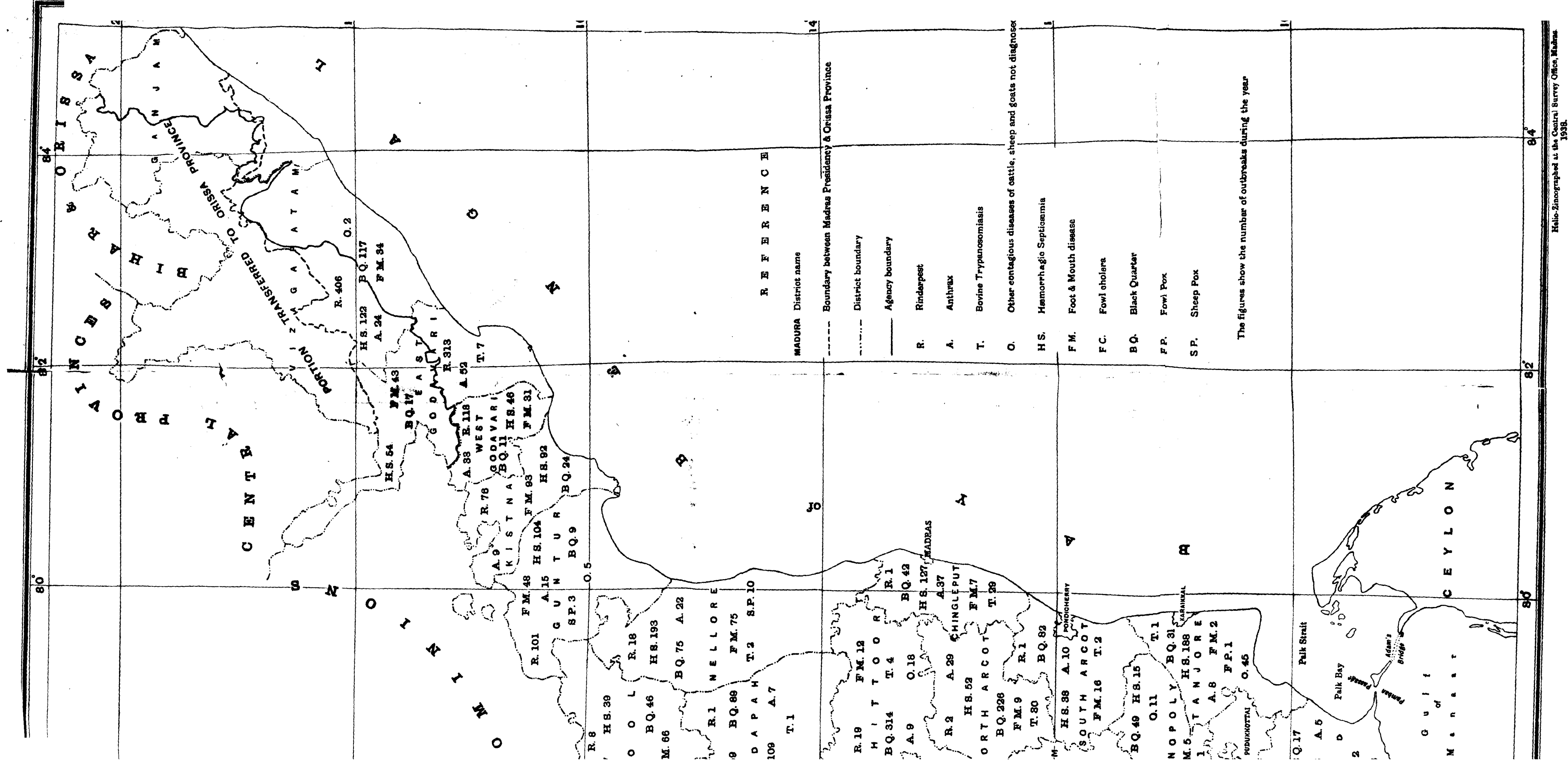
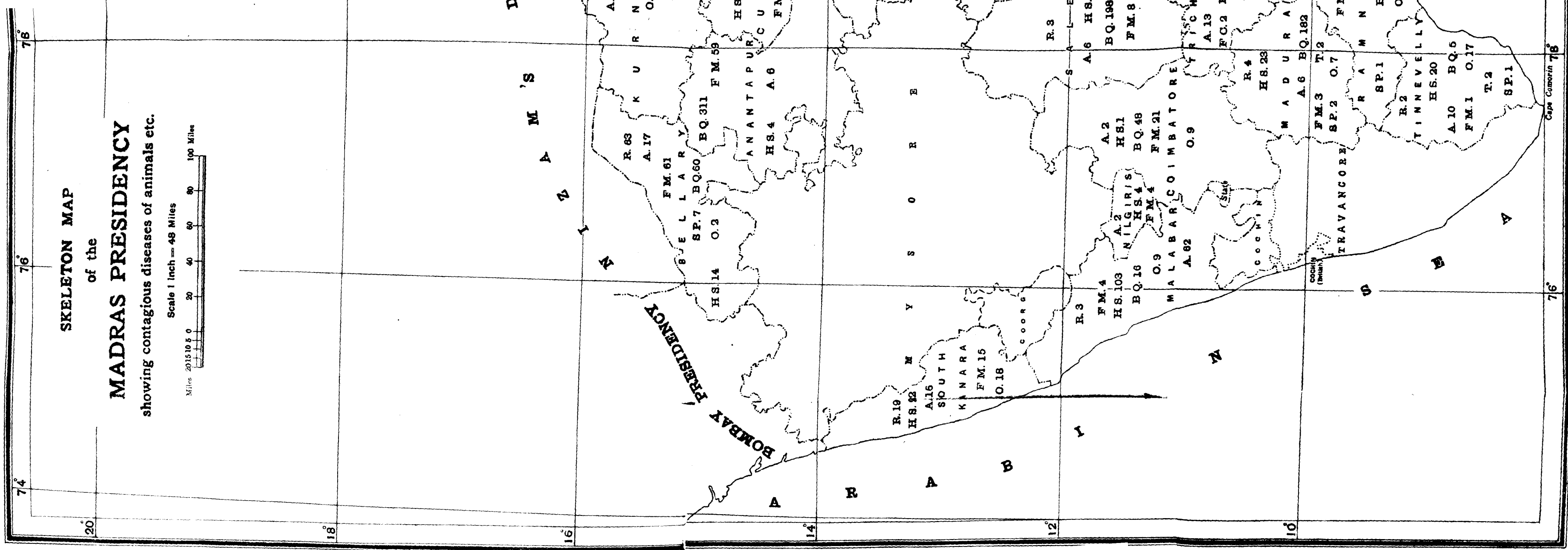




Annual Administration Report
of the Madras Civil Veterinary
Department 1937-38



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ANNUAL ADMINISTRATION REPORT

OF THE

MADRAS CIVIL VETERINARY
DEPARTMENT

FOR THE YEAR

1937-38

MADRAS

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ANNUAL ADMINISTRATION REPORT OF THE MADRAS CIVIL VETERINARY DEPARTMENT FOR THE YEAR 1937-38.

I.—STAFF.

(a) Administration.

I continued to be in charge of the department throughout the year. I was on tour for 94 days. In the course of my tours during the year, I inspected as usual, all the twelve District Veterinary offices, the Madras Veterinary College, the Serum Institute and the Veterinary Investigation office. I inspected three District Veterinary offices for a second time during the year as probationers in the Madras Veterinary Service were in charge of these offices and are expected to be inspected twice a year. I inspected 77 veterinary institutions and 101 touring billets. I selected a site for the construction of permanent buildings at a later date and for housing the dispensary in a better building than at present for the Veterinary Dispensaries, Chidambaram and Lalgudi, and opened the Veterinary Dispensary, Kollegal, in a new building. I inspected the Government livestock, such as, Police horses at Vellore and the farm animals at Hosur and the Agricultural College, Coimbatore. I inspected both the units of the motor exhibition van of the department in the field and accompanied the van to two villages, one in the Tamil and the other in the Telugu area. I inspected goat virus and goat spleen tissue vaccination camps in eight different villages of the Presidency. I attended the All-India Cattle Conference at Simla and the meeting of the Advisory Board of the Imperial Council of Agricultural Research at Delhi. I served as Chairman of the Board of Studies in Veterinary Science for a period of six months during the year *vice* the Principal, Madras Veterinary College, on other duty at Mukteswar. I delivered the inaugural address at the ninth Conference of the Mysore Veterinary Medical Association at Bangalore. I served as President of the Board of Examiners constituted by Government for conducting both the Refresher Course and the Professional examinations at the Madras Veterinary College. I attended the Cattle Show at Ongole and acted as one of the judges at the show.

(b) Indian Veterinary Service.

2. The number of Indian Veterinary Service officers in the department during the year remained at two, viz., Messrs. P. T. Saunders and T. J. Hurley. Mr. T. J. Hurley held the post of Principal, Madras Veterinary College, except for the period from 5th May 1937 to 15th November 1937 when his services were placed at the disposal of the Government of India.

(c) Madras Veterinary Service.

