model poultry units maintained 293 laying hens, producing 26,730 eggs, of which 26,218 eggs were sold. The five auxiliary centres had a stock of 1,196 birds. The Egg Marketing Society handled 22,133 eggs valued at Rs. 24,711 during the year.

(b) *Land Colonization Scheme.*—Eggs for hatching and cockerels for breeding were distributed to the Land Colonization Co-operative Societies in the different districts. The 9 colonists at Kangayampatti maintained 18 cocks with 204 graded and 114 country hens. They sold 755 eggs for hatching. They had 429 birds at the end of the year.

(c) *Firka Development Centres.*—Cockerels and eggs were distributed in 15 Firka Development Centres to grade up the local poultry. The centre at Alur in Bellary district and Musiri in Tiruchirappalli received 20 and 48 cocks respectively.

(d) *Agricultural farms.*—In addition to the six agricultural stations, Government have sanctioned the introduction of poultry in 15 more agricultural farms.

TRADE IN LIVESTOCK AND LIVESTOCK PRODUCTS.

85. (i) During the year, 4,416 cows and 9,413 she-buffaloes were brought by rail for disposal in the cattle market at Tiruvottiyur (Madras).

(ii) A statement showing the export and import of livestock and livestock products during the year 1948-49 and 1949-50 is furnished below:—

Commodity.	1948-49.		1949-50.	
	Quantity.	Value.	Quantity.	Value.
	TONS.	RS.	TONS.	RS.
Raw goat skins	1,935 and 12 cwt.	1,01,83,093	2,713 and 10 cwt.	1,29,63,195
Raw sheep skins	Nil.	Nil.	Nil.	Nil.
Raw cuttings of hides and skins.	1,830	6,00,084	1,926	7,50,262
Raw cow-calf skins	10	1,953	Nil.	Nil.
Raw other hides	Nil.	Nil.	Nil.	Nil.
Raw cow hides	2 and 10 cwt.	55,833	2	9,687
Raw other skins	6,693 and 33 cwt.	3,14,31,291	10,484 and 35 cwt.	12,476
Tanned cow hides	Nil.	Nil.	733 and 10 cwt.	6,19,98,883
Tanned buffalo hides	348 and 4 cwt.	21,63,878	622 and 10 cwt.	27,77,091
Tanned cow-calf skins	282	12,21,250	541	44,30,998
Tanned buffalo-calf skins	3,114 and 19 cwt.	3,68,14,129	4,071 and 10 cwt.	27,34,861
Tanned goat skins	1,802 and 13 cwt.	2,97,06,810	2,801 and 7 cwt.	1,91,01,631
Tanned sheep skins	52 and 11 cwt.	20,56,725	74 and 29 cwt. and 20 lb.	4,40,10,813
Tanned other skins	..	..	..	51,98,282
Horn tips and pieces of horns ..	3,870	96,329	3,877 cwt.	1,85,072
Ivory manufactured	Nil.	1,904	Nil.	912
Bone meal	2,607	8,63,124	1,300	3,12,847
Bones for mammal purposes ..	1,728	3,81,707	1,784	3,85,193
Animals, living	42,053 Nos.	18,24,005	52,936 Nos.	25,63,422
Leather, unwrought	Nil.	Nil.	3,726 cwt. and 27 lb.	50,42,066

Imports.

Commodity.	1948-49.			1949-50.		
	Quantity.	Value.		Quantity.	Value.	
	TONS. CWT. LB.	RS.		TONS. CWT. LB.	RS.	
Leather, unwrought	..	..	..	15,622	..	3,53,265
Roller skins	..	..	..	79	..	1,59,230
Hides, raw	1,078	13,28,630	..	546	..	6,88,539
Skins, tanned	..	..	..	4	..	22
Skins, raw	561	7,41,095	..	337	19	6,92,361
Hides, tanned	..	..	..	..	14	60
Bacon and ham	1,753	3,81,319	..	..	5	18,402
Milk food for infants and invalid.	5,528	13,51,972	..	5,528	..	13,81,001
Milk products	341	65,016	..	3,092	..	5,46,386
Whole milk including cream ..	..	51,577	..	..	33,810	80,31,757
Dried skimmed milk	3,602	3,10,776	..	3,954	..	3,10,550
Animals, living horse	22 Nos.	1,31,474	..	8 Nos.	..	76,350
Other kinds	9 Nos.	2,170	..	70 Nos.	..	4,831
Dried milk or powder, whole and skimmed	239	18,745	..	..	..	..
Dried milk, condensed or powder, whole	4,174	8,12,297	..	60	..	4,005

V. VETERINARY INSTITUTIONS.

86. (i) The Veterinary Hospital at Sandur was taken over by this Department when that State was merged with this State. Three veterinary institutions at Kaliyampoondi (Chingleput district), Musiri (Tiruchirappalli) and Kalpeta (Wynaad) were opened during the year. The buildings for the institution at Kaliyampoondi were constructed by the people of the locality. The total number of veterinary institutions stood at 144, excluding three maintained by the Corporation of Madras and two by the Zamindari Estates on 31st March 1950.

(ii) The total number of in- and out-patients treated in all the veterinary institutions during the year was 3,52,898 as against 3,32,902 cases in the previous year.

(iii) The leading institutions in the State with the number of cases treated in each case are as follows:—

Name of the veterinary institutions.	Number of cases treated.
Madras Veterinary College Hospital	32,066
Veterinary Hospital, Saidapet	6,560
Veterinary Dispensary, Mathurai	6,271
Do. Vettaikarampudur	5,861
Veterinary Hospital, Salem	5,420
Do. Tiruchirappalli	4,300
Do. Vijayavada	4,790
Do. Tanjore	4,380
Do. Rajahmundry	3,860
Veterinary Dispensary, Kollegal	3,528

VI. ITINERATING STAFF.

87. One touring billet was opened at Jangareddigudem in the West Godavari district which raised the number of touring billets to 167. To provide better facilities to Touring Veterinary Assistant Surgeons to treat cases while at headquarters, Government approved the Director's proposals for the provision of minor veterinary dispensaries.

VII. DISEASES AMONG LIVESTOCK.

GENERAL.

88. There was a slight fall in the incidence of the disease and rise in mortality than in the previous year, the total number of outbreaks received being 4,628 as against 4,664 in the previous year. Statistics of mortality among livestock in the Province and the number of preventive inoculations conducted are furnished in Tables I and II.

89. *Rinderpest*.—Rinderpest occurred in the districts of Visakhapatnam, West Godavari, Krishna, Kurnool, Bellary, South Arcot and South Kanara. The disease was found to be most prevalent in the districts of West Godavari, Kurnool and South Kanara.

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

91. *Blackquarter*.—Blackquarter prevailed in all the districts. The disease was severe in the districts of Nellore, Anantapur, Chittoor and Tiruchirappalli, and mild in the districts of Visakhapatnam, South Arcot, Coimbatore East, and moderately severe in Cuddapah, Salem, Mathurai and Ramanathapuram.

92. *Anthrax*.—The disease was reported from all the districts except the districts of Anantapur, South Arcot, Coimbatore, Mathurai and Ramanathapuram.

93. *Foot-and-mouth*.—The disease prevailed in all the districts. It was severe in the districts of Guntur, South Arcot, Krishna and Chittoor.

94. *Reporting of outbreaks*.—As in the previous years, inaccuracies in registering deaths from various contagious diseases still exist. The touring staff continue to visit the Taluk office at their headquarters every month and assist the Taluk office in scrutinizing the monthly cattle mortality returns compiled there.

The mortality figures under the chief contagious diseases as reported by the Collectors of the districts and by the district staff of this department are furnished below :—

	Rinderpest.	Hæmorrhagic septicæmia.	Black- quarter.	Anthrax.	Foot-and- mouth.	Total.
By Collectors of the districts ..	1,698	8,189	6,942	1,262	230	18,321
By the district staff ..	2,345	8,039	8,914	1,451	114	20,863

The discrepancies between the Collector's figures and the departmental figures are mainly due to the wrong classification of the diseases and in some cases failure to record the deaths due to contagious diseases in mild outbreaks by the former agency. These are being pointed out to the Revenue department as they occur and attempts are being made to reconcile them.

95. *Mortality*.—The total mortality from rinderpest, hæmorrhagic septicæmia, blackquarter, and anthrax was 20,749. The mortality per outbreak from the abovementioned four diseases averaged 4.4 as against 4.2 in the previous year.

The incidence of and mortality from these diseases have been as follows :—

	Attacks.	Deaths.
Rinderpest	4,108	2,345
Hæmorrhagic septicæmia	8,472	8,039
Blackquarter	9,930	8,914
Anthrax	2,106	1,451
Total	24,616	20,749

Against foot-and-mouth disease 20,591 attacks with 114 deaths have been recorded during the year.

CATTLE DISEASES.

(a) Contagious diseases.

96. *Rinderpest*.—There was a rise in the incidence of and mortality from this disease during the year as compared to the previous year; the total loss sustained being 2,339 bovines in 223 outbreaks as against 686 bovines in 198 outbreaks in the previous year. However, the disease was restricted to a narrow belt adjoining the neighbouring States and the districts affected were Visakhapatnam, West Godavari, Krishna, Cuddapah, Kurnool, Bellary, South Arcot and South Kanara.

The number of animals protected by the various methods of inoculation and the mortality among the protected were as follows :—

Kind of animals and method of protection.	In actual outbreaks.		In clean areas.		Total.	
	Number inoculated.	Number died.	Number inoculated.	Number died.	Number inoculated.	Number died.
Cattle—						
Serum alone	229	..	670	..	899	..
Serum simultaneous method with goat virus	69,379	84	51,694	..	121,073	84
			156,090	..	277,163	..
Total	69,608	84	208,464	..	278,072	84
Sheep and goats—						
Serum alone	..	..	..	..	..	..
Serum simultaneous with goat virus	203	6	..	..	203	6
Total	203	6	..	..	203	6

* The Anti-Rinderpest mass inoculation campaign was started on an intensive scale in Visakhapatnam district. A Special District Veterinary Officer, a Special Deputy Tahsildar, eight Veterinary Assistant Surgeons and four Stockmen compounders were posted for this work. Four mobile vans were also supplied. The special staff visited 1,471 villages and protected 156,090 animals against Rinderpest. The scheme commenced on 1st August 1949 and terminated on 13th January 1950.