3. Rao Sahib Sri K. Kailasam Ayyar was in charge of the Serum Institute during the year except for the period from 8th June 1937 to 15th November 1937 when he acted as Principal,

Madras Veterinary College. Sri M. R. V. Panikkar held the post of Lecturer in Hygiene, Resident Veterinary Officer and Personal Assistant to the Principal, Madras Veterinary College, during the year except from 5th May 1937 to 7th June 1937 when he discharged the duties of this post in addition to his officiating as Principal and for one day on 2nd July 1937 when he was on leave and no substitute was appointed. Rao Sahib Sri M. Anantanarayana Rao held the post of Lecturer in Parasitology, Madras Veterinary College, throughout the year. Sri K. S. Nair held the post of Lecturer in Surgery, Madras Veterinary College, till he proceeded to the United Kingdom on leave out of India and Ceylon for ten months from 7th September 1937. Sri A. K. Mitra was in charge of the Madras Circle till the forenoon of 17th November 1937 when he was relieved and posted as Lecturer in Surgery, Madras Veterinary College. Sri C. Venkataratnam Chetti was in charge of the Bezwada Circle from 1st April 1937 to 4th August 1937 when he went on leave for two months and on its expiry was posted to the Calicut Circle where he remained in charge till the end of the year. Sri G. A. Ajwani rejoined duty on 13th January 1938 afternoon as District Veterinary Officer, Vellore; he remained in charge till the end of the year. Sri C. S. Murti was in charge of the Rajahmundry Circle from 1st April 1937 to 29th May 1937 when he was relieved to act as Superintendent, Serum Institute. After relief at the Serum Institute he was in charge of the Madras Circle from 17th November 1937 to the end of the year. Sri T. S. Alagappa Pillai was in charge of the Nellore Circle from 1st April 1937 to 27th July 1937 when he was posted to the Bezwada Circle where he remained in charge till the end of the year. Sri A. L. N. Somayajulu Pantulu continued to work in the Orissa Province and reverted to this Province at the end of the year having been relieved on 31st March 1938 afternoon. Sri K. S. Natesa Ayyar held charge of the Coimbatore Circle from 1st April 1937 to 26th October 1937 when he was posted to the Madura Circle where he remained in charge till the end of the year. Sri K. Seshagiri Rao held charge of the Madanapalle Circle throughout the year. Messrs. H. N. Chelva Ayyangar and M. A. Rangaswami Ayyar continued to hold the posts of Lecturers in Anatomy and Physiology, Madras Veterinary College, respectively throughout the year. Mr. A. Castelino was in charge of the Calicut Circle from 1st April 1937 to 18th May 1937 when he went on leave for two months and on its expiry, was again posted to Calicut Circle where he remained in charge from 19th July 1937 to 7th August 1937 when he went on leave for three months and 29 days from 7th August 1937 afternoon preparatory to retirement. Sri M. Sundaranathan continued to be Lecturer in Pharmacology, Madras Veterinary College, throughout the year. Sri M. Ponnayya held charge of the Trichinopoly Circle throughout the year except for one month from 12th April 1937 when he was on leave. Sri R. Swaminathan held charge of the Bellary Circle throughout the

year. Sri L. Kumaraswami Pantulu who completed his probation in the Madras Veterinary Service held charge of the Vizagapatam Circle throughout the year.

4. Mr. E. O. Longley, B.Sc., M.R.C.V.S., continued to act as lecturer in Pathology and Bacteriology, Madras Veterinary College, during the year except from 21st March 1938 to 30th March 1938 when he was granted leave and permission to avail the holiday on 20th March 1938 and no substitute was appointed.

5. The following probationers also held acting appointments in the service for different periods during the year:—

- (1) Sri P. I. Chakko.
- (2) „ T. Vinayakam.
- (3) „ T. Raghavan.
- (4) „ S. N. Tammayya.
- (5) „ P. A. Parthasarathi Nayudu.

Sri P. I. Chakko was in charge of the Vellore Circle from 1st April 1937 till the date of his death on the afternoon of 24th October 1937.

6. Sri G. R. Viswanathan continued to hold the post of the Veterinary Investigation Officer, Madras, except for a period of three weeks from 29th July 1937 afternoon when he was on leave and no substitute was appointed. Sri S. D. Devadoss Pillai held the post of the Inspector of Livestock, Forest Department, throughout the year except for a period of four months from 25th November 1937 when he was on leave.

7. *Touring done by District Veterinary Officers.*—The number of days spent on tour by each of the District Veterinary officers is given below:—

	Number of days on tour.
District Veterinary Officer, Vizagapatam ...	212
District Veterinary Officer, Rajahmundry ...	227
District Veterinary Officer, Bezwada ...	231
District Veterinary Officer, Nellore ...	243
District Veterinary Officer, Bellary ...	214
District Veterinary Officer, Madanapalle ...	215
District Veterinary Officer, Vellore ...	219
District Veterinary Officer, Coimbatore ...	231
District Veterinary Officer, Calicut ...	242
District Veterinary Officer, Madura ...	231
District Veterinary Officer, Trichinopoly ...	256
District Veterinary Officer, Madras ...	223

8. *Professional work carried out by District Veterinary officers.*—Ten thousand sixty-five goat virus vaccinations, 46,615 goat spleen tissue vaccinations and 22,895 other inoculations were

performed by District Veterinary officers, during the year of which 5,842, 24,722 and 16,801, respectively were done along with Veterinary Assistant Surgeons. They attended the local Veterinary institutions while at headquarters and rendered professional aid to the Veterinary Assistant Surgeons in charge in the treatment of important and difficult cases. Similar aid was rendered to the staff while in camp whenever there were opportunities to do so. They inspected Government livestock and breeding bulls stationed at different places in the course of their tours and gave necessary advice. They personally attended to some outbreak reports and treated cases. They treated several surra cases in ponies and conducted Mallein tests on several horses, ponies and mules. They interviewed leading ryots and officers of the Revenue and Agricultural departments whenever possible with a view to enlist their co-operation in the activities of the department. They attended several annual cattle fairs and shows and acted as judges at some of the shows. Some of the District Veterinary officers toured with the vans of this department and helped the Veterinary Assistant Surgeons in delivering lectures on departmental activities. They visited some of the rural reconstruction model villages and attended the meetings of the District Economic Councils and after the abolition of these Councils, the periodical conferences of officers.

The District Veterinary Officer, Nellore inspected the palace horses at Venkatagiri and rendered professional advice. The District Veterinary Officer, Bellary conducted a fairly wide enquiry on the incidence of the so-called Rheumatic Arthritis in cattle in some of the taluks of Kurnool district. To eradicate John's disease in sheep prevalent at the Hosur Cattle Farm, the District Veterinary Officer, Vellore, examined rectal washings from 15 sheep and 6 head of cattle and found that only two cows showed John's bacilli. The District Veterinary Officer, Bezwada inspected the Ayurvedic Veterinary institution at Angalur village of Gudivada taluk, Kistna district at my instance and that of the Collector of Kistna district. The District Veterinary Officer, Trichinopoly, investigated into the death of a breeding bull. He also investigated into the cause of unusual mortality among the temple and a trustee's animals at Swamimalai and the death of an animal in a herd of about 25 cattle at Sathamangalam village of Nannilam taluk, Tanjore district.

The total number of specimens examined microscopically by the District Veterinary officers was 3,084.

(d) *Madras Veterinary Subordinate Service.*

9. The strength of the cadre of the Veterinary Assistant Surgeons on 31st March 1938 was 314 including the following temporary posts as against 309 at the end of March 1937:—

Veterinary Assistant Surgeons sanctioned for the	
Serum Institute	11
Assistant to the Veterinary Investigation Officer	1

Assistant to the Lecturer in Animal Hygiene, Agricultural College, Coimbatore	1
Special Veterinary Assistant Surgeon sanctioned for exclusive duty in connexion with the inspection of sheep and goats intended for export to Tuticorin.	1
Touring billets sanctioned during 1934-35, 1935-36 and 1936-37	42
Veterinary Assistant Surgeon for the Veterinary Dispensary, Shiyali	1
Veterinary Assistant Surgeon for the Veterinary Dispensary, Rayapuram	1
Veterinary Assistant Surgeon for the Veterinary Dispensary, Tiruturaipundi	1
Leave reserve posts at 6½ per cent of the temporary posts	4
Special Veterinary Assistant Surgeons for Pentas duty	2
Veterinary Assistant Surgeon for Propaganda van No. II	1
Veterinary Assistant Surgeon sanctioned to the Madras Veterinary College	1
Total	67

10. The 314 posts were distributed as shown below during the year under report:—

(1) Itinerating	130 Plains. 3 Agency.
(2) In charge of institutions	110 Plains. * 2 Agency.
(3) Leave reserve for permanent section	30
(4) Leave reserve for temporary section	4
(5) Attached to head office	1
(6) Employed in the Madras Veterinary College	12
(7) Employed in the Serum Institute	11 Two posts not yet filled.
(8) Employed in the Agricultural Department	2
(9) Employed in the Livestock section	1
(10) Employed in the Forest Department	3 One of the three posts kept temporarily vacant, has since been abolished.

* Includes one post for Veterinary dispensary, Rayapuram.

(11) Under the Veterinary Investigation Officer	1
(12) Special Veterinary Assistant Surgeon for export duty at Tuticorin ..	1
(13) Special Veterinary Assistant Surgeons for pentas duty at Nallamalais ..	2
(14) Attached to the Propaganda van No. II	1
	314

In addition to the 314 posts mentioned above, Government have sanctioned two temporary posts of Assistant Lecturers to the Madras Veterinary College consequent on the introduction of the B.V.Sc. Degree course.

Of the 10 supernumerary posts since sanctioned owing to the transfer of 9 posts to Orissa Province and reduction of 1 leave reserve post in consequence, 8 are held by permanent men of this department.

II.—EDUCATION—MADRAS VETERINARY COLLEGE.

(i) Instruction.

(a) Staff.

11. The following were the officers on the gazetted staff of the College during the year:—

- (1) Mr. T. J. Hurley, Principal and Professor of Medicine.
- (2) Sri M. R. V. Panikkar, Lecturer in Hygiene, Resident, Veterinary Officer and Personal Assistant to the Principal.
- (3) Rao Sahib Sri M. Anantanarayana Rao, Lecturer in Parasitology.
- (4) Sri A. K. Mitra, Lecturer in Surgery.
- (5) „ H. N. Chelva Ayyangar, Lecturer in Anatomy.
- (6) „ M. A. Rangaswami Ayyar, Lecturer in Physiology.
- (7) „ M. Sundaranathan, Lecturer in Pharmacology.
- (8) Mr. E. O. Longley, Lecturer in Pathology and Bacteriology.

During the year the services of Mr. Hurley were placed at the disposal of the Government of India for a period of 6 months from 5th May 1937 as Veterinary Research Officer in charge of Pathology at the Imperial Veterinary Research Institute, Mukteswar, when Sri M. R. V. Panikkar and Rao Sahib Sri K. Kailasam Ayyar held charge of the post of the Principal, Madras Veterinary College, the former from 5th May 1937 to 7th June 1937 discharging his own duties in addition, and the latter independently from 8th June 1937 to 15th November 1937. Sri K. S. Nair, Lecturer in Surgery, proceeded on leave out of India and Ceylon

for 10 months from 7th September 1937 and Sri A. K. Mitra, his substitute, joined duty at the college on 17th November 1937. During the period from 7th September 1937 to 17th November 1937, Veterinary Assistant Surgeon, C. V. Padmanabhan, Assistant Lecturer, was in charge of Sri Nair's work in addition to his own duties.

(b) Training.