97. *Hæmorrhagic Septicæmia*.—One thousand five hundred and ninety-four reports with a mortality of 8,039 have been recorded as against 8,499 deaths in 1,510 outbreaks in the previous year. The disease was severe in the districts of Visakhapatnam, Krishna, East Godavari, Cuddapah, Nellore, Guntur and Tanjore. Three lakhs seventy-six thousand eight hundred and nineteen cattle were protected against the disease by vaccine alone method in actual outbreaks of the disease. Besides these, 7,613 bovines underwent vaccine alone method of inoculation in disease-free areas. Only hundred and twenty-four bovines died among the inoculated ones probably due to the animals incubating the disease at the time of inoculation.

98. *Blackquarter*.—During the year 1,805 reports were received under this disease. The total mortality reported was 8,914 as against 7,660 in 2,295 outbreaks in the previous year. The districts of Anantapur, Chittoor and Tiruchirappalli reported the largest number of outbreaks. Four lakhs forty-six thousand seven

hundred and fifty-six bovines in outbreaks and 14,452 bovines in disease-free areas were protected against the disease by vaccine alone method of inoculation.

99. *Anthrax*.—One hundred and twenty-three outbreaks with a mortality of 513 have been recorded against 648 deaths in 190 outbreaks in the previous year. The disease was reported from all the districts except the districts of Anantapur, South Arcot, Coimbatore and Mathurai. The incidence of the disease was severe in the district of Nellore and moderately severe in the districts of Tiruchirappalli and Chingleput and mild in other affected districts. Seven thousand four hundred and fifty-six bovines and 11,893 sheep and goats were protected against the disease. Besides, these 73 bovines were inoculated in disease-free areas.

Kind of animal.	Serum alone method.	Spore vaccine method.	Total.
Bovines	2,555	4,901	7,456
Sheep and goats	178	11,715	11,893
Total ..	2,733	16,616	19,349

100. *Foot-and-mouth*.—Seven hundred and eighty-nine reports were received during the year as against 359 in the previous year. The total mortality reported was 51 as against 66 during the previous year.

101. *Surra (Trypanosomiasis in cattle)*.—Sixteen outbreaks with 59 deaths were reported during the year as against 40 outbreaks with 220 deaths in the previous year. The disease was severe in the district of Tiruchirappalli.

102. *Nasal Schistosomiasis*.—Two thousand two hundred and sixty head of cattle were treated during the year with intravenous injections of Antimonium Tartaratum and 1,020 animals were reported to have been cured. Many animals did not undergo the full course of the treatment and discontinued after one or two injections. The disease has been found almost all over the State as the following statement indicates.

Cases of nasal schistosomiasis.

District.	Number of cases treated.	District.	Number of cases treated.
Visakhapatnam	21	Chingleput	210
Godavari, East	32	South Arcot	74
Do. West	27	Coimbatore	16
Krishna	23	Erode	..
Guntur	7	Tiruchirappalli	498
Nellore	65	Tanjore	388
Cuddapah	12	Mathurai	352
Kurnool	12	Ramanathapuram	342
Bellary	72	Tirunelveli	50
Anantapur	61	Malabar	42
Chittoor	92	South Kanara	7
North Arcot	217	Madras	..
Salem	57		

103. *Johne's disease*.—Twenty-five specimens suspected of the disease were examined in the college out of which seven proved suspicious of the disease.

104. *Tuberculosis*.—Three hundred and thirty-nine animals were tested during the year and 18 proved positive, 12 suspicious and the rest negative.

105. *Brucellosis*.—The Veterinary Investigation Officer visited 32 centres in 5 districts; 806 samples of Sera and one of milk were collected and tested out of which 125 proved positive and 28 suspicious and the rest negative. Three hundred and ninety-seven animals were vaccinated with cotton strain N. 19.

106. *Bovine Lymphangitis*.—Two hundred and thirty-seven cases were treated and 96 cases were cured.

107. *Coccidiosis*.—Out of 779 cases treated for the disease 241 cases were confirmed microscopically.

108. *Rabies*.—Thirty-nine cases were suspected of which 22 cases were confirmed. Two hundred and forty-four animals were given anti-rabic treatment.

109. *Ephemeral fever*.—One thousand and four cases were treated for this disease out of which one died.

110. *Piropasmosis*.—Four hundred and fifty-four cases were treated of which 94 were confirmed microscopically. There was a mortality of 18 cases among the treated.

111. *Mange*.—Seven hundred and thirty-nine cases suffering from mange were treated during the year. Fifty-eight cases were confirmed microscopically.

(b) Non-contagious Diseases.

112. *Cancer*.—Five hundred and thirty cases of cancer of the horn and eye were treated out of which 13 were confirmed histopathologically.

113. *Rheumatic Arthritis or Fluorosis*.—Four hundred and fifty-three cases were treated, the majority of which were in Nellore, Guntur, Kurnool and Cuddapah districts.

114. *Urethral Calculi*.—One hundred and twenty-six cases of urethral calculi were treated at the various institutions mostly in the districts of Krishna, Guntur and Cuddapah.

115. *Chronic Luxation of the Patella*.—Five thousand six hundred and twenty-nine cases were treated during the year.

116. *Haematuria in cattle*.—Eighty-six cases were treated.

117. *Strongylosis in cattle (calves)*.—Seven hundred and sixty-nine cases were treated out of which 125 was confirmed microscopically.

DISEASES OF SHEEP AND GOATS.

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

Name of the disease.	Number of outbreaks.	Number of deaths.
(1) Rinderpest	1	6
(2) Anthrax	43	938
(3) Circling disease	1	5
(4) Pox	20	283
(5) Foot and mouth	2	63
(6) Contagious pleuro-pneumonia in goats	1	3
(7) Sheep dermatitis	1	5

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

Rinderpest	203
Anthrax	11,893
Sheep-pox	4,360
Haemorrhagic septicaemia	64
Sheep dermatitis	248

N.B.—Theileriosis among sheep was recorded for the first time in the Madras State.

OTHER ANIMALS.

Canines.

120. *Rabies*.—Forty-two cases were suspected and 27 were confirmed. One hundred and twenty-seven dogs were given Anti-Rabic treatment.

121. *Piroplasmosis*.—Forty-one cases were confirmed for the disease.

Equines.

122. *Surra*.—The total number of outbreaks received during the year was 25 with 50 attacks and eight deaths. Twenty-two cases were suspected and 21 were confirmed.

123. *Strangles*.—No case of strangles was reported.

DISEASES OF POULTRY.

124. *Fowl cholera*.—One thousand three hundred and twelve birds in actual outbreaks and 429 in free areas were protected.

125. *Fowl-pox*.—Protection was afforded in five districts to 985 birds.

126. *Ranikhet disease*.—The incidence of the disease was reported from 14 districts where 8,678 birds were protected by vaccination. In addition, 1,35,023 birds were protected in free areas.

VIII. INVESTIGATION AND RESEARCH.

MADRAS VETERINARY COLLEGE.

127. The influence of age, pregnancy, lactation, etc., on the ratio between the different varieties of white blood corpuscles of the Kangayam breed of cattle was under study.

Investigation into blood groups in sheep was in progress and the results on the preliminary work indicate that the reactions which were tentatively included under the aberrant type may possibly be a typical or irregular agglutinations.

Chlorozel fast pink, B.K.S. was tried as a substitute for Heparin and the effective dose fixed by actual experiment.

An apparatus for the demonstration of the Starling's heart lung preparation was designed and built.

Work on Hematological studies, diagnostic methods, etc., on Surra was undertaken by a Research Student; the work is in progress.

Schemes for the study of Bovine Horn cancer, and the Bacteriology of mastitis were drawn up.

ARTIFICIAL INSEMINATION IN CATTLE.

128. Artificial insemination in cattle at the Madras Veterinary College is becoming popular with the cow-owners in the City. The results were so encouraging that opening of two more centres one at Coimbatore and the other at Guntur was sanctioned by Government. These were opened on 7th February 1950 and 14th March 1950. Two Veterinary Assistant Surgeons were also sanctioned for work in the City.

(i) *Madras*.—Eight breeding bulls, viz. (Ongoles—2, Scindhis—4, and urrah—2) at the Madras Veterinary College were used for artificial insemination work. One hundred and forty collections of semen were made and 605 cows and 1 she-buffaloes were inseminated during the year as against 222 cows and 18 buffaloes in 1948-49. Of the cows inseminated 32 came for re-insemination. The fruitfulness of the insemination could not be verified to any great extent. However, 117 cows were examined and 91 were found to be in calf.

(ii) *Coimbatore*.—Work at this centre commenced from 7th February 1950. The three breeding bulls at the Veterinary Hospital, Coimbatore, were used. During the period 7th February 1950 to 31st March 1950, 32 collections of semen were made and 79 animals (60 cows and 19 she-buffaloes) were inseminated.

(iii) *Guntur*.—The centre was opened only on 24th March 1950.

RANIKHET DISEASE VACCINE.

129. The production of Ranikhet Disease Vaccine started in 1946-47, continued at the Madras Veterinary College in charge of a Special Officer. During the year 401 c.c. of concentrated vaccine consisting of 401,000 doses were produced in eight brews, against 401.25 c.c. in 1948-49. Three hundred and twenty-four c.c. were issued to the staff in the field and 76 c.c. were sold to the adjoining States of Hyderabad and Cochin. The number of fowls inoculated during the year amounted to 151,825 as against 71,989 in the previous year. Seven more Veterinary Assistant Surgeons were trained in the technique of handling this vaccine. Now each district has a trained Veterinary Assistant Surgeon to carry out the vaccination on a large scale.

VETERINARY INVESTIGATION SCHEME.

130. The study of the following diseases was continued or taken up during year.

(a) *Anthrax in cattle and buffaloes*.—The disease was investigated in 37 centres extending to 8 districts. The district of Nellore recorded ten outbreaks, Chingleput nine and in the other districts, the number varied from one to six. Four thousand nine hundred and one head of cattle (4,837 cattle and 64 buffaloes) were protected with spore-vaccine, leaving about 5 per cent unprotected to serve as controls. The number of attacks and deaths before vaccination were 213 and 171 respectively. After vaccination, there were three attacks resulting in death. Among the unvaccinated, there were 18 attacks and 13 deaths. Enquiries in the six endemic villages, where revaccination was done for a second time, showed that in five villages the disease did not appear and in the sixth the disease recurred affecting only the unvaccinated animals. It therefore appears that with repeated vaccinations, the infection in the endemic areas could be eradicated.

(b) *Brucellosis*.—The investigation of this disease was continued. Eight hundred and six samples of sera and one of milk, from 32 centres, in five districts were examined. Of the samples 125 proved positive, 28 suspicious and the remaining negative. Three hundred and ninety seven animals were vaccinated with cotton strain No. 19, and 45 were left as controls. The results of the vaccinations made in the previous years were encouraging.

(c) *Rinderpest*.—Vaccinations with lapinised virus was conducted by the Officer-in-charge of the Pathology and Bacteriology Section, Indian Veterinary Research Institute, in four centres in the districts of Salem and North Arcot. Three hundred and fifty-eight animals were vaccinated. There were very little reaction in three centres while in the fourth a few animals showed a rise in temperature. The product appears to be safe and its efficacy has to be tested.

A comparative study of goat virus of Mukteswar strain and that of the Madras was made by the same Officer at the Veterinary Biological and Research Institute, Ranipet.

Ten buffaloes were used to test each group of virus. Thermal reaction was more marked in the Madras strain. Only one animal subjected to the Madras goat virus showed mouth lesions. It was hitherto believed that the Madras strain was too virulent to be used without serum. But the experiment has shown the possibility of using goat virus alone.

(d) *Tuberculosis*.—The bullocks of the Madras Corporation, the buffaloes in the Dairy-cum-Bull Farm, Visakhapatnam, and the cattle in the Livestock

Research Station, Hosur, were tested with Tuberculin. The disease was found to be prevalent among the Corporation animals and at Visakhapatnam.

(c) *John's disease*.—Of 20 animals of the Livestock Research Station, Hosur, tested, one proved positive both in John's test and on post-mortem.

SCHEME FOR THE INVESTIGATION INTO THE DISEASES OF POULTRY.

131. Some of the diseases investigated by the Assistant Disease Investigation Officer (Poultry) during the year were:—

(i) *Ranikhet disease*.—One thousand eight hundred and eight-six fowls were protected with Ranikhet vaccine. The post-vaccination reaction was found to be mild and passed off within 10 to twelve days. Laying hens stopped laying from the 4th or 5th day of vaccination, but started laying after a period of 2 to 4 weeks. The immunity conferred by vaccination was found to last for about one year and five months and chicks aged one month and above could be vaccinated with safety.

(ii) *Fowl-pox*.—The outbreaks of fowl pox declined during the year, partly due to the vaccinations in the previous years. As this disease was found to be of a seasonal nature and occurred during the period October to March, timely protective measures are expected to reduce the incidence.

(iii) *Avian Coccidiosis*.—The incidence of this disease was found to be greater in the wet and cool seasons than in summer. It affected young chicks. Of the two species of Worms, *Eimeria Mitis* was found to cause greater mortality than *Eimeria tenella*. Treatment with Sulphamezathine in drinking water was very effective.

(iv) *Avian Leucosis Complex*.—The visual form of the disease affecting the liver, spleen and kidney was found in the birds of the poultry Units and Agricultural and Livestock Farms. The spleen and liver were found enlarged and friable. Blood and liver smears showed numerous lymphoid cells.

(v) *Spirochaetosis*.—The disease was confined to places where the infective tick "*Argas persicis*", the intermediary host, was present. The infection was found among the fowls in the Poultry Research Station, Madras, some poultry Units in the Veterinary Hospitals and the American Arcot Mission, Farm, Katpadi. Intra-muscular injection of Sulpharsenal was successful.

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

132. The Assistant Disease Investigation Officer (Sheep and Goats) investigated the following diseases of sheep and goats:—

(i) *Anthrax*.—The disease was prevalent in the districts of Nellore, Tiruchirappalli and Chingleput. Eleven thousand seven-hundred and fifteen sheep and goats were protected with Anthrax spore vaccine. The duration of immunity was found to range from 3 to 12 months.

(ii) *Sheep dermatitis*.—Outbreak of this disease reported as sheep pox were under investigation for some years past. Infective materials sent to the Indian Veterinary Research Institute were found to be positive for dermatitis and negative for pox.

The disease was confined to sheep and characterized by the occurrence of erythematous spots, especially in the abdomen, axilla, and inner aspect of thigh, which developed into papules. Eruptions were noticed on the face, ear, neck, legs and under surface of the tail. Rise in temperature was noticed even after the appearance of plaques. Vesicular and pustular stages were not met with in the field. Some of the severely affected sheep died from 3 to 5 days of the appearance of the plaque and the percentage of mortality among the affected animals was up to 50.

Preventive vaccinations with scabs derived from Mysore virus and that of local virus were done on 1,96 sheep. The reaction was varying. Some passed through a very mild type of attack and recovered, and in others not even local reaction was noticed. The work will be continued.

HELMINTHIASIS SCHEME.

133. The work done during the year is detailed below:—

(i) *A. Vitulorum*.—Some more experiments to artificially infect the animals were repeated but were not successful.

(ii) *P. Cervi & G. Crumenifer*.—Studies on these Trematodes were continued material from the slaughter-house.

(iii) *Moniezia Spp.*.—Due to drought conditions the incidence of the mites was considerably interfered with. It was possible to feed mites with eggs of *Moniezia* on occasions and the normal development of the cysticercoid followed up to the infective stage. It is confirmed that *M. Benedeni* also utilizes the same species of mite for transmission.

(iv) *Limnaea* and *Indoplanorbis*.—The occurrence of Snails in various types of waters, their feeding and reproductive processes and association with other animals and plants have all been investigated. Regarding control methods observation on "*Agrocyone*" and firefly larvae have revealed ample prospects. Among natural enemies the fish *Lobistes* (guppy), larvae of the aquatic beetle "*Cybister*" and of dragon flies also hold some promise. "*Malachite*" was more efficacious than copper sulphate in destroying aquatic snails.

KANGAYAM CATTLE IMPROVEMENT SCHEME.

134. The object of the scheme is to improve the milking qualities of the Kangayam cows without impairing the draught qualities of the male by selective breeding and feeding. The scheme commenced on 31st July 1942, and has been extended for a further period of six years from 1st April 1948. The number of animals in the scheme during the year under report was:—

	On 1st April 1949.	On 31st March 1950.
Cows in milk	39	50
Cows, dry	41	38
Young heifers	50	53
Young bulls	54	62
Young bullocks	18	19
Bull-calves, below one year	28	31
Heifer calves, below one year	25	24
Breeding bulls	3	4
Total	258	281

During the year under report there were 48.2 cows in milk, which gave an average daily yield of 6 lb. as against 5 lb. in 1948-49. One hundred and fifty-eight calves were born of which one was deformed. The average live weights of the calves born during the year are compared with those of the previous year:—

	Weight in pounds.	
	1949-50.	1948-49.
Average weight of calves	43.6	41.9
Average birth bull-calf	45.6	42.8
Average birth weight of heifer-calf	40.0	39.9
Maximum weight of calf (bull)	60.0	52.0
Minimum weight of calf (heifer)	35.0	31.0

Testing for draught capacity.—Nineteen young bullocks have been trained for ploughing and work at the mhote. They will be tested for draught capacity in 1950-51.

MADRAS SHEEP BREEDING SCHEME.

135. The object of the scheme is to evolve a white woolly sheep yielding a larger quality of better wool than the Bellary breed. The work is carried on with the Bellary breed of sheep under two heads, (i) by selective breeding of the Bellary breed and (ii) cross breeding the Bellary ewes with Bikanir rams. The latter work is partly financed by the Indian Council of Agricultural Research.

(i) *Bellary flock*.—The strength of the flock on 1st April 1949 was 170. During the year 63 lambs were born. There were 25 deaths and 69 were disposed of. The balance at the end of the year was 139.

Black-faced white bodied Bellary rams were mated to Bellary ewes. Of the 63 lambs born, 8 were white, 34 were black-faced white; 7 black and white and 14 all blacks.

Wool yield.—The sheep were shorn twice and the total wool yield obtained was 383 lb. which worked out to 3 lb. 6 oz. per head as against 3 lb. 2 oz. in 1948-49. The average yield for the different groups with the corresponding figures for the previous year is detailed below:—

	1949-50.		1948-49.	
	Lb.	Oz.	Lb.	Oz.
Bellary ram	4	12	4	7
Yearling rams	4	10	4	0
Farm bred ewes	2	14	2	11
Purchased ewes	1	14	1	3

(ii) *Bikanir-Bellary flock*.—There were 98 sheep on 1st April 1949. During the year 28 lambs were born and two Bikanir were purchased for stud purposes. Twenty sheep were sold and 24 died. The stock at the end of the year was 84.

Wool yield.—The Bikanir rams gave 6 lbs. 4 oz. of wool per head. The average wool yields, live weights of the progeny for the different groups were:—

Wool yield.	F-1		F-2		F-3		F-4	
	Lb.	Oz.	Lb.	Oz.	Lb.	Oz.	Lb.	Oz.
Bikanir-Bellary crosses ram	4	11	5	13	6	1	..	..
Yearling ram	..	..	..	..	3	3	3	4
Ewes	3	4	..	..	4	12	..	..
Yearlings ewes	..	..	1	15	..	..	..	..
<i>Live weight</i> —								
Crossbred rams	109	8	100	0	105	0	0	0
Yearling rams	..	..	69	8	60	0	70	0
Ewes	68	0	69	0	61	0	..	..
Yearling ewes	..	..	41	0	..	..	..	..