12. Full facilities were afforded as usual to the students for obtaining practical training in the various subjects included in the courses of instruction and for acquiring a good practical knowledge of all branches of the profession. The students also attended the Serum Institute, Madras to gain a practical knowledge of sera and virus production, etc.

(c) Admission of students.

13. In G.O. Ms. No. 1044, Development, dated 6th May 1937, the number of candidates to be admitted was fixed at 40 for students coming from the Presidency and 10 from outside including Burma and Coorg.

14. There was no change in the personnel of the selection committee constituted in G.O. No. 434, Development, dated 26th March 1935. The Committee met at Bezwada on the 26th and at Madras on the 29th June 1937 and selected 40 students for admission to both the Diploma and Degree courses as shown below:—

Diploma course.

	Bezwada.				Madras.				Grand total.
	Graduates.	Inter-mediate.	S.S.L.Cs.	Total.	Graduates.	Inter-mediate.	S.S.L.Cs.	Total.	
Non-Brahmin									
Hindus	..	..	2	2	..	..	..	..	2
Brahmins	..	..	..	..	..	..	..	..	..
Muhammadans	..	..	..	..	..	..	..	..	..
Anglo Indians and Indian Christians	..	..	..	..	..	..	..	..	..
Scheduled classes	..	..	..	..	..	..	..	..	..
Total	..	..	2	2	..	..	..	..	2

Degree course.

	Bezwada.			Total.	Madras.			Total.	Grand total.
	Graduates.	Inter-mediate.	S.S.L.Cs.		Graduates.	Inter-mediate.	S.S.L.Cs.		
Non-Brahmin									
Hindus	..	..	..	7	..	11	..	11	18
Brahmins	..	..	..	9	..	4	..	4	13
Muhammadans	..	..	..	..	..	3	..	3	3
Anglo Indians and Indian Christians	..	..	..	..	..	4	..	4	4
Scheduled classes	..	..	..	..	..	..	..	..	..
Total	..	..	..	16	..	22	..	22	38

Two candidates (one for Diploma and the other for Degree) at the Bezwada centre and 8 candidates (all for Degree) at the Madras centre were placed in the waiting list. Of the 16 students selected for the Degree course at Bezwada 5 did not join the College. Both the candidates from Bezwada and 3 of the candidates from Madras in the waiting list were admitted (1 for Diploma and the others for Degree) to the above vacancies. Seven students (1 for Degree and 6 for Diploma) from Burma, 2 from Coorg (Degree) and 1 from Travancore (Degree) were admitted to the first year. Thus, the total number of admissions to the first year class was 50 (41 for Degree and 9 for Diploma). One student of the Degree course and two of the Diploma left the College. Including the failed students (1 for Degree and 7 for Diploma) who joined the class in October, the strength of the class at the end of the year was 55 (41 in the Degree and 14 in the Diploma classes).

The total number of students on the rolls in all the three classes at the end of the year was 118 (55 in class A, 40 in class B and 23 in class C) as against 101 of last year representing the following communities:—

Non-Brahmins, Hindu	45
Brahmins	36
Anglo-Indians and Indian Christians	14
Muhammadans	4
Burmans, etc.	19
Total ...	118

(d) Scholarships.

15. One scholarship was awarded to a Muhammadan and two to members of the depressed classes who were admitted to the first year class. The other was not awarded for want of a suitable candidate.

(e) Professional examinations.

16. The supplementary examinations for the provisionally promoted students of the I and II year classes and the failed final year students were held from 7th to 12th October 1937 with the following results:—

				Number appeared.	Number passed.
Class A	..	..	..	9	9
Class B	..	..	..	2	2
Class C	..	..	..	9	7

17. The following officers were appointed by Government to constitute the Board of Examiners for conducting the annual examinations of the Diploma course of this college.

President.

1. Mr. P. T. Saunders, Director of Veterinary Services, Madras.

Members.

2. Mr. T. J. Hurley, Principal, Madras Veterinary College.
3. Rao Sahib Sri K. Kailasam Ayyar, Superintendent, Serum Institute, Madras.
4. Sri M. R. V. Panikkar, Lecturer in Hygiene, Madras Veterinary College.
5. Rao Sahib Sri M. Anantanarayana Rao, Lecturer in Parasitology, Madras Veterinary College.

18. The examinations were held from the 21st to 31st March 1938 excluding Sunday the 27th March, with the following results:—

				Number appeared.	Number passed.
Class A	..	..	..	54	27
Class B	..	..	..	39	28
Class C	..	..	..	23	12

The Board considered that on the whole, the results were satisfactory.

19. The first B.V.Sc. Preliminary examinations were held on the 28th, 29th and 30th June and 2nd July 1937. Of the 28 students who registered for the examination, one was not permitted to sit for the examination for want of attendance and three absented themselves. Twenty-four students appeared for the examination, of whom nine secured a full pass; of the remaining fifteen, eight secured a pass in one subject while the rest failed in both the subjects.

20. The second B.V.Sc. Preliminary examinations for the year were held from the 22nd to 24th November 1937. Fourteen students registered for the examination and all of them appeared (seven for the whole examination and seven for one subject only). Of the seven who appeared for the whole examination, two passed in full, three passed in one subject and two failed in both the subjects. Of the seven who appeared for one subject, six were successful. The total number of successful candidates of the B.V.Sc. Preliminary examination at both examinations is therefore seventeen out of twenty-four who sat.

(f) Refresher course.

21. Ten students (six from the Civil Veterinary Department, Madras, two from Hyderabad, one from Bangalore and one from Travancore) attended the course during the year. Towards the

end of the year these students were examined by a Board of Examiners.

(g) Hostel, health and athletics.

22. The average number of residents in the hostel during the year was 82 (including 20 non-Presidency students of this College). Two messes (vegetarian and non-vegetarian) were run, as usual, under the supervision of the warden. The members of the hostel had facilities for their recreation, and newspapers, magazines, etc., were also supplied.

Sri M. Sundaranathan, the Sports Secretary, was in charge of the athletic activities of the college throughout the year, with the Principal as President. Ten students of the college as members of the sports committee and the Physical Instructor of the college assisted the secretary in his work.

The usual outdoor and indoor games were provided for the students. The students evinced much enthusiasm in all the games and took part in them regularly.

The discipline and health of the students during the year were very satisfactory.

Under the auspices of the Madras Veterinary College Medical Association, meetings were held periodically presided over both by members of the teaching staff of the college and outsiders. Some of the interesting lectures delivered were "The Pathology of Tuberculosis," "Foot and Mouth disease and some of its problems," "Vaccinia" and "Radiology and its application to Medicine." The attendance at the meetings was good and students took a keen interest in the proceedings. Some excursions for the benefit of the students were also arranged by the Association. The valedictory address of the association was delivered by the Hon'ble Dr. T. S. S. Rajan, Minister for Public Health, under the presidency of Mr. T. J. Hurley, the Principal.

(ii) Hospital.

23. The subjoined tables show the cases treated and surgical operations and castrations performed during the three years ending 1937-38:—

Table I (Cases treated).

			1935-36.	1936-37.	1937-38.
In-patients---					
Bovines	..	..	484	449	403
Equines	..	..	197	275	251
Others	..	..	354	458	481
Out-patients---					
Bovines	..	..	2,111	2,311	2,154
Equines	..	..	192	186	203
Others	..	..	4,106	4,998	4,607
Total	..		7,444	8,677	8,099
Daily average attendance	..		105.91	123.47	109.35

Table II (Operations).

		1935-36.		1936-37.		1937-38.	
		Major operations.	Minor operations.	Major operations.	Minor operations.	Major operations.	Minor operations.
Bovines	..	262	283	336	209	194	118
Equines	..	7	26	26	29	21	64
Others	..	17	412	31	537	49	383
Total	..	286	721	426	775	264	565

Table III (Castrations).

			1935-36.	1936-37.	1937-38.
Bovines	..	..	12	16	28
Equines	..	..	5	6	1
Others	..	..	22	16	13
Total	..		39	38	42

24. X-Ray photographs taken during the year are classified below:—

		Canines.	Equines.	Bovines.	Total.
(1) Vertebrae	..	3	1	..	4
(2) Pelvis and hip	..	9	..	1	10
(3) Joints	..	4	..	..	4
(4) Foot	..	3	2	..	5
(5) Abdomen	..	7	..	..	7
(6) Long bones	..	..	..	1	1
Total	..	26	3	2	31

Two cases suspected for pregnancy were X-rayed and confirmed. Two canines were given a barium meal by passing a stomach tube and photographs were taken at intervals to demonstrate the shadow of the passage of the meal from the stomach to the rectum.

Twenty-five cases were given ultra-violet ray treatment during the year for the following conditions:—

(1) Eczema, non-parasitic skin affection	...	...	11
(2) Demodeetic mange	...	...	5
(3) Trichophyton infection	...	...	2
(4) Debility and malnutrition	...	...	4
(5) Otterhoea	...	...	2
(6) Rickets	...	...	1

25. The number of cases treated at the branch veterinary dispensary, Rayapuram, during the two years ending 1937-38 is tabulated below:—

Year.	Equines.	Bovines.	Others.	Total.	Daily average attendance.
1936-37 ..	41	1,351	3,248	4,640	45.62
1937-38 ..	61	1,899	3,049	5,009	50.2

The dispensary—at the present locality—is growing more popular as regards bovine patients as evidenced by the increase in the number of cases admitted and the daily average attendance. Forty-three cases of interest, including three cases suspected for rabies, were transferred to the College hospital. Three hundred and eighty-four operations (1 major and 383 minor) and 13 castrations were performed during the year as against 381 and 3 respectively of the previous year. Laboratory aid was sought in 246 cases from which faeces, scrapings, nasal washings, blood-smears, pus, growths, internal parasites, rectal washings and urine were sent for examination.

A sterile cow was given urine hormone treatment; it came into heat within a fortnight after treatment and calved a bull-calf after a sterile period of more than two years.

(iii) *Shoeing forge.*

26. Eight hundred and fifty-nine horses were shod and the feet of 138 repaired during the year as compared with 856 and 102 respectively of the previous year. The profit realized during the year was Rs. 596-10-11 as against Rs. 543-6-9 during the previous year. As usual, the students had full facilities for receiving practical instruction in shoeing.