Wool analysis.—Samples of wool were analysed on the lines of the Elphic Benzol method. The results of the same are tabulated below:

	Percentage of	
	Medulation.	Medulated fibres per unit weight.
Bellary (Pure)	..	..
Bikanir-Bellary crosses	45.9	54.4
F-1	..	..
F-2	46.0	48.5
F-3	19.5	13.6
F-4	9.1	6.4
	14.3	13.0

THE INDIGENOUS DRUGS SCHEME.

136. The scheme which has been functioning in the Medical College, Madras, from July, 1940 was proposed to be taken over by the Government of India. Hence the work on the plants on hand were completed and only two new plants were taken up for study during the year. Some of the important plants studied during the year were:—

(i) *Acorus calamus*.—The roots of this plant were found to be toxic to canines and ruminants due to the essential oil contained therein which

caused severe gastro enteritis. Results of the experiments to determine the insecticidal and tickicidal value of the essential oil were not encouraging. Bromides, chloral hydras and Tr. hyocyamus were found to be suitable antidotes if administered at the first appearance of the toxic symptoms. Treatment after the onset of symptoms was not successful.

(ii) *Lochnera Pusilla*.—The toxicity of this plant caused diarrhoea. Treatment for this poisoning consisted in restricting the diet and administering astringents to check the diarrhoea.

(iii) *Anona Squamosa*.—In dogs fed with powdered seed of this plant, in doses of 1 gm. per kg. of body weight emesis was produced in 1 to 1½ hours. Repeated daily administration of this drug caused severe diarrhoea. The causating factor was attributed to the high percentage of an irritant oil in the seeds.

(iv) *Calotropis gigantea*.—The pharmacological investigation of the crystalline active principle of the juice of this plant was carried out. The drug was found to possess cumulative properties. It increased the efficiency of the heart and caused a marked constriction of the volumes of organs as spleen, liver, kidney, etc. As the drug has got a sustained stimulant action on the circulation and is able to revive failing hearts further work on this is likely to be economically valuable.

(v) *Loranthus Longiflorus*.—This plant was found to be harmless without any active principles.

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

137. This scheme wholly financed by the Indian Council of Agricultural Research was sanctioned for a period of one year from 1st May 1949. The Special Officer in charge of the scheme visited 25 institutions, in and outside the State. Ancient literature on the Indigenous Veterinary Medicine covering 1211 pages were arranged to be obtained. Prescriptions on the treatment of cattle ailments were also compiled. A glossary of the herbs and plants used in the indigenous veterinary practice with their English and botanical names was also under compilation.

IX. FIRKA DEVELOPMENT.

138. Special attention was paid to the centres selected for intensive rural upliftment, under the Firka Development Schemes. In order to provide veterinary aid, and advise the ryots on the measures to improve their livestock, thirty-one Veterinary Assistant Surgeons and thirty-nine stockmen compounders were employed in the centres, as against twenty-seven Veterinary Assistant Surgeons and twenty-nine stockmen compounders in the previous year. The number of bulls stationed in the centres increased from 125 in 1948-49 to 187 during the year under report. The three centres in the Coimbatore district, viz., Vellakoil, Prundu ai and Avanashi led the centres with 25, 21 and 15 bulls respectively. In order to eliminate breeding by scrub bulls, castration of the unwanted bulls was carried out. Seven thousand four hundred and nineteen castrations were done. Seventy-one thousand two hundred and eight inoculations were done against contagious diseases and 28508 cases were treated. Grading of the indigenous poultry by cockerels of the exotic breed was continued. One hundred and thirty cocks were distributed. In addition 120 chicks and 764 eggs of the exotic breeds were issued. Twenty-one thousand five hundred and four birds were protected against Ranikhet disease. Twenty-two cattle shows were held. Five Tellicherry breed of bucks were distributed in the centre in South Kanara district to improve the milk yield of the local goats.

X. MISCELLANEOUS.

139. *Criminal poisoning and malicious injury*.—The Chemical Examiner to Government examined materials connected with cases of poisoning involving 80 animals. Arsenic was detected in 13 cases, oleander in 6, Madar in 2 and copper in

one case. The departmental staff examined 273 cases of malicious injury and certificates were issued in all cases.

140. *The Prevention of Cruelty to Animals Act*.—The total number of convictions under the Prevention of Cruelty to Animals Act was 15,801.

141. *Forest Livestock*.—There was a mild outbreak of foot and mouth disease in the Topslip division affecting five elephants. All the elephants were protected against an brax. Four hundred and four cases of non-contagious diseases were treated as against 463 in the previous year. Five elephants were captured and there were five births and five deaths; nine elephants were sold.

142. *Meat inspection*.—Eight municipalities had their own Veterinary Assistant Surgeons for anti and post-mortem examination of the livestock intended for slaughter. One hundred and five municipalities and panchayat boards entrusted the work to the Veterinary Assistant Surgeons of this department.

143. The lethal chambers for destruction of dogs maintained by the local bodies were inspected.

144. *Propaganda*.—The activities of the department and the various livestock improvement schemes were explained to the public by the field staff. The department participated in all the major and local shows and exhibitions.

Five talks in Tamil and Telugu were broadcast from the All India Radio, Tiruchirappalli and Madras; the subject of the talks were—

- (1) Usefulness of pedigree bulls in grading up village cattle.
- (2) Feed and its part in livestock improvement.
- (3) Brucellosis in animals.
- (4) Fresh water snails, their relation to parasitic diseases and their eradication.
- (5) Sterility in cows.

XI. POST-WAR DEVELOPMENT SCHEMES.

145. *Madras Veterinary College buildings*.—The scheme for effecting additions and alterations to the Madras Veterinary College was ordered to be postponed.

146. *District Cattle Farm*.—Inclusive of two farms sanctioned in the districts of Malabar and South Kanara, four farms are counted against the Post-war Reconstruction Scheme. Acquisition of lands for another farm in Kurnool district was sanctioned during the year. Please see Section IV.

147. *Livestock Improvement Scheme*.—Male breeding stock were distributed as explained in paragraph 68.

148. *Veterinary aid*.—Three veterinary institutions were opened during the year against Scheme No. 63 (Section V paragraph 97). In addition one touring billet was opened at Jangareddigudem, West Godavari district, against Scheme No. 61. Fifty posts of Veterinary and Livestock Inspectors in the place of stockmen compounders and counting against Scheme No. 62 were sanctioned. The appointments to the posts will be made from the first batch of students completing the course in June 1950.

149. The post of Joint Director, District Veterinary Officers and the Assistant Disease Investigation Officer (Sheep and Goats) were continued.

150. *Training abroad*.—Of the two officers under training abroad, one returned after obtaining Ph.D. in Genetics. The Officer selected for training in preparation of biological products was deputed during the year.

XII. FINANCE.

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

152. The expenditure for the year was Rs. 49,61,769 as against Rs. 39,89,359 during 1948-49. The increase in the expenditure was mainly due to the following factors :—

(1) The drawal of transit pay and leave salary of Mr. T. J. Hurley and the continuance for a further period till the end of May 1949 of the staff sanctioned for the revision of the Civil Veterinary Department Manual.

(2) The drawal of pay and dearness allowance at enhanced rates by the peons on account of the revision of their scales of pay and drawal of increment by the staff.

(3) Grant of tour and transfer travelling allowance to probationary District Veterinary Officers under training.

(4) The drawal of other compensatory allowance by the staff in Chittoor, Cuddapah districts, etc.

(5) The increased correspondence in the District Veterinary Offices.

(6) Increase in wages of menials at some of the veterinary institutions, enhancement of rent of some of the institutions and high cost of articles procured for hospital use.

(7) Drawal of increased travelling allowance consequent on the drawal of higher rates of pay by the staff.

(8) Appointment of thirty additional stockmen-compounders during the year.

(9) Sanction of the post of a Physical Director at the Madras Veterinary College on a higher scale of pay, grant of regular scales of pay for valet driver and cleaner and sanction of a third Additional Assistant Lecturer for Veterinary and Livestock Inspectors' Course.

(10) Increased activities of the College, purchase of two refrigerators;

(11) Cost of constructing bodies for two station wagons and cost of body and internal fittings for the mobile laboratory.

(12) Re-employment of the Superintendent, Veterinary Biological and Research Institute, Ranipet, after retirement.

(13) Drawal of arrears of pay by some members of the staff.

(14) The increase in the cost of fodder articles.

(15) Purchase of ewes and rams and increase in the cost of fodder.

(16) Grant of travelling allowance to non-officials who attended the All-India Cattle Show.

(17) Sanction of additional staff, viz., a storekeeper and a fieldman for livestock farm.

(18) Opening of the newly sanctioned farms at Malabar and South Kanara districts.

(19) Grant of charge allowance to Sheep and Goat Development Officer and purchase of cycle, furniture for his use and payment of pay and dearness allowance to the additional peon sanctioned.

(20) Appointment of staff sanctioned for artificial insemination work.

153. The receipts of the department during the year amounted to Rs. 4,97,680 as against Rs. 3,00,780 in 1948-49.

The increase in the receipts is due to sale of more number of discharged animals at the Veterinary Biological and Research Institute, Ranipet, the receipt on account of the sale of milk, etc., at the Dairy cum Bull Farm, Visakhapatnam, and increase in the inspection fees of animals exported from Tuticorin.

154. The expenditure incurred by the Public Works Department (original works and repairs) on the buildings of the Animal Husbandry Department during the year as reported by the Accountant-General, Madras, was Rs. 3,28,944-6-5 as against Rs. 1,19,120-7-1 in the previous year.

XIII. PROGRAMME OF WORK.

155. The programme of work for 1949-50 outlined in the report for 1948-49 was carried out as indicated below :—

(i) *Investigation and research.—Tuberculin testing of cattle.*—The Scheme to determine the incidence of bovine tuberculosis, though sanctioned by Government, could not be taken up during the year as certain materials for preparation of the testing agent were not available. The scheme has, however, been started in 1950-51.

(ii) *Study of sterility in cattle.*—The Indian Council of Agricultural Research at whose instance the scheme was proposed, postponed the consideration of the scheme, as it was not found possible to provide a fully equipped sub-section at the Indian Veterinary Research Institute.

(iii) and (iv).—Preparation of avianized rinderpest vaccine and sheep pox vaccine. These were not taken up due to increased production of rinderpest serum for the mass inoculation in Visakhapatnam district.

(v) *Livestock.*—Opening of two livestock farms in each of the districts of South Kanara and Malabar was sanctioned.

(vi) *Artificial Insemination Centres.*—Two centres, one at Coimbatore and the other at Guntur were opened—vide paragraph 139.

(vii) *Financial assistance to breeders in the shape of subsidy and loan* was sanctioned—vide paragraph 68 (v).

(viii) *Grading up of village cattle.*—A scheme in this direction for introduction in a firkha in each of the districts of Bellary and Tanjore has been sanctioned.

The scheme was not implemented during the year, pending orders of Government on some questions in the working of the scheme.

(ix) *Formation of Breeders' Association.*—The proposals are pending with Government.

(x) *Animal Nutritional Section at the Livestock Research Station, Hosur.*—The proposals were deferred by Government.

156. Programme for 1951-52—

Veterinary aid.—

(i) Opening of four veterinary institutions.

(ii) Opening of five touring billets with a minor veterinary dispensary in each.

Control of disease.—

(i) Opening of quarantine stations on the land frontiers of this State to prevent infection through the migration of cattle from other States.

(ii) Preparation of new biological products at the Veterinary Biological and Research Institute, Ranipet (lapinised and airanised rinderpest vaccines).

Research.—

(i) Study of Bovine Mastitis.

(ii) Study of sterility in cattle.

Livestock Improvement.—

(i) Extension of artificial insemination work in other places.

(ii) Opening of a livestock farm near Mahanandy in Kurnool district.

MADRAS,
7th February 1951.

V. R. RAJAGOPALAN,
Director of Animal Husbandry.

TABLE I.—Statistics of mortality from contagious diseases and other causes among livestock in the Madras State during the year 1949-50 (as furnished by the Collectors and as recorded in the District Veterinary Offices).

Kind of animals.		Nature of diseases.								
		Glanders.	Surra.	Dourine.	Anthrax.	Rinderpest.	Haemorrhagic septicaemia.	Blackquarter.	Foot and mouth.	Sheep-pox.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Equines		6	..	..	..	..	..	..	..	
Bovines—										
Cattle		197	..	1,165	1,349	5,621	6,287	217	..	
Buffaloes		2	..	97	349	2,568	655	13	..	
Ovines—										
Sheep		..	..	1,516	..	..	..	60	293	
Goats		..	..	43	..	..	..	..	..	
Canines—										
Dogs		..	..	..	..	..	..	..	..	
Others		..	..	..	..	..	..	..	..	
Total	{ 1949-50	205	..	2,821	1,698	8,189	6,942	290	293	
	{ 1948-49	242	..	1,089	525	6,823	6,578	137	223	
	{ 1947-48	890	..	1,706	1,258	6,678	14,024	147	195	

Kind of animals.	Nature of diseases—cont.							
	Goat-pox.	Pleuro-pneumonia.	Scab.	Rabies.	Other contagious and parasitic diseases.	Total contagious diseases.	Total other causes.	Grand total of contagious diseases and other causes.
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Equines	..	..	..	..	..	..	2	2
Bovines—								
Cattle	..	..	..	..	..	11,836	..	11,836
Buffaloes	..	..	..	..	..	3,684	585	4,269
Ovines—								
Sheep	..	..	..	..	199	2,968	175	2,343
Goats	..	..	..	..	6	52	52	53
Canines—								
Dogs	..	..	..	15	9	24	23	44
Others	..	..	..	..	..	..	..	..
Total	1949-50	..	3	15	214	20,664	786	22,256
	1948-49	..	10	9	451	10,093	6,145	22,238
	1947-48	..	181	9	415	25,503	7,039	32,542

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 1949-50.

(1)	(2) Number of veterinary institutions.	(3) Number of Veterinary Assistant Surgeons employed.	Number of in-patients treated.				(8) Bovine.
			(4) Bovines.	(5) Equines.	(6) Others.	(7) Total.	
Government institutions ..	133	140	9,212	836	715	10,763	214,651
Private institutions ..	12	2	1,162	188	218	1,568	3,653
Total { 1949-50 ..	140	142	10,374	1,024	933	12,331	247,804
1948-49 ..	142	144	11,613	836	1,071	13,520	227,944
1947-48 ..	140	142	10,863	1,162	1,664	13,689	227,652

	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.		
	Equine.	Others.			Bovine.	Equine.	Others.
	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Government institutions ..	3,308	81,970	346,002	2,794	50,333	80	12,164
Private institutions ..	455	1,039	6,206	2,034	512	50	297
Total { 1949-50 ..	3,763	83,009	352,208	4,828	50,845	130	12,461
1948-49 ..	11,501	79,927	352,002	3,334	45,755	656	13,911
1947-48 ..	13,556	75,029	329,026	2,718	43,302	595	11,636

TABLE IV.—Statement showing the number of animals treated and castrated by Veterinary Assistant Surgeons on tour during the year 1949-50.

by Veterinary Assistant-Surgeons.					Castrations performed.			Treated
(1)			Number of Veterinary Assistant-Surgeons.	Number of villages visited by the Veterinary Assistant-Surgeons.	Bovines.	Equines.	Others.	Bovines.
			(2)	(3)	(4)	(5)	(6)	(7)
1940-50	..	..	123	26,878	50,920	16	4,504	38,242
1945-49	..	..	165	23,622	45,071	6	5,781	38,857
1947-48	..	..	165	27,491	56,077	54	6,651	17,180
for contagious diseases.					Treated for non-contagious diseases.			Total number of castrations performed and cases treated.
			Equines.	Others.	Bovines.	Equines.	Others.	(13)
			(8)	(9)	(10)	(11)	(12)	
1940-50	..	..	226	1,706	86,175	1,077	5,004	234,941
1945-49	..	..	278	2,503	80,524	1,083	7,157	176,260
1947-48	..	..	72	719	106,205	1,487	5,146	193,681

Madras—Serum Institute, Rajapet or its branch at Madras Veterinary College.
Mukreswar—Indian Veterinary Research Institute.
Besides 207,784 bovines underwent preventive inoculations in clean areas. These figures include mass inoculation conducted in Visakhapatnam district.
Besides 135,023 fowls underwent preventive inoculations in clean areas.
The mortality among the inoculated animals were chiefly due to the animals incubating the disease at the time of inoculation.

TABLE V (a).—Statement showing the number of approved bulls at stud in the State of Madras during the year 1949-50.

Serial number and district.	Present on 1st April 1949.			Obtained during the year.			Casualties during the year.		
				Number.			Average price.		
	Government.	Local bodies.	Others.	Government.	Local bodies.	Others.	Government.	Local bodies.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Visakhapatnam ..	5	..	40	8	10	9	..	..	18
2 East Godavari ..	3	..	90	9	..	12	..	..	22
3 West Godavari ..	1	..	50	3	..	2	..	..	26
4 Krishna ..	1	..	48	..	..	1	..	..	23
5 Guntur ..	2	..	32	2	..	1	..	..	26
6 Nellore ..	2	..	65	..	..	26	..	..	11
7 Cuddapah ..	1	..	8	6	..	4	..	..	4
8 Anantapur ..	9	..	30	11	..	12	..	..	6
9 Bellary ..	4	3	8	5	..	12	..	..	6
10 Kurnool ..	4	..	35	5	3	12	..	..	15
11 Madras ..	13	..	4	1	..	7	..	..	..
12 Chingleput ..	1	..	14	3	..	1	..	..	2
13 Chittoor ..	6	..	21	2	..	6	..	..	5
14 North Arcot ..	4	1	5	3	..	2	..	..	3
15 South Arcot ..	3	2	..	..	..	..	..	..	1
16 Tanjore ..	6	12	5	..	1	2	..	..	4
17 Tiruchirappalli ..	3	2	65	7	1	19	..	..	8
18 Madurai ..	20	..	27	15	7	5	..	..	8
19 Ramanathapuram ..	..	..	..	1	2	3	..	..	1
20 Tirunelveli ..	4	1	6	8	4	9	..	..	3
21 Coimbatore ..	61	122	152	25	15	90	..	..	30
22 The Nilgiris ..	..	..	7	..	..	4	..	..	..
23 Salem ..	23	10	37	..	2	14	..	..	..
24 South Kanara ..	2	1	8	49	..	5	..	..	..
25 Malabar ..	2	..	5	..	..	..	..	..	2
Total .. { 1949-50 ..	193	154	806	165	81	292	..	..	223
{ 1948-49 ..	165	136	821	82	60	245	..	..	260
{ 1947-48 ..	162	125	683	50	49	361	..	..	223

TABLE V (b).—Statement showing the number of approved buffalo bulls at stud in the State of Madras during the year 1949-50.