(iv) *Fees.*

27. The number of cases admitted and the fees realized during the years 1935-36 to 1937-38 are tabulated below:—

Year.	Number of cases admitted.	Fees realized.		
		RS.	A.	P.
1935-36 ..	7,444	4,021	8	0
1936-37 ..	8,677	5,103	3	0
1937-38 ..	8,099	5,623	5	0

The increase in the amount of fees realized during the year is due to the levy of treatment charges in respect of cases belonging to persons in receipt of a monthly income of Rs. 100 and above instead of Rs. 200 and above as was the case in the previous year.

(v) *Laboratory.*

28. (a) *Pathology, Bacteriology and Parasitology sections.*—

Specimens received and examined in the laboratory including clinical laboratory are tabulated below. These exclude the specimens examined in connexion with post-mortem examinations, biological tests in routine diagnosis, research and class work:—

	Pathology and Bacteriology section.	Parasitology section.	Clinical laboratory.	Total.
From the staff of the Civil Veterinary department.	2,164	2,295	..	4,459
From the wards of the College hospital and Veterinary dispensary, Rayapuram.	203	..	4,077	4,280
From dairy and other farms ..	161	..	..	161
From the Veterinary Investigation officer.	59	77	..	136
From the Agricultural department.	27	21	..	48
From the Forest department ..	3	7	..	10
From the Corporation of Madras ..	50	..	208	258
From Coorg	38	23	..	61
From other Indian States	..	..	..	..
From private bodies	..	1	30	31
Total ..	2,705	2,424	4,315	9,444

29. Of the 2,705 specimens examined in the Pathology section during the year as against 2,687 in the previous year, 914 were confirmed for various diseases, of which 524 were bacteriological and 390 pathological conditions.

30. Of the 2,424 specimens examined in the Parasitology section during the year as compared to 2,518 of the previous year, 1,293 were confirmed for the various diseases suspected. In addition to the above, some specimens from the Veterinary Investigation Officer, Hyderabad; Officer in charge of the Veterinary Laboratory, Nagpur, and Assistant Veterinary Surgeon, Federated Malay States, were received for identification or confirmation in connexion with their research work.

Features which deserve special mention.

Pathology and Bacteriology section.

31. *Johne's disease.*—This disease was detected by the bowel washing method in two bullocks, one from Hosur Cattle Farm and the other from the Veterinary Hospital, Dindigul; and in two cows, one from the Agricultural College, Coimbatore, and the other from the Veterinary Hospital, Vellore. The existence of the disease in an ewe from the Hosur Cattle Farm was also confirmed microscopically from the smears and histological examination of the intestines and Mesenteric lymphatic glands.

Tuberculosis.—Cases of Pulmonary tuberculosis continued to occur among the bullocks belonging to the Madras Corporation. A massive chronic tuberculous broncho-pneumonia was noted on

autopsy in a cross-bred cow belonging to a private owner; the disease was also noted in a bullock at the Hosur Cattle Farm and in a bull from the Veterinary Hospital, Trichinopoly.

Actinomyces.—Infection with *Actinomyces Bovis* was diagnosed in 4 instances with Granulomata in the following situations:—

- (1) Nostril—bullock—Veterinary Hospital, Madanapalle.
- (2) Cheek—buffalo—Veterinary Dispensary, Badvel.
- (3) Jowl—bullock—Veterinary Dispensary, Pollachi.
- (4) Tongue—bullock—Touring Veterinary Assistant Surgeon, Salem.

Anthrax.—In addition to its detection in bovines and in ovines, the disease was confirmed microscopically in an elephant from the Veterinary Hospital, Bobbili, in a monkey from the Veterinary Hospital, Ellore, and in a boar from Hosur Cattle Farm. Eight samples of industrial materials consisting of goat-skin, sheep and goat-hair for test for anthrax infection received from local firms were examined in the laboratory with negative results.

Rhinospordiosis.—This disease was recorded in one equine and in one bovine, the former a patient of the Veterinary Hospital, Cocanada, and the latter, a patient of the Touring Veterinary Assistant Surgeon, Manjeri. In both cases, the lesions were from the nostril.

Streptothrix.—Infection due to an acid-fast streptothrix was noted during autopsy in 2 dogs. The organs affected were the heart, liver and kidneys. Its morphological, cultural, bio-chemical characters and pathogenicity are under study.

Carcinoma.—A large number of these (132) was examined and reported upon. Growths in unusual situations were recorded in several species of animals.

Epithelial Odontoma.—Growths from the incisors of a bullock at the Veterinary Hospital, Erode, proved on section to be an epithelial odontoma.

Rabies.—The total number of brains of animals suspected for rabies examined was 80, as tabulated below:—

					Positive.	Inconclu- sive.	Unfit for examination.
Canines	..	..	..	..	44	26	1
Equines	..	..	..	..	1	1	..
Bovines	..	..	..	..	1	..	..
Felines	..	..	..	..	..	3	1
Goat	..	..	..	..	1	..	..
Deer	..	..	..	..	..	1	..
Total	..	..	..	..	47	31	2

Of these, the disease was confirmed microscopically in two puppies of which one was aged 4 months and the other under a year, a mule aged 3 years, a cross-bred cow aged 6 years, and a goat aged 8 months.

Contagious abortion.—Seven samples of sera from cows suspected for contagious abortion as detailed below were received for serological test; all gave negative results:—

Agricultural College—cows	...	...	...	2
Imperial Dairy Institute, Bangalore—cow	...	...	...	1
Veterinary Hospital, Tanjore—cow	...	...	...	1
Veterinary Hospital, Vizagapatam—cow	...	...	...	1
Veterinary Hospital, Guntur—cows	...	...	...	2

One sample of serum from a fowl from the Veterinary Dispensary, Dindigul, suspected for bacillary diarrhoea proved negative.

Urine Hormone.—6.27 litres of urine hormone were supplied to the staff for treating 27 animals and reports of the results of treatment were received in respect of 9 cows, 7 bulls and 1 she-buffalo. The reports were favourable in 4 cows, 2 bulls and the she-buffalo.

Post mortem.—One hundred and twenty-three autopsies details of which are given below, were conducted on requisition from the wards of the college:—

Canines	...	...	...	...	74
Poultry	...	...	...	...	14
Felines	...	...	...	...	8
Equines	...	...	...	...	9
Bovines	...	...	...	...	15
Ovines	...	...	...	...	3
Total	...	...	...	...	123

This number does not include the number of autopsies conducted on laboratory animals used for experiments, biological tests, etc.

Among the postmortems conducted, the following are of special interest:—

- (1) Internal hæmorrhage due to rupture of an aneurysmal tumour in the posterior aorta caused by spirocerca infection was seen in a dog and a pleuro-pneumonia resulting from infestation with the same species of worm was noticed in a hound of the Madras Hunt Club.
- (2) A case of fowl-pox in a leg-horn cock.
- (3) A calculus weighing 1.8 k.g. which caused fatal obstruction and impaction of double colon in a Bay Australian gelding of the City police.
- (4) A case of pleurisy with effusion of streptococcal origin in a horse belonging to the City police.
- (5) A classical case of sub-acute ulcerative endocarditis with massive adherent antimortem clot occupying half the left ventricular cavity and a severe pyæmia involving kidneys, myocardium and the brain in a heifer calf. A hæmolytic streptococcus was isolated from both the valvular and myocardial lesions.
- (6) A urinary calculus with resultant cystitis in the bladder of a dog.

The following parasites obtained through the courtesy of the Professor of Parasitology, Punjab Veterinary College, were added to the College Museum:—

- (1) *Linguatula* species from dog.
- (2) *Dicrocoelium dendriticum* from sheep.
- (3) Larvae of *Cephalopsis titilator* from camel.
- (4) Larvae of *Hypoderma crossi* from goat.

In addition to the above, some specimens of worms from a peacock were received from the Officer in charge of the Veterinary Laboratory, Nagpur. The worms appear to belong to the genus *Cyrnea* Seurat, 1914. A paper describing them is under preparation.

32. (b) *Clinical laboratory*.—Smears, faeces, scrapings, etc., from different wards of the College hospital, the Veterinary dispensary, Rayapuram, Madras Hunt Club, and the cattle depots of the Corporation of Madras continued to be examined in this laboratory and results were communicated. The fall in the number of specimens examined is mainly due to fall in the number of admissions and of daily average attendance in the College hospital. The students of the refresher course and classes B and C were given demonstrations, in batches, on the actual preparation and examination of clinical material for laboratory diagnosis and they had ample materials for their practical study.

33. (c) *Biology section*.—Work on the formation of the Biology Museum was continued during the year. Over 160 specimens of biological interest were added to the museum. Most of these were collected during excursions conducted by the Assistant Lecturer on behalf of the students of the first-year class. Places of biological interest like the Ennur Fisheries Station, the Vandalur Hills and the Madras Harbour were visited during the year with the students. In the Harbour, collections with a tow-net and dredge-net were made which yielded some valuable specimens for inclusion in the museum. Interesting museum additions during the year are—

- (1) A land crustacean (pill bug, *Armadillidium*) from the forests of Siam,
- (2) land leeches, ferns, and molars of elephants from the Travancore State,
- (3) the skull and skin of a large crocodile from the River Coleroon, Tanjore district,
- (4) a giant prawn from the deep sea near Madras,
- (5) a hooded slug from the Agricultural Research Station at Nanjanad,
- (6) a large medusa from the local harbour, and
- (7) about a dozen stuffed specimens of birds representative of different forms of avian life.

During the year many permanent microscopic preparations necessary for class use were prepared.

A mollusc received from the Veterinary Assistant Surgeon, Nanjanad, and three specimens of plants poisonous to livestock from the Veterinary Assistant Surgeon, Koilkuntla, were identified and reported upon.

34. (d) *Physiology laboratory*.—Five hundred and eleven specimens were examined during the year in this laboratory as against 730 in the previous year. Of these, 463 were samples of urine, 3 of milk and 43 of serum and 2 of blood.

Details of urine examination.

	Horse.	Cattle.	Dogs.	Elephant.	Deer.	Total.
From the wards of the College	69	87	281	..	..	437
From the cattle depots and Zoo of the Madras Corporation.	..	2	..	1	..	3
From the mufassal	..	19	3	..	1	23
					Total ..	463

The following abnormal constituents were present in the specimens of urine examined:—

	Horse.	Cattle.	Dogs.	Deer.	Total.
Albumin	1	23	160	1	185
Sugar	..	1	1	..	2
Bile salts	..	3	34	..	37
Bile pigment	..	1	39	..	40
Blood	1	18	2	1	45

Nothing abnormal was noted in the specimens of milk and blood examined.