Serial number and district.	Present on 1st April 1949.			Obtained during the year.			Casualties during the year.		
				Number.			Average price fixed.		
	Government.	Local bodies.	Others.	Government.	Local bodies.	Others.	Government.	Local bodies.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Visakhapatnam ..	1	..	7	2	..	2	..	..	1
2 East Godavari ..	9	..	61	4	..	23	..	..	14
3 West Godavari ..	7	..	56	4	..	9	..	..	13
4 Krishna ..	1	1	78	1	..	9	..	..	30
5 Guntur ..	6	..	9	2	..	1	..	..	3
6 Nellore ..	..	..	16	..	..	..	..	..	1
7 Cuddapah ..	6	..	2	6	..	1	..	..	..
8 Anantapur ..	..	..	1	..	..	..	..	..	..
9 Bellary ..	1	..	2	..	..	..	..	..	..
10 Kurnool ..	2	..	1	..	..	3	..	..	..
11 Madras ..	..	..	1	1	..	..	..	..	..
12 Chingleput ..	..	..	..	..	..	..	..	..	..
13 Chittoor ..	2	..	..	..	..	..	..	..	..
14 North Arcot ..	..	..	2	..	..	..	..	..	..
15 South Arcot ..	..	..	13	1	..	..	..	..	1
16 Tanjore ..	..	..	11	..	..	..	..	..	5
17 Tiruchirappalli ..	7	..	5	1	..	..	..	..	4
18 Madurai ..	3	..	2	2	..	..	..	..	..
19 Ramanathapuram ..	1	1	1	..	..	..	..	..	..
20 Tirunelveli ..	11	1	22	4	..	8	..	..	11
21 Coimbatore ..	..	..	1	..	..	10	..	..	..
22 The Nilgiris ..	..	..	1	..	..	..	..	..	..
23 Salem ..	..	..	2	5	..	..	..	..	..
24 South Kanara ..	1	..	2	1	..	..	..	..	..
25 Malabar ..	..	..	..	..	..	..	..	..	..
Total .. { 1949-50 ..	71	3	296	41	1	94	..	..	87
{ 1948-49 ..	84	19	383	19	3	83	..	..	58
{ 1947-48 ..	89	5	229	24	..	88	..	..	40

Number of approved bulls at stud.				Net cost for issue and maintenance of stud bulls.				Population of cows over three years according to census.	Required to be maintained at 1 per 100.	Short of requirements.	Number of cows covered during the year.
Balance on hand on 31st March 1950.				Government.	Local bodies.	Others.	Total.				
Government.	Local bodies.	Others.	Total.								
(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)				
RS.	RS.	RS.	RS.								
10	9	31	50	11,892	1,000	30,615	43,507	279,166	2,792	2,742	3,125
12	..	80	92	870	..	19,321	20,191	243,618	2,436	2,344	4,522
2	..	26	29	..	..	8,300	8,300	165,423	1,654	1,625	1,105
1	..	29	30	800	..	..	800	157,564	1,376	1,346	868
4	..	7	11	510	..	5,641	6,151	118,214	1,182	1,171	636
2	..	80	82	1,190	..	15,733	16,923	237,354	2,374	2,292	2,397
16	..	36	52	2,200	..	616	2,816	78,640	786	770	297
9	6	14	29	2,330	..	4,000	6,330	14,439	144	92	1,537
2	..	27	29	..	..	1,000	1,000	94,515	945	916	1,234
13	..	11	29	528	..	3,700	4,228	91,486	915	886	47
4	..	13	25	1,600	..	..	1,600	3,317	33	8	638
13	3	22	38	600	..	2,500	3,100	212,162	2,122	2,105	500
7	..	5	12	2,200	..	4,033	6,233	289,835	2,898	2,860	1,723
..	4	5	9	4,010	..	956	4,966	256,397	2,563	2,551	512
11	11	110	132	1,207	..	932	3,130	414,843	4,148	4,139	415
18	2	28	54	4,370	..	20,924	25,294	323,014	3,230	3,098	3,875
21	2	22	45	2,678	2,800	6,843	12,321	230,827	2,308	2,254	1,625
8	4	14	26	3,185	400	5,340	8,925	194,270	1,943	1,898	2,100
5	..	16	21	..	..	776	776	131,975	1,320	1,294	1,725
33	43	212	438	2,998	..	2,710	5,708	141,500	1,415	1,394	1,324
1	..	11	12	12,481	10,000	11,224	33,708	329,189	3,292	2,850	18,899
6	12	51	69	2,345	2,949	6,435	11,129	16,989	160	148	8,098
55	1	13	69	2,380	..	1,939	4,319	362,616	3,226	3,223	3,698
5	..	3	8	1,850	..	1,200	3,050	205,494	2,055	1,986	3,219
..	..	..	..	..	..	..	..	327,708	3,277	3,269	865
317	203	875	1,395	62,227	10,549	1,54,738	2,38,514	5,029,513	50,295	48,900	56,321
193	154	806	1,153	..	..	..	2,18,807	5,029,513	50,295	49,142	57,123
165	136	821	1,122	..	..	..	1,24,363	5,029,513	50,295	49,173	43,859

Number of approved bulls at stud.				Net cost for issue and maintenance of stud bulls.				Population of she- buffaloes over three years according to census.	Number of bulls.		
Balance on hand on 31st March 1950.				Government.	Local bodies.	Others.	Total.		Required to be maintained at 1 per 100.	Short of re- quirements.	Number of she- buffaloes covered during the year.
Govern- ment.	Local bodies.	Others.	Total.								
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
				RS.	RS.	RS.	RS.				
3		8	11	700				177,794	1,778	1,767	415
11		70	81	2,389		13,220		143,647	1,436	1,355	2,112
11		52	63			10,055		156,339	1,553	1,490	1,865
1	2	57	60	800				261,184	2,612	2,552	1,769
8		6	14	1,200		1,090		354,500	1,345	1,331	673
		20	20			3,698		255,850	2,559	2,539	718
11		4	15	1,073		215		147,311	1,473	1,458	673
		3	2			460		87,997	880	878	50
8		3	11			340		80,974	810	799	378
1		1	1					169,130	1,691	1,690	13
		1	4					4,413	44	40	152
1		3	4			600		88,225	882	774	137
								91,251	913	913	
2			2					65,691	657	655	40
						400		65,403	654	653	21
		14	15			2,640		128,399	1,284	1,269	478
6		13	19			3,277		113,903	1,139	1,120	564
8		5	13	331		1,061		77,401	774	761	369
5		2	10			440		52,752	527	517	272
1		2	3	310		230		91,193	912	909	96
6		19	25	540		2,860		108,722	1,087	1,062	478
2		11	13					10,230	102	89	176
5		1	1			86		93,692	937	926	50
2		1	6	305		220		50,323	503	497	294
5			4	622		585		44,290	443	439	192
93	2	303	398	8,323		39,517	47,840	2,919,614	29,196	28,798	12,355
71	3	296	370	11,439	921	45,187	55,547	2,919,614	29,196	28,826	18,887
84	1	271	356				46,892	2,919,614	29,196	28,840	17,411

TABLE V (c).—Statement showing the number of approved horses, donkeys and stallions at stud in the State of Madras during the year 1949-50.

Year.	Number as on 1st April 1949.			Obtained during 1949-50.			Casualties.		Balance on 31st March 1950.			Number of mares covered.		Population of mares.	
	Government.		Others.	Government.		Others.	Government.	Others.	Government.		Others.	Horses.	Donkeys.	Horses.	Donkeys.
	(2)	(3)		(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1949-50	8	..	..	2	..	..	2	..	2	..	..	123	..	6,145	28,285
1948-49	8	..	..	..	..	..	..	..	2	..	..	157	..	6,145	28,285
1947-48	9	1	..	..	..	..	1	1	2	..	..	187	..	6,145	28,285

TABLE VI.—Abstract of particulars regarding cattle fairs and shows held during the year 1949-50 in the Madras State.

Year.	Total number of stock present.							
	Total number of cattle fairs and shows held.	Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes.	Camels.	Ponies.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1949-50	245	35,617	2,50,145	26,921	77,340	31,231	Nil.	1,389

Total number of animals sold.					
Bulls.		Bullocks.		Cows.	
Number.	Average price.	Number.	Average price.	Number.	Average price.
(11)	(12)	(13)	(14)	(15)	(16)
	RS.		RS.		RS.
12,872	500 each	87,674	600 each	12,094	250 each

Total number of animals sold—cont.					
Buffaloes.		Ponies.		Amount realized in fees.	Total number of animals that competed for prize.
Number.	Average price.	Number.	Average price.		
(17)	(18)	(19)	(20)	(21)	(22)
	RS.		RS.		
19,317	400 each	300	250 each	8,471	27,037

Prize money awarded.				Amount actually awarded.	Number of medals awarded.
From provincial funds.	From local funds.	From other sources.	Total.		
(23)	(24)	(25)	(26)	(27)	(28)
9-10-0	23,830-0-1	47,863-3-1	32,241-0-5	1,186 and 47 cups.	

TABLE VII.—Statistics of livestock slaughtered in recognized slaughter-houses in the State of Madras during the year 1949-50.

Year.	Number of recognized slaughter-houses for								Number of animals slaughtered.				
	Cattle and buffaloes.		Sheep and goats.		Pigs.		Others.		Number of unlicensed slaughter-houses.	Cows.	Bulls and bullocks.	Calves.	He-buffaloes.
	Govern- ment.	Local bodies.	Govern- ment.	Local bodies.	Govern- ment.	Local bodies.	Govern- ment.	Local bodies.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1949-50	104	..	3	352	1	15	1	12	2	28,035	64,877	2,874	19,547
1948-49	106	..	..	311	1	12	1	21	7	29,408	53,014	845	28,532
1947-48	95	..	3	228	..	14	..	22	24	36,052	73,005	116	53,654

Shee- buffaloes.	Number of animals slaughtered—cont.						Slaughter fee per head.								Total animals slaughtered.						
	Sheep.	Goats.	Pigs.	Other animals.	Cattle.	Buffaloes	Sheep and goats.		Pigs.	Others.											
							Rs.	A. P.													
(15)	(16)	(17)	(18)	(19)	(20)	(21)	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	(25)								
1949-50.	2,903	1,579	102	1,137	993	12,880	4,715	0	4	0	0	2	6	0	0	6	0	0	2	0	28,58,945
								to				to				to			to		
								20	0	0	3	0	0	0	8	0	1	0	0	0	
1948-49.	13,286	1,505	792	1,039	689	7,989	3,102	0	12	0	0	2	0	0	1	0	0	1	0	0	2,676,954
								to				to				to			to		
								20	0	0	6	0	0	0	12	0	1	0	0	0	
1947-48.	7,550	1,551	24	945	486	1,327	1,200	0	4	0	0	2	0	0	1	0	0	2	0	0	2,387,513
								to				to				to			to		
								5	0	0	1	8	0	1	0	0	1	0	0	0	

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1949-50.

Receipts.		RS.
XXX. Veterinary—		
(a) Veterinary College fees		64,150
(b) Other receipts		4,34,091
(c) Collection of payments for services rendered		2,190
Total		5,00,431
Deduct refunds		— 2,907
(d) Receipts in merged areas		4,97,524
		156
		4,97,680
Charges.		
I. a. Superintendence—		
A. Direction—		
1 Pay of officers—Vote 1		32,674
2 Pay of establishments—Voted		27,305
3 Allowances—Voted		19,674
4 Office contingencies—Voted		11,059
5 Other charges—Voted		11,390
Total a-A Voted		1,02,102
B. District Officers—		
1 Pay of officers		76,536
2 Pay of establishment		58,490
3 Allowances		96,928
4 Office contingencies		33,302
5 Other charges		1,256
Total a-B		2,66,512

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1949-50—cont.