During the year, estimation of total proteins in specimens of serum from the same animal at different bleedings obtained from the Serum Institute, Madras, was taken up with a view to find out variations, if any. The work is in progress.

The laboratory was further equipped for experimental physiology during the year.

35. (e) *Chemistry section*.—Four samples of water received from the Superintendent, Government Ophthalmic Hospital, Madras, for examination as to their suitability as drinking water for cattle, were found, on examination, to contain, in addition to normal constituents very large amounts of chlorides and nitrogenous compounds in a state of bacterial decomposition and reported upon as being unfit for drinking. A sample of urinary calculus from a horse was found to contain mainly calcium carbonate besides the usual constituents. Three samples of faeces from bovines received for chemical examination to find out whether they contained arsenic or antimony, were found, on examination to contain neither arsenic nor antimony.

36. (f) *Anatomy section*.—Fifty-four animals (53 bovings and 1 equine) were destroyed and injected with preservatives, during the year for demonstration and dissection purposes.

Twelve specimens were received during the year for examination by dissection and report. The dissection notes were made and

Autogenous vaccines.—Autogenous vaccines were prepared and supplied for 60 animals during the year as against 40 last year. The results of treatment are encouraging as there was complete cure of the infection in 83.4 per cent of the cases treated; no improvement in 13.3 per cent and in the remaining 3.3 per cent the vaccine was not used. The identification of bacteria isolated for the preparation of autogenous vaccine and otherwise by their bio-chemical reactions is being practised and all potential pathogens are now included in such vaccines. Stock vaccines against bovine lymphangitis were supplied to 135 bovines and the treatment is reported to have proved satisfactory.

Biological tests.—Biological tests were conducted with materials received which were suspected for Blackquarter, Haemorrhagic Septicæmia, Anthrax, Fowl-cholera, Pseudo-fowl pest, etc. The number of tests conducted is as follows:—

	Positive.	Negative.	Total.
Blackquarter	43	46	94
Anthrax	7	23	35
Haemorrhagic Septicæmia	23	58	81
Fowl-cholera	..	10	10
Pseudo-fowl pest	3	9	12
Total	81	151	232

The high susceptibility of mice to both Anthrax and the pasteurilloses have been taken advantage of and they are now being used for biological tests in diagnosis. They are cheaper than rabbits and guinea-pigs, breed rapidly, cost less to maintain, are easier to handle and house and the carcasses can be disposed of easily and more safely.

In order to enable the students to study practically the more common infectious diseases of cattle met with in the field (Blackquarter, Anthrax and Haemorrhagic Septicæmia) suitable animals were inoculated with materials obtained from affected animals or from cultures of the respective causal organisms. The symptoms manifested by these animals while suffering from the diseases were explained and the lesions set up in them were then demonstrated to the students at autopsy. Students were given ample opportunities for practising postmortem technique and to record their observations.

Advantage was taken of two suspected cases of tuberculosis to demonstrate the technique of the tuberculin test to the students.

The differential staining of pathological specimens was adopted with advantage.

The section was supplying during the year all media on requisition from the Veterinary Investigation Officer, Madras.

Pathology museum.—The specimens in the Pathology museum are under rearrangement on the decimal notation system. The following interesting specimens were added during the year:—

- (1) Osteo-chondroma of sternum from an adult ox (received from the Anatomy section).

- (2) Epithelial odontoma—Growth in the incisors from a bullock, Veterinary Hospital, Erode.
- (3) Cavernous hæmangioma of the liver of a dog, Veterinary Hospital, Ootacamund, and of a bovine from the College hospital.
- (4) Round celled sarcoma from the urinary bladder of a she-goat, Veterinary Hospital, Erode.
- (5) An intestinal calculus from a horse weighing 1.8 k.g. which was responsible for a fatal obstructive colic (College hospital).
- (6) Sub-acute ulcerative endocarditis of streptococcal origin in a calf.

Parasitology section.

(1) A species of aspergillus as the cause of skin disease in a dog was recorded. It would appear that this condition is a rarity.

(2) The presence of *Toxacara mystax* in a tiger cub and infestation of a six months' old calf with *Strongyloides* species causing severe diarrhoea were noted for the first time in this Presidency.

(3) The occurrence of *Babesia caballi* has not been reported so far from this part of India and this was recorded in a pony. The animal was undergoing treatment with Naganol for Surra, and a subsequent examination of its blood smears revealed *B. caballi*.

(4) In the blood smear from a bullock, *B. bigemina*, *B. Mutans*, *T. Evansi* and *Microfilaria* were found. Such concurrent infestations are uncommon.

(5) Bodies resembling Koch's blue bodies were found in the circulating blood of a calf showing a very heavy infestation with *B. Mutans*.

(6) In the sections of a growth from the base of horn of a bullock suspected for horn-cancer, ova of nasal Schistosomes were found. The material was received from Conjeeveram Veterinary Hospital. This is the third case in which ova were demonstrable in such lesions. It is thought that this finding is of interest and further work is proceeding.

Parasitology Museum.—In all, 116 bottles containing helminths were received and identified during the year. The following from among these were added to the College Museum:—

- (1) *Trichonema bicoronatum* Looss, 1900.
- (2) *T. tetracanthum* Mehlis, 1831; Looss, 1900 (*T. aegyptiacum* Railliet, 1923).
- (3) *T. nassatum* Looss, 1900.
- (4) *T. pseudocatinatum* Yorke and Macfie, 1920.
- (5) *T. poculatum* Looss, 1900.
- (6) *Poteriostomum ratzii* Kotlan, 1919.
- (7) *P. imparidentatum* Quiel, 1919.

quarter vaccine, is that the Public Works Department has not yet been able to construct the additional buildings required and to carry out the necessary improvements to the existing buildings. Every attempt is being made to get these done as quickly as possible.

For the purpose of manufacturing Hæmorrhagic Septicæmia vaccine, four strains of Pasteurella Bovisepticus were employed. The procedure adopted in the beginning was to kill in a water bath, the organisms grown in broth for 48 hours and to add Lysol solution to a final concentration of 0.5 per cent as a preservative. The sterility and potency tests proving satisfactory, the product was issued for use in the field.

This method of killing cultures by heat was found to be laborious and time-consuming and the evolution of a simpler and efficient technique was found to be expedient to meet the demand for this product from the districts. With this object in view, experiments were conducted and a technique was evolved which was both simple and efficient. Briefly the technique is as follows:—

To 48-hour old broth cultures of Pasteurella Bovisepticus, a five per cent solution of Lysol in normal saline solution is added to bring the final concentration of Lysol in the culture flasks to 0.5 per cent. These flasks are incubated for 24-hours and tested for sterility. Pasteurella Bovisepticus organisms are invariably destroyed and the resulting product is then tested biologically for potency.

The product obtained by this method is found to be very safe and more efficient than the heat-killed vaccine, as ascertained by biological and cultural tests and this latter method is now being followed.

The total quantity of Hæmorrhagic Septicæmia vaccine issued during the year amounted to 490 bottles or 24,500 doses of 5 c.c. each.

44. *Rinderpest bull virus*.—There was an increase in the demand for bull virus for serum simultaneous inoculations from the staff as compared with the figure for 1936-37 in spite of the wider use of goat blood virus and goat spleen tissue vaccine. Four hundred and sixty-nine calves were used for the production of virus including 185 calves used as controls for the goat virus and goat spleen tissue vaccine. Out of these 469 calves, one calf (0.2 per cent) was infected with Spirochætes, 13 calves, (2.8 per cent) revealed the existence of Trypanosomes in them, 41 calves (8.7 per cent) harboured Microfilaria, one calf (0.2 per cent) showed Piroplasma Bigeminum and 19 were non-reactors. The total mortality among these virus producers was 315 or 67.2 per cent.

The quantity of rinderpest bull virus issued during the year was 193,000 c.c. as against 181,450 c.c. in the previous year.

45. *Rinderpest goat blood virus*.—Both the Madras and Mukteswar strains were continued and the total number of goats

used for both the strains was 375. Up to the end of the year, 269 passages of the Madras strain and 235 passages of the Mukteswar strain had been completed. There was no appreciable decline in the virulence of the virus either for ovines or bovines. The mortality among the control calves used for the Madras strain was 58 per cent, while it was 65 per cent for Mukteswar strain.

The quantity of goat blood virus supplied during the year was 73,475 c.c. as against 55,050 c.c. of the previous year.

46. *Rinderpest goat spleen tissue vaccine*.—This product (prepared in 60 per cent glycerine) was widely used in the field and was in good demand throughout the year. Eighty-nine thousand eight hundred c.c. of the vaccine were issued during the year.

47. (e) *Sale of anti-rinderpest serum and virus*.—Twenty bottles of anti-rinderpest serum and 5 bottles of rinderpest virus were sold to the Government of Sandur State and 4 bottles of rinderpest virus were sold to His Exalted Highness the Nizam's Civil Veterinary Department, Hyderabad (Deccan) at an aggregate cost of Rs. 105-14-0.

48. (f) *Other sera and vaccines*.—The various kinds of sera and vaccines purchased and issued to the staff during the year are as shown below:—

	Bottles.
Anti-anthrax serum	1,022
Anti-blackquarter serum	6,708
Blackquarter vaccine	4,439
Anti-tetanic serum	112 doses.
Fowl cholera serum	578 "
Do. vaccine	595 "
Mallein subcutaneous	117 "
Tuberculin bovine ordinary	61 "
Tuberculin bovine concentrated	84 Ampoules (5 doses each).
Tuberculin avian concentrated	70 Ampoules.
Fowl-pox vaccine	1,130 doses.
Anti-distemper serum	13 "
Mixed streptococcic vaccine	13 "

The demand for blackquarter vaccine almost doubled itself as compared with the consumption of the previous year, with a slight decrease in the despatches of anti-blackquarter serum. This is due to the fact that even in outbreaks, blackquarter vaccine was widely used in preference to the anti-serum.

49. (g) *Laboratory work*.—The number of specimens examined under the microscope was 16,750 blood smears and 10 fæces, and of these 8,693 proved positive as detailed below:—

Blood smears.—Theileria 8,414, Microfilaria 123, Trypanosomes 61, Piroplasma Bigeminum 3, Spirochætes 4, Theileria and Microfilaria 9, Bipolar organisms (Hæmorrhagic Septicæmia) 61, Anthrax 1, and Rod-shaped organisms 9.

Fæces.—Coccidia 8.

interesting portions of the specimens were transferred to the surgery section for mounting as surgical specimens.

A rare specimen of osteo-chondroma which was found with reference to the sternum of a dissection subject (ox) was removed and given to the pathology section as a museum specimen.

37. (g) *Pharmacology section*.—During the year under report, as usual, students of the second-year class were given practical training in compounding and dispensing medicines. The number of prescriptions dispensed during the year was 22,439 (horses, 3,132; cattle, 6,495; dogs, etc., 12,697) including 115 prescriptions of cases not brought to the hospital, as against 23,795 of the previous year.

III.—SERUM INSTITUTE.

38. (a) *Staff*.—Government sanctioned the continuance of this Institute on a temporary basis for a further period of two years up to 31st March 1939 and with the year under review, the Institute had completed six years of its temporary existence. Sri Rao Sahib K. Kailasam Ayyar was in charge of the Institute during the year except for the period from 8th June 1937 to 15th November 1937 when Sri C. S. Murti held charge.

39. (b) *Accommodation and equipment*.—Improvements to the adjacent land transferred to this Institute in the year 1933, were completed and the building known as the "Music Hall" was converted into a bleeding room. The weigh-bridge has been re-erected in the new shed constructed for it. The construction of residential quarters for six menials of the type-design model is under progress. The building on Cook's Road, adjoining this Institute, which was formerly occupied by the Slater Hostel, was transferred to this Institute and an estimate for its improvement, so as to make it fit for housing the laboratory of the Institute, is under preparation by the Executive Engineer. The construction of a compound wall and a bleeding-room for the Hæmorrhagic Septicæmia enclosure and additional cattle-sheds have been sanctioned. Various minor improvements and repairs to the laboratory buildings and sheds were also carried out during the year.

A new ten-door cold storage cabinet to accommodate 2,000 serum bottles was erected at a cost of Rs. 3,600. The laboratory equipment was further augmented by the purchase of sterilizers, autoclave, incubator, other small apparatus and glass ware.

40. (c) *Livestock and fodder*.—The total number of each species of animals purchased during the year was 1,455 adult he-buffaloes, 576 calves and 380 sheep and goats as compared with 1,096 adult he-buffaloes, 585 calves and 288 sheep and goats in the previous year.

Of the discontinued animals, 54 calves were supplied to the Madras Veterinary College from time to time free of cost for use in dissection classes and laboratory. The number disposed of by sale to the contractor was 1,267 buffaloes, 182 calves and 9 sheep

and goats and the number that died was 209 buffaloes, 345 calves and 357 sheep and goats.

All livestock and fodder were, as usual, purchased on contract based on tenders.

In all previous years, the contract for the disposal of discontinued animals by sale went to the local butchers, as the rates quoted by them in the tenders happened to be the highest. In view of the improved condition the animals (especially the adult he-buffaloes) pick up during their stay in this Institute as a result of the rich and regulated feeding and in view of the immunity they acquire against rinderpest and other diseases, it was a matter of regret that they were slaughtered for human consumption. But during the year under report, there happened a change in the personnel of the contract for the sale of buffaloes and calves and it is gratifying to learn that the contractor had been able to sell over 50 per cent of the buffaloes and almost all the calves to agriculturists for work and ploughing purposes.

41. (d) *Production of sera, vaccine and virus—Anti-rinderpest serum*.—During the year, 1,110 adult he-buffaloes were used as serum makers and 126 calves as serum testers. The stock of anti-rinderpest serum on hand at the beginning of the year was 2,058 bottles, each bottle containing 50 unit doses of 5 c.c. each. 31,340 bottles or 1,567,000 doses comprising 39 brews were manufactured and completed during the year as against 1,356,000 unit doses during the previous year. All the brews of serum were of the required potency.

The total quantity of anti-rinderpest serum issued including the quantity used in the Institute amounted to 33,030 bottles or 1,651,500 unit doses, the quantity issued during the previous year being 1,403,200 unit doses.

42. *Anti-Hæmorrhagic Septicæmia serum*.—The number of adult he-buffaloes used for the manufacture of anti-Hæmorrhagic Septicæmia serum was 345. The stock of this serum on hand at the beginning of the year was 1,866 bottles or 37,320 unit doses of 15 c.c. each. 9,274 bottles or 185,480 unit doses comprising 15 brews were manufactured and completed during the year as against 160,500 unit doses during the previous year. Issues during the year amounted to 9,052 bottles or 181,040 doses inclusive of 1,400 doses used in the Institute, the quantity issued during 1936-37 being 151,940 unit doses.

43. *Hæmorrhagic Septicæmia Vaccine*.—Government sanctioned the manufacture of anti-blackquarter serum, blackquarter vaccine and Hæmorrhagic Septicæmia vaccine during the year under report, but it was found possible to take up Hæmorrhagic Septicæmia vaccine only with the available accommodation and equipment. All additional apparatus, etc., required have been purchased and the only reason for the delay in the introduction of the remaining two products, viz., anti-blackquarter serum and black-

50. *Post mortem*.—Post mortem examination were conducted on 803 carcasses of animals that died in the Institute. The following is the detailed list of parasitic infections recorded:—

(1) Paramphistomum	...	...	...	...	64
(2) Sarcocystis Blanchardi	...	...	...	...	51
(3) Fasciolae	...	...	...	...	2
(4) Sarcocystis Blanchardi and Fasciolae	...	...	...	...	5
(5) Echinococcal Cysts	...	...	...	...	10
(6) Sarcocystis Blanchardi and Echinococcal Cysts.	...	...	...	...	8
(7) Sarcocystis Blanchardi and Paramphistomum.	...	...	...	...	47
(8) Sarcocystis Blanchardi, Paramphistomum and Echinococcal Cysts	...	...	...	...	5
(9) Paramphistomum and Echinococcal Cysts	...	...	...	...	2
(10) Fasciolae, Sarcocystis Blanchardi and Echinococcal Cysts	...	...	...	...	2
(11) Sarcocystis Blanchardi and Paramphistomum.	...	...	...	...	1
					197

51. The practice of using Antimonium Potassium Tartaratum on all buffalo-calves intended for virus production was continued during the year and the table below gives a comparative idea of the incidence of intercurrent diseases among virus producers as compared with the figures of last year:—

Year.	Trypano- somes. PER CENT.	Piroplasma bigeminum. PER CENT.	Micro- filaria. PER CENT.	Spiro- chaetes. PER CENT.
1936-37	4.5	..	10.4	0.2
1937-38	2.8	0.2	8.7	0.2

52. Experiments in connexion with the preparation of a desiccated goat spleen tissue vaccine for issue to the field are under progress.

IV.—INVESTIGATION AND RESEARCH.

(a) *Rinderpest*

53. The policy of conducting the Serum Simultaneous method of inoculations in affected villages with 6 c.c. and 8 c.c. of serum per 100 lb. of body weight for cattle and buffaloes was continued during the year. The attempts made during the year towards determining the relative susceptibility of the cattle and buffaloes in the different districts as shown by their response to an injection of goat-blood virus alone were also continued. The results showed that a solid immunity could be conferred by this method, but it proved to be unpopular among the ryots owing to the severe reactions which the product set up in buffaloes, though cattle were found to be more resistant to its effects. It was also considered undesirable to introduce two different methods of protection for use on cattle and on buffaloes. The number of cattle offered for protection by the goat-blood virus method showed a progressive decline. A wider use of the

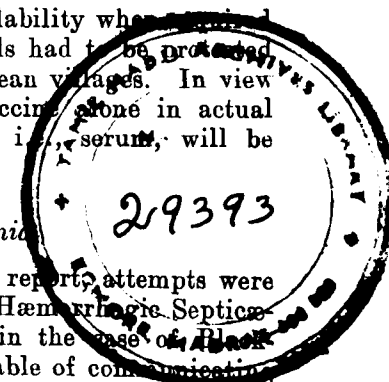
new product, viz., the glycerined spleen tissue vaccine had, therefore, to be made. The reports received from the District Veterinary Officers on their experiences with this product showed that the vaccine could be used without giving rise to any undesirable reactions in cattle or in some cases in buffaloes, but the immunity conferred on the animals was found on subsequent tests to be weak and liable to wear out within a few months. Difficulties have also been experienced in its preservation and transportation within its viable period to the scene of outbreaks in the outlying villages of distant districts. A reversion to the use of goat-blood virus had, therefore, to be made and instructions to the staff were accordingly issued to ensure a lasting immunity of protected cattle by using goat-blood virus with a simultaneous injection of anti-Rinderpest serum in a dose just sufficient to prevent any undesirable reactions. It is expected that a considerable economy in serum will result by the adoption of the method in substitution of the old Serum Simultaneous method using bull-virus. The possibility of producing in the field the spleen tissue vaccine for immediate use in outbreaks is being explored.

(b) *Blackquarter*.

54. In the previous year's report it was mentioned that the use of a vaccine obtained from Mukteswar for use in outbreaks of Blackquarter without any serum was tried and found to be an economical and efficient method. During the year 1937-38, the District Veterinary staff have protected 132,934 cattle and buffaloes and seven sheep with this method in actual outbreaks and 1,894 cattle and 206 sheep and goats in clean areas with a loss of only 139 animals. Most of the deaths are believed to have occurred among animals vaccinated after they had contracted the infection and were unavoidable. A wider use of the vaccine could not be made on account of its non-availability when required by the staff and consequently, 96,830 animals had to be protected with serum alone in outbreaks and 209 in clean villages. In view of the favourable results obtained with vaccine alone in actual outbreaks, the use of the costlier product, i.e., serum, will be further restricted in future.

(c) *Hæmorrhagic Septicæmia*

55. During the Course of the year under report, attempts were made towards introducing a vaccine against Hæmorrhagic Septicæmia in actual outbreaks of the disease as in the case of Blackquarter. This product is a sterile one incapable of communicating the disease to vaccinated animals and is, besides, cheaper to produce as its manufacture does not involve the use of live animals. It is also less bulky and its transport is more economical. The immunity conferred on animals by the vaccine is comparatively of a longer duration. The vaccine, after preliminary trials, was used in the control of outbreaks in 69 villages and 11,815 animals



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were successfully protected with a loss of only two buffaloes which as in the case of Blackquarter were suspected to have been incubating the disease at the time of vaccination.