Charges—cont.

41. a. Superintendence—*cont.*

C. Post-war Reconstruction:—

I. Direction—

1 Pay of officers	RS.	RS.
2 Pay of establishments	5,119	
3 Allowances	1,188	
4 Office contingencies	5,433	
	608	
Total a-c. I	12,348	

II. District officers—

1	Pay of officers	..	..	..	..	..	27,891
2	Pay of establishments	..	..	..	..	..	19,563
3	Allowances	..	..	..	..	..	32,812
4	Other contingencies	..	..	..	..	..	14,318
	Total	..					94,614

41. b. Subordinate Establishment—

A. Excluding Post-war Reconstruction—

I. Ordinary Areas—

1	Pay of establishments	3,49,400
2	Allowances	2,69,999
3	Office contingencies	37,375
4	Purchase of sera including freight	10,443
	Total ..	6,67,217

II. Scheduled Areas—

Pay of establishment	..	..	..	..	..	3,815
Allowances ..	..	..	..	..	..	2,895
Contingencies ..	..	..	..	..	..	413
Total ..						<u>7,123</u>

3. Post-war Reconstruction—

I. Ordinary Areas—

Pay of establishments	..	..	..	..	..	23,510
Travelling allowance	..	..	..	..	..	12,576
Dearness allowance	..	..	..	..	..	11,997
Other charges	..	..	..	..	..	3,135

II. Scheduled Areas—

Pay of establishments, allowances and office contingencies.	3,483
Total ..	54,611

c. Hospitals and Dispensaries—

. Excluding Post-war Reconstruction—

I. Ordinary Areas—

1	Pay of establishments	..	..	..	2,95,317
2	Allowances and office contingencies	..	..	..	2,78,199
3	Other charges	..	..	..	1,12,589
4	Grant to the Madras Corporation for Veterinary dispensaries	..	..	..	2,625
	Total	..	..	..	6,88,730

II. Scheduled Areas—

Pay of establishments and other charges	..	..	..	11,330
Total	..	..	..	11,330

Charges- -cont.

41. c. Hospitals and Dispensaries--*cont.*

		RS.	RS.
B. Post-war Reconstruction—			
1	Pay of establishments	8,868	
2	Allowances and office contingencies	14,068	
Total		<u>22,936</u>	
			<u>7,22,996</u>

41. d. Veterinary Education and Research—

A. Veterinary College---

1	Pay of officers	..	..	..	..	..	..	53,262
2	Pay of establishments	..	..	..	..	..	..	62,409
3	Allowances and honoraria	..	..	..	..	..	..	44,055
4	Office contingencies	..	..	..	..	..	..	26,386
5	Other charges	..	..	..	..	..	..	2,24,498
	Total	..						4,13,610

B. Veterinary Investigation:

1 Pay of staff, allowances and office contingencies	12,310
2 Mobile Laboratory	12,842
Total ..	25,152

C. Enquiry into the Helminthiasis of cattle—

1	Pay of officers	..	..	..	4,080
2	Pay of establishments and allowances	..	..	..	3,793
3	Office contingencies	..	..	..	1,053
4	I. C. A. R. Provident Fund contribution	..	..	..	1,485
	Total	..			10,411

D. Investigation into the diseases of poultry—

1 Pay of officers, establishments and allowances	7,138
2 Other charges	1,010
Total ..	<u>8,148</u>

E. Post-war Reconstruction—

1	Technical training in the United Kingdom and the United States of America—Other charges	1,965
2	Allowances to candidates for technical training in the United States of America	2,818
3	Investigation into the diseases of sheep and goats—	
1.	Pay of officers	3,778
2.	Pay of establishments	825
3.	Allowances and other charges	4,658
4	Education and training of demobilized personnel	2,427
5	Veterinary College	1,196
	Total	17,667

F. Indigenous Drugs Scheme—

1	Pay of officers	..	..	..	..	..	2,937
2	Pay of establishments	..	..	..	..	..	540
3	Allowances	..	..	..	..	..	2,570
4	Other charges (office contingencies)	..	..	..	..	..	826
	Total	..					5,973

4,80,961

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year—1949-50—cont.
Charges—cont.

	RS.	RS.
41. e. Other charges—		
A. The Veterinary Biological and Research Institute, Ranipet—		
1 Pay of officers	8,748	
2 Pay of establishments	26,762	
3 Allowances	11,962	
4 Office contingencies	56,691	
5 Other charges	1,51,110	
Total, e.-A.	2,55,273	2,55,27
B. Manufacture of Ranikhet disease vaccine—		
1 Pay of officers	4,527	
2 Pay of establishments	3,743	
3 Allowances and other charges	7,322	
Total	15,592	15,5
41. f. Breeding operations—		
A. Superintendence—		
1 Pay of officers	6,553	
2 Pay of establishments	5,291	
3 Allowances	11,402	
4 Other charges	6,220	
Total	29,466	29,4
B. Research stations—		
1 Pay of officers	6,271	
2 Pay of establishments	34,063	
3 Allowances	23,353	
4 Other charges	6,02,014	
Total	6,65,701	6,65,
C. Livestock Improvement Scheme—		
1 Cattle improvement	3,055	
2 Sheep breeding scheme	18,376	
3 Subsidy to heifer calves	439	
4 Kangayam cattle improvement scheme	8,589	
5 Maintenance of cattle	68,581	
6 Improvement of woolly breed of sheep in Ceded districts	44	
7 Premium for maintenance of breeding bulls	2,36,935	
8 Scheme for stationing of stud bulls	11,008	
9 Dearness allowance to menials	9,731	
10 Scheme for the formation of Kangayam Cattle Breeding Co-operative and Marketing Society	6,065	
11 Scheme for the improvement of mutton or hairy type of sheep	743	
12 Scheme for the grant of subsidy to owners of heifer calves in Madras City	40,458	
13 Scheme for the improvement of woolly sheep in the Nilgiris	4,236	
Total	4,08,260	4,08,260
D. Pony breeding scheme	9,421	
Total	9,421	9,421

TABLE VIII.—Statement showing the receipts and charges of the Animal Husbandry Department for the year 1949-50—cont.
Charges—cont.

	RS.	RS.
41. f. Breeding operations—cont.		
E. Poultry Development Scheme—		
1 Pay of officers	4,080	
2 Pay of establishments	10,027	
3 Allowances	7,206	
4 Other charges	43,860	
Total	65,173	65,173
F. Other charges—		
Grants-in-aid	24,028	
Contributions—		
To local bodies	13,200	
To American Arcot Mission	6,559	
To Mecheri Co-operative Cattle Breeding Society	2,934	
Total	46,721	46,721
G. Scheme for the salvage of dry cows—		
1 Pay of establishments	6,497	
2 Allowances	5,638	
3 Other charges	59,416	
Total	71,551	71,551
H. Post-war Reconstruction—		
(i) Scheme for the development of sheep and goats—		
Pay of officers	3,435	
Pay of establishments	1,234	
Allowances	6,016	
Other charges	1,628	
Total	12,313	12,313
(ii) Scheme for the improvement of livestock—		
Other charges	1,58,147	
(iii) District farms—		
Pay of officers	8,303	
Pay of establishments	13,503	
Allowances	11,415	
Other charges	7,23,188	
Total	7,56,414	7,56,414
(iv) Cattle breeding farms	529	529

TABLE X.—*Examination results of the Madras Veterinary College, 1949-50.*

TABLE X.— <i>Education Statistics.</i>													Number of students admitted.		Educational qualifications.		Results of the examination.										
Number of scholars and holders.		Free tuition.		Rs. 60 per annum (half tuition fee).		Rs. 120 per annum (full tuition fee).		Rs. 400 per annum.		Rs. 430 per annum.		Rs. 550 per annum.		Refugee students paying a fee of Rs. 450.		Total.		Intermediate in Arts and Science and above.		S.S.L.C. holders qualified for appointment for the public services.		Others.		(13)		(14)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)																
115	94		231	2	19	15	1	362	362																		
(Inclusive of Coorg students.) G.M.V.C. Diploma (Supplementary) III Year 5; IV Year—11. G.M.V.C. Diploma (Annual) IV Year—20. B.V.Sc. Degree (Supplementary) Preliminary—59; Intermediate, Part I—69; Intermediate, Part II—23; Intermediate, Part II (O.R.)—3 and Final (O.R.)—9. B.V.Sc. Degree (Annual); Preliminary—33; Intermediate, Part I—110; Intermediate, Part II—80, and Final (O.R.)—35. G.M.V.C. Diploma (Supplementary) III Year—3; and IV Year—11. IV Year G.M.V.C. Diploma (Annual) —17. B.V.Sc. Degree (Supplementary) Preliminary—50; Intermediate, Part I—40; Intermediate, Part II—21; Intermediate Part II (O.R.)—3 and Final (O.R.)—4. B.V.Sc. Degree (Annual) Preliminary—36; Intermediate, Part I—43; Intermediate Part II—40; Final (O.R.)—20; Final (N.R.) will be held in June 1950 taken by 32 students.																											

Results of the examination—cont.

Employment of graduates.				
(16)	Receipts.	Rs. 64,150.		
(17)	Expenditure.	Rs. 4,13,610.		
(18)	Total number passed.	1947-48-12. 1948-49-35. 1949-50-Diploma-Supplementary-6; Annual-5; Total-11. Degree: Supplementary-4; Annual- 20; Total-24.		
(19)	In the service of Local Govern- ment.			
(20)	In the service of other bodies.			
(21)	In private practice.			
(22)	Number unemploy- ed.			
(2)	Remarks.			

TABLE XI (a).—Statement showing the location and other particulars of Livestock Farms in the State of Madras during the year 1949-50.

(a) Cattle and buffaloes.