Out of the total number, not less than 7,712 animals were protected with vaccine made in the Madras Serum Institute. The demand for vaccine from the staff exceeded the supply and it was found necessary to use the costlier product, viz., serum in protecting 137,654 animals in affected villages. Of these, 106,744 were protected with serum prepared at the Serum Institute, Madras. Sanction for the manufacture of the vaccine has been accorded by Government in their Order Ms. No. 2241, Development, dated 1st October 1937, and in view of the favourable results obtained with the cheaper product, viz., vaccine, it is proposed to restrict the use of serum to the actual in-contact animals in outbreaks as is done in certain other provinces. It is also believed that in outbreaks of such diseases as Anthrax Blackquarter and Hæmorrhagic Septicaemia, in which the spread of infection from animal to animal is not usual, suppression of the outbreaks can be effected if the actual in-contacts and other animals similarly exposed to infection are promptly protected and that the protection of all animals in the villages is not absolutely necessary. If this policy can successfully be adopted in this province, a considerable saving in expenditure in sera and vaccines can be effected and the staff will be released for other work. Success, however, depends on the care with which in-contacts are picked out among village herds and the promptness in attending to outbreaks.

A preliminary study of the epizootiology of the diseases mentioned has been undertaken with this end in view and the results will be reported to Government in due course.

(d) *Foot and Mouth disease.*

56. This highly infectious but comparatively non-fatal disease of cattle was in the past considered to be of comparatively lesser importance owing to the mild form which it assumes in the indigenous breeds of cattle and the negligible mortality caused by it. This circumstance and the lack of a suitable biological product for prevention of the disease prevented any active steps being taken for the suppression of outbreaks of foot and mouth disease.

An attempt has been made during the year to estimate the economic loss to the province resulting from the impaired efficiency of working cattle, and the loss of milk in milch cows in outbreaks of the disease, and the question of devising a suitable prophylactic against the disease if possible, will be taken up. In the meanwhile, treatment of affected animals with the drugs 'Soda Ash' and 'Chloride of Lime,' which are reported to have yielded good results in other provinces is being tried.

(e) *Nasal Schistosomiasis.*

57. The attempts towards devising a course of treatment for the affection known as 'Snoring disease' of cattle were continued during the year and the total number of animals treated is mentioned elsewhere. It has been reported that the dose of $1\frac{1}{2}$ grs. of Tartar emetic per 100 lb. body weight repeated at lesser intervals than a week was responsible for a few fatalities and that consequently the treatment was not popular among ryots. A scrutiny of the available data and the results of experiments conducted at the Madras Veterinary College however show that such mortality is due not to the drug but to the intensity of infestation of the animal with the parasite at the time of treatment, and that mishaps can be avoided by adjusting the dose of the drug according to the intensity of infestation determined by an examination of nasal washings. Instructions have accordingly been issued to staff for their guidance.

(f) *Chronic Fluorosis in cattle.*

58. A peculiar disease of cattle in an area comprising parts of Nellore and Cuddapah districts, characterized by bony protuberances on the ribs, and a progressive emaciation seriously affecting the working capacity of animals was investigated during the year. It was also found co-existent with a similar affection of men in the area which formed a subject of enquiry by the Public Health Department of the Government of Madras. The results of the latter enquiry which have since been published have proved that the affection in men as well in animals is due to the presence of an abnormal quantity of 'Fluorides' in the drinking water. The ailment variously known in the Kurnool district as Rheumatic arthritis, Ostemalacia, etc., is also believed to be due to the same cause.

(g) *Veterinary Diseases Investigation.*

59. Sri G. R. Viswanathan held charge of the Veterinary Investigation Officer's post throughout the year. He was on tour for 159 days and visited 273 villages. He left Madras on 26th August 1937 to undergo special training at the Imperial Veterinary Research Institute, Mukteswar, and returned to Madras on 4th October 1937. He worked in the different departments of the Mukteswar Laboratory and on his way to Madras, he visited the Serum Institute at Izatnagar.

In accordance with his original programme of work, he continued investigations into the incidence of diseases among sheep and goats in this Presidency and amongst the thirteen such diseases investigated by him, the more important seem to be the following:—

- (1) Contagious Pleuro Pneumonia of goats.
- (2) Rinderpest in sheep.
- (3) Circling disease of sheep.

- (4) Sheep-pox.
- (5) Contagious Ecthyma in goats,
- (6) Helminthic infection.
- (7) Infectious Pneumonia of sheep.

Details of the investigations are embodied in the Veterinary Investigation Officer's Report submitted to Government separately.

(h) *Research work at the Madras Veterinary College laboratory.*

60. (a) *Pathology and Bacteriology section Prophylactic value of Pseudo-fowlpest vaccine.*—A carbolised and heated vaccine advocated by Dr. Turkhud against Pseudo-fowlpest was tested for its prophylactic value. Two maximal protective doses of the vaccine were given. There was no antigenic response evident clinically and no indication of its conferring any protection to either injection or contact infection.

61. (b) *Parasitology section.*—(1) Work on Rhinosporidium was continued during the year. Through the courtesy of Dr. P. V. Cherian of the General Hospital, fresh material was obtained from human beings and attempts were made to culture the organism. The fungus isolated from bovines was identified by the Imperial Mycological Institute, England, as *Spicaria species*. This is one of the fungi imperfecti and it has not been possible to get a perfect stage either here or in England and so it was not possible to classify it finally. This fungus would not fructify in cultures and after a few sub-cultures ceased to grow. It is in contemplation to continue this work when a further supply of fresh material either from man or bovine is available.

The bovine under observation for nearly two years after attempted infection with the fungus did not show any sign of rhinosporidial growths at the seat of infection in the nose.

(2) The study on the parasitic nodules in the liver and lungs of ponies was continued. This study was taken up four years ago. The subjects chosen were mostly jatka ponies since these are infested more commonly with parasites than well-kept horses. The material obtained from 32 of such ponies was ample for such study and it was concluded that all the ponies which showed the nodules were only infected with strongyles, particularly *S. vulgaris* and the number of nodules seemed to have a direct proportion to the number of those worms in the large intestines. During the course of this work, a large number of *Trichonema* were collected and identified. It was found that *T. nassatum* and *T. pseudocatiatum* were the commonest trichonema in ponies in Madras. In a couple of ponies a very few immature *schistosoma indicum* were obtained from the portal vein but no lesions in the liver due to these, could be found.

(3) Collection of parasites from pigs slaughtered in Madras was carried out during Christmas. It was possible to obtain some

tapeworms of the species *pseudanoplocephala crowfordi* Baylis, 1927. A number of these worms were collected in December 1932, but owing to want of time, they were not taken up for identification then. This is the first record of their existence in pigs in the Madras Presidency and possibly in India.

(i) *Anatomical findings.*

62. During the year under report, anatomical deviations on the disposition of certain blood vessels and nerves were observed and studied in the ox type.

The study of variations in the level of union of the subzygomatic nerve (superficial temporal nerve) with the facial nerve in the horse, was taken up during the year and such variations were studied in 16 subjects.

The most interesting findings during the year are the presence of (1) group of five small lymph glands in the space between the bifurcated branches of the suspensory ligament in the fore limb of a subject (horse type) and (2) a lymphatic gland on the deep face of the anterior part of the parotid salivary gland on the transverse facial vessels and nerve, in a certain number of subjects of the horse type.

V.—CONTAGIOUS DISEASES.

(a) *Registration of mortality and reporting of outbreaks.*

63. The revised system of registering and reporting of outbreaks of contagious diseases introduced during the previous year was at work during the year under report. The number of outbreak reports received from sources other than the village officers was small, but it is believed that in course of time, the possibility of non-official bodies and private persons reporting outbreaks of disease and thus exposing the negligence of village officers will act as a sufficient check over the latter resulting in their greater efficiency. The system is being watched and a report on its working will be submitted after trial over a reasonable period. Several district officers have however pointed out delays and even failures to report outbreaks of disease to the staff of this department. The disparity in the figures of mortality reported by Collectors of districts and the figures reported by village officers to the touring staff still continued to be great, particularly in the northern districts where rinderpest was very prevalent during the year. For instance, the mortality from contagious diseases reported by the village staff to the Touring Veterinary Assistant Surgeons in the East and West Godavari districts was 5,543 while the number according to the monthly returns received from Collectors of the two districts is 6,234. The returns of mortality for the month of January 1938 received from the Collector of Vizagapatam district and the returns furnished by the village officers to this department showed a difference of 550 under cattle and 87 under

buffaloes. As the village officer is the source of information to this department as well as to the Collectors, there does not appear to be any reason why such disparity in the statistics of mortality should occur at all. At the instance of the District Veterinary Officers, the village officers concerned have been instructed to avoid such discrepancies. It is hoped that more accurate data will be furnished in future years.

64. The revised form compiled by the Imperial Council of Agricultural Research in which mortality figures for the various classes of animals, has been introduced with the sanction of Government, but for reasons unknown, the Collectors of certain districts have not furnished the data in the new form. The statement at Appendix I of this report, therefore, shows the details of mortality for different classes of animals only for the districts for which they are available.

(b) *Mortality.*

65. The year 1937-38 may, on the whole, be considered to be more favourable than the previous one from the point of view of the incidence of contagious diseases. The total number of outbreaks of all diseases received and attended to by the staff as compared with the totals for the two previous years are as follows:—

Year.	Number of outbreaks pending on 1st April.	Number of outbreaks received.	Number attended by staff.	Pending on 31st March.
1935-36	23	3,694	3,310	43
1936-37	59	5,911	5,970	53
1937-38	53	5,708	5,445	49

The total mortality from Rinderpest, Anthrax, Hæmorrhagic Septicæmia and Blackquarter was 28,124, an average of 5.7 per outbreak as compared with 5.2 per outbreak in the previous year. Besides these, 2,358 were lost as a result of foot and mouth disease against which a satisfactory method of control suitable for use in this Presidency has yet to be devised. The mortality referred to above excludes the loss of 10,948 head of cattle reported as the result of contagious diseases which could not be diagnosed for want of ailing animals at the time of visit by the touring staff to the scene of outbreaks or through lack of a satisfactory method of prevention.