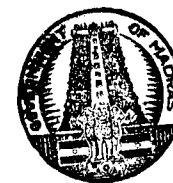
Names and addresses of the farms.	Area of the farms.		Purpose of the farm and herd (breeding, experimental or dairy, etc.).	Breeds.	Strength of the herd in each breed.			Number of sires issued during the year.			Lactation average.			Remark.
	Total.	Under cultivation.			Bulls.	Cows.	Young stock.	Year under report.	Last year.	Year before last.	Milk yield of lactation completed.	Days in milk.	Days dry.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1 Livestock Research Station, Hosur.	16,59.91	559.56—Hay making 295.43—Grazing 68—pasturing 68—gardening	To produce pedigree bulls for supply to districts.	Kangavam Sindhi Hallikar Crossbreed Gir cattle (Murai) Buffalo	107 108 37 2 8 2	319 233 17 25 39 10	125 94 10 12 8	36 11 15 12 ..	15 18 18 ..	24 21 6 ..	..	..	..	..
2 Livestock Research Station, Lam Guntur.	357.05	210.34	To improve breed of cattle by selective breeding. To grade up local buffaloes.	Ongole Murrah	60 12	146 45	48 13	36 4	18 1	22 2	1,600 4,242	19 ..	240 418	..
3 Dairy-Cum-Bull Farm, Waltair.	165	120	To supply milk and good buffalo bulls.	Murrah	13	44	17	..	..	..	5,442	..	462	..
4 Combined Cattle and Sheep Farm, Kurukuppi.	384	205	To supply pedigree Hallikar and woolly variety of sheep.	Jaffarabadi Hallikar	6 19	49 186	14	..	..	..	..	..	..	..
5 District Cattle Farm, Malabar.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
6 District Cattle Farm, South Kanara.	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE XI (b).—Statement showing the location and other particulars of Livestock Farms in the State of Madras during the year 1949-50.

(b) Sheep.

Names and addresses of the farms.	Area of the farm.		Purpose of the farm.	Strength of the flock in each breed.			
	Total.	Under cultivation.		Breed.	Rams.	Ewes.	Lambs.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Combined Sheep and Cattle Farm, Kurukuppi.	384	208 acres	To improve the Bellary type of sheep and issue of rams.	Bellary I.C.A.R. flock. Bikanir	6 5	88 145	96 21
Livestock Research Station, Hosur.	1,659.91	68 acres in each of garden area and pasture area.	To evolve white faced Bellary sheep. Experimental scheme partly financed by the I.C.A.R.	Bellary Bikanir Cross	15 2	60 ..	64 ..
Sheep Farm, Ootacamund.	600	..	To improve the Nilgiri sheep.	Nilgiri woolly sheep.	6	48	28

	Number of rams issued during the			Average wool yield per year.			Remarks.
	Year under report.	Last year.	Year before last.	Rams.	Ewes.	Lambs.	
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Combined Sheep and Cattle Farm, Kurukuppi.	..	..	..	133 lb. over the whole flock.	The farm was started only during the end of 1948.		
Livestock Research Station, Hosur.	..	..	4	LB. OZ. 6 1	LB. OZ. 3 15	LB. OZ. 4 3	..
Sheep Farm, Ootacamund.	..	..	..	..	The farm opened only during the end 1949.		



G.O. No. 1896, 25th April 1951

Administration Report—Animal Husbandry Department—1949-50—Recorded
with remarks.

EAD—the following paper :—

From the Director of Animal Husbandry, dated 7th February 1951,
Roc. No. 2237-II/50.

Order—No. 1896, Development, dated 25th April 1951.

Recorded.

Recorded.

2. Consequent on the merger of the Sandur State with the State of Madras, the Veterinary and Animal Husbandry work of that State was taken over by the Department during the year.

3. The following new posts in the Madras Animal Husbandry Service were created during the year:—

(i) one lecturer in Bacteriology for the Madras Veterinary College ;

(ii) one Superintendent for the District Livestock Farm in South Kanara district;

(iii) One Research Officer for collection and collation of information on indigenous veterinary medicines from ancient literatures and Sanskrit manuscripts financed by the Indian Council of Agricultural Research; and

(iv) one Special District Veterinary Officer to conduct mass inoculation against rinderpest in Visakhapatnam district for a period of six months.

The post of Livestock Development Officer was kept in abeyance.

4. With a view to reduce congestion in the Madras Veterinary College, the Veterinary and Livestock Inspectors' course was transferred to the Livestock Research Station, Hosur, and the number of admissions to the B.V.Sc. course was reduced from 100 to 80. Certain additions and alterations were also made to the existing buildings.

The rate of stipend to the students of the Veterinary and Livestock Inspectors' course was raised from Rs. 25 to Rs. 30 in the case of non-Harijans and to Rs. 35 in the case of Harijans.

5. The name of the Serum Institute was changed to "The Veterinary Biological and Research Institute" during the year under review. Alterations, improvements and facilities for the efficient working of the institute were sanctioned at a cost of Rs. 64,300. A cold storage room was constructed at a cost of Rs. 20,760 during the year for the preservation of the products manufactured in the institute.

TABLE XI (d).—Statement showing the location and other particulars of livestock Farms in the State of Madras during the year 1949-50.

(c) Poultry.

Names and addresses of the farms.		Area of the farm.		Purpose of the farm and flock.	Number of birds of each breed in the farm			
		Total.	Under cultivation.		Cocks.	Hens.	Chickens.	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
Livestock Station, Research Station, Guntur.	Research Lan.	ACS.						
		357.05	210.84 acres	To supply eggs, etc.	R.I.R. Duck.	6	28	193
Livestock Station, Research Station, Hosur.		1,659.91	68 pastures and 68 gardens	Do.	W.L.H.	11	35	159
					B.M.	11	105	296
					R.I.R.	12	72	299
					Light Sussex	1	2	8
					Au triolap	1	5	5
					Turkey	2	5	2
					Ducks	2	5	115
					W.L.H.	9	63	133
Poultry Station, Research Station, Madras.		9.93	30 cents	Research work on poultry.	R.I.R.	4	82	133
					B.M.	6	19	40
					Indigenous	9	51	124
					W.L.H.	4	30	11
					R.I.R.	4	34	16
					Indigenous	1	17	4
Poultry Production Centre, Guindy.		3.00	..	Do.	B.L.R.	2	4	14
					B.M.	1	1	10
District Poultry Farm, Cuddapah.		..	10 acres	To supply eggs, etc.	W.L.H.	1	8	18
					Country	1	19	102
					W.L.H.	1	10	58
					R.I.R.	1	2	4
District Poultry Farm, Cannanore.		..	..		Country	1	2	1
					Turkey	1	1	1
					Ducks	3	18	62
					W.L.H.	1	1	11
District Poultry Farm, Chittoor.		13.91	..	Do.	R.I.R.	1	5	9
					B.M.	1	1	1

Number of cockerels issued for breeding during the			Number of hatching eggs sold during the			Average annual yield per hen.
Year under report.	Last year.	Year before last.	Year under report.	Last year.	Year before last.	
(9)	(10)	(11)	(12)	(13)	(14)	(15)
..	7	..	250	848	201	..
Livestock Research Station, Guntur.	11	5	6	3,198	2,141	98'8
Livestock Research Station, Hosur.	11	7	3			
	12	7	3			
	1	..	..			
	1	..	1	1,348	1,024	166'2 161'2 153'4 129'0
	3	1	..			
	2	1	..			
Poultry Research Station, Madras.	020	165	124	2,508		

The centre was shifted to Poultry Research Station during 1919.

The farm was opened only on 12th November 1918.

1,308

107

District Poultry
Farm, Cannanore.

District Poultry
Farm, Chittoor.

The farm opened on November 1918.

B.M. = Black Minorca.

W.L.H. = White Leg Horn.

R.I.R. = Rhode Island red.

B.M. = Black Minorca.

54

6. The Provincial Livestock Improvement Board (since renamed as Livestock Improvement Board) met thrice during the year at Visakhapatnam, Hosur and Ranipet.

7. The number of stud bulls maintained in Veterinary institutions increased from 102 to 121 during the year. The number of bulls under the premium scheme also increased from 1,131 to 1,205 during the year.

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8. Artificial insemination in cattle at the Veterinary College is becoming popular with the cow-owners in the City. The results were so encouraging that the Government sanctioned the opening of two more centres at Coimbatore and Guntur during the year.

The Madras City calf subsidy scheme and the scheme for the salvage of dry cows in the City of Madras continued to work satisfactorily.

Three major cattle shows at Ongole, Tiruppur and Valparai, and one-day cattle shows in 64 centres were conducted as usual.

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A scheme for rendering help to cattle breeders of approved breeds of cattle by way of subsidies and loans were sanctioned during the year.

9. The opening of a sheep farm at Dunsdale, Ootacamund, for the salvage of the woolly sheep on the Nilgiris was sanctioned during the year. In order to improve the local breeds of goats, 50 bucks of Tellicherry breed were distributed in the districts of South Kanara and Malabar. The opening of two district cattle farms, one in the Malabar district and the other in South Kanara district was sanctioned during the year.

10. Three new veterinary institutions at Kalayampundi (Chingleput district), Musiri (Tiruchirappalli district) and Kalpetta (Malabar district) were opened during the year in addition to the one taken over from the Sandur State. The total number of veterinary institutions at the end of the year was 144. There was an increase in the number of animals treated in the Veterinary institutions during the year, the figure being 352,898 as against 332,902 in the previous year. One touring billet was opened at Jangareddigudum in the West Godavari district which raised the number of touring billets to 167. In order to provide better facilities to Touring Veterinary Assistant Surgeons to treat cases while at headquarters the Government sanctioned during the year a scheme for the establishment of minor veterinary dispensaries.

11. The working of the department during the year under report was, on the whole, satisfactory.

(By order of His Excellency the Governor)

A. M. SAVARINATHAN,
Deputy Secretary to Government

To the Director of Animal Husbandry.

- .. Government of India, Ministry of Agriculture (with report).
- .. Indian Council of Agricultural Research (with report).
- .. Public Works (Information and Publicity) Department (with report).
- Superintendent, Government Press, Madras.