(c) *Bovine diseases.*

66. *Rinderpest.*—The number of outbreaks of this disease showed a rise from 713 in the previous year to 1,156 during the year under report with a mortality of 7,983 as compared with 5,102 in the previous year. As usual, most of the outbreaks occurred in the districts of this Province bordering on other Provinces and States, the central and southern districts being almost free. The disease prevailed throughout the year in the districts of

Vizagapatam and East Godavari in a severe form, the number of outbreaks in these two districts alone being 387 and 325 causing a loss of 1,467 and 2,754 animals respectively. The West Godavari and Guntur districts suffered to a moderate extent and showed 112 and 106 outbreaks with a loss of 1,010 and 930 animals respectively. Infection from districts outside the Province spread into the districts of South Kanara and Bellary but was promptly brought under control. At the close of the year Rinderpest was still prevailing in a mild form in the Vizagapatam and East Godavari districts and in the City of Madras. Six districts were free from infection during the year. One thousand one hundred and fifty-five outbreaks including 4 carried over from the previous year were attended and 3 were pending attendance on 31st March 1938. The number of animals protected against the disease by the various methods was as follows:—

In Cattle and buffaloes			
	In outbreaks.	In clean areas.	Total.
Serum simultaneous inoculations with bull virus.	114,636	23,400	138,036
Serum simultaneous inoculations with goat blood virus.	36,907	5,197	42,104
Goat blood virus alone	3,756	26,741	30,497
Goat spleen tissue vaccine	35,000	50,630	85,630
Serum alone	166	58	224
Total			296,491

In sheep and goats.			
Serum simultaneous inoculations with bull virus.	10,415	152	10,567
Serum simultaneous inoculations with goat virus.	4,916	..	4,916
Goat spleen tissue	1	1	2
Serum alone	385	..	385
Total			15,870

In other animals (pigs, etc).			
Serum simultaneous inoculations with bull virus.	5	..	5
Serum simultaneous inoculations with goat virus	..	7	7
Total			12

The figures of mortality in outbreaks after protection was afforded are shown below:—

	Affected areas.			Clean areas.		
	Cattle.	Sheep and goats.	Others.	Cattle.	Sheep and goats.	Others.
Serum simultaneous inoculations with bull virus.	134	..	..	..	..	..
Serum simultaneous inoculations with goat virus.	8	17	..	..	..	..
Serum simultaneous inoculations with goat blood virus alone.	..	..	..	23	..	..
Serum simultaneous inoculations with goat spleen tissue vaccine.	100	..	..	..	..	..
Serum alone method.	..	..	..	..	..	..
Total	242	17	..	23	..	..

Most of the deaths are due to the animals having contracted the disease before inoculations, but still the percentage works out to .1 per cent in cattle and .01 per cent in goats which is negligible.

67. *Anthrax*.—The number of outbreaks of this disease reported was 421 as compared with 442 in the previous year. The mortality of 3,282 represents a slight fall from the previous year's figures, viz., 3,339. The outbreaks occurred almost throughout the year in all the districts with a high incidence in the West Coast districts of Malabar and South Kanara. Three hundred and seventy-nine outbreaks were attended to by the staff and inoculations by the Serum alone method were undertaken in 64 villages in 14 districts and 12,901 animals were protected. Of these, 34 were ponies, 9,796 cattle, 1,003 buffaloes, 1,600 sheep and 468 goats. Four outbreaks remained pending attendance at the close of the year.

68. *Hæmorrhagic Septicæmia*.—One thousand three hundred and forty-eight outbreaks with a mortality of 5,670 were reported during the year 1937-38 as against 1,722 outbreaks and 6,353 deaths in the previous year. The outbreaks were as usual, more numerous during the period from May to November than in the other months of the year, the districts which suffered severely being Nellore which lost 730 bovines in 193 outbreaks and Chingleput 579 in 123 outbreaks. The remaining 1,032 outbreaks occurred in the other districts of the Province. Out of the 1,352 outbreaks including 4 received at the end of the last year, 1,296 were attended and 9 were pending on 31st March 1938.

The staff protected, 1 pony, 93,645 cattle and 44,008 buffaloes with serum in 657 villages and 78 bovines in an unaffected village in the Nilgiris. Besides these, 8,552 cattle and 3,263 buffaloes were also protected with vaccine alone in 69 affected villages. The total number of animals protected was 149,547.

69. *Blackquarter*.—The number of outbreaks of blackquarter reported during the year was 1,973 and 16 were brought forward from the previous year. As usual, the central districts where conditions in respect of soil and moisture are favourable suffered more heavily than the others. Thus the Anantapur district lost 1,903 cattle and buffaloes in 319 outbreaks; Chittoor lost 1,747 in 307 outbreaks; North Arcot lost 1,378 in 237 outbreaks and Salem 1,265 in 193 outbreaks. The remaining 933 outbreaks were recorded in the other 21 districts. The number of animals protected against this disease by each of the methods was:—

			In affected areas.	In clean areas.	Total.
By serum alone method—					
Cattle	..	..	91,658	209	91,867
Buffaloes	..	..	5,172	..	5,172
			96,830	209	97,039
By the vaccine alone method—					
Cattle	..	..	121,317	6,718	128,035
Buffaloes	..	..	6,329	464	6,793
Sheep	..	..	7	206	213
			127,653	7,388	135,041
By the sero-vaccine method—					
Cattle	..	..	8,423	292	8,715
Buffaloes	..	..	148	..	148
			8,571	292	8,863
			Grand total	..	240,943

70. *Foot and mouth disease*.—Eleven outbreaks were brought forward from the previous year. Seven hundred and twenty-one outbreaks of this disease were reported during the year 1937-38. Most of them occurred in the Northern and Central districts, the southern districts being practically free. Two thousand three hundred and fifty-eight bovines have been reported to have died of foot and mouth disease in the province besides 60 sheep and 39 goats in those districts for which figures of mortality are available. The number of outbreaks and mortality reported during the previous year was 1,456 and 2,965 respectively. The fall during the year 1937-38 is believed to be

due to the appearance of the infection after the seasonal migrations were over. Seven hundred and thirteen outbreaks in all were attended. The monthly returns show that the number of outbreaks which stood at 115 in April 1937 dropped to 19 in October and has risen again to 149 in March 1938.

71. *Other contagious diseases of bovines*.—Under this head are classified outbreaks of undiagnosed contagious diseases as also those which cannot be classed under any of the foregoing diseases. The number of such outbreaks reported during the year was 87 excluding one which was pending attendance on 31st March 1937. Seventy-four were attended to and three remained unattended at the close of the year.

72. *Bovine trypanosomiasis*.—Seventy-two outbreaks of this disease in cattle were reported as compared with 226 in the previous year. Towards the end of the year 1937–38, a slight tendency to recrudescence of the disease in the Chingleput and North Arcot districts was noticed. The North Arcot and Chingleput districts have, as in the previous year, shown a higher incidence of this disease than other districts. In the 30 outbreaks in the North Arcot district which came to the notice of the staff 125 animals were reported to have succumbed while 53 were reported to have been lost from this disease in the Chingleput district in 31 outbreaks. The method of control adopted consisted in the administration of 5 grains of tartar emetic intravenously in every animal in which trypanosomes were found on examination of blood smears. One thousand two hundred and seventy-two animals were thus treated in the Chingleput district, 545 in the North Arcot district and 93 in the Rajahmundry Circle. The value of the method of treatment has not yet been determined with any accuracy, but the subsidence of the disease is believed to be due to the injections.

73. *Johne's disease*.—This disease has been known to prevail among the herds maintained at the Hosur Cattle Farm and at the Agricultural College, Coimbatore. As the animals in the two herds have been frequently interchanged, a systematic examination of all the animals had to be conducted with a view to weed out the affected ones. By examination of bowel washings under the microscope, it was possible to detect the disease in four animals at the Hosur Cattle Farm and a cow at the Agricultural College, Coimbatore. Two other animals, i.e., a bullock and a cow brought for treatment to the veterinary institutions at Dindigul and Vellore respectively were suspected and the diagnosis confirmed by microscopical examination. The existence of the disease among the sheep at the Hosur Cattle Farm was also confirmed microscopically from smears and histological examination of lesions in the intestines and mesenteric hyphatic glands.

74. *Tuberculosis*.—The tuberculin test for detection of cases of tuberculosis was applied to 70 animals with negative results excepting in two animals, viz., a bullock at the Hosur Cattle

Farm and in a bull at the Veterinary Hospital, Trichinopoly. A privately owned cow in the City of Madras was, on post-mortem examination, found to have been suffering from a heavy infection of tuberculosis. It is known that the disease prevails among the herd maintained by the Corporation of Madras but the incidence and extent of prevalence are not known.

75. *Ephemeral fever*.—The number of cases treated for this disease is small compared to that of previous years. Owing to the ease with which treatment in affected cases is carried out, the disease has lost much of its importance and is now being considered to be of little consequence.

76. *Bovine lymphangitis*.—One hundred and forty-five animals were treated for this ailment in seven districts with the vaccine prepared at the Madras Veterinary College.

77. *Rabies*.—Nine bovines were offered for anti-rabic treatment during the year.

(d) *Parasitic diseases of cattle.*

78. *Nasal schistosomiasis*.—Two thousand two hundred and thirty-seven bovines were treated for nasal schistosomiasis as against 2,365 in the previous year.

79. *Coccidiosis*.—The number of animals treated for coccidiosis was 181 as compared with 117 in the previous year.

(e) *Diseases of sheep and goats.*

80. Although the system of registering and reporting of outbreaks and mortality in sheep and goats was introduced during the year, the arrangement was not working in several districts as will be seen from the returns of mortality appended to this report. The staff have however taken the necessary steps for the control of contagious diseases among these classes of animals wherever they were met with. The village officers have however reported six outbreaks of rinderpest, 12 of pleuro-pneumonia, 11 of sheep-pox, 7 of anthrax and one of fowl-cholera. The number of sheep and goats protected by each method against each disease are as shown below:—

Rinderpest	...	...	...	15,870
Anthrax	...	...	...	2,068
Sheep-pox	...	...	...	853 (ovinations).

(f) *Diseases of poultry.*

81. *Fowl-cholera*.—Two hundred and thirty-one birds were protected against fowl-cholera by the sero-vaccination method and six with serum alone.

82. *Fowl-pox*.—One thousand and thirty fowls were protected against pox with the vaccine obtained from the Imperial Veterinary Research Institute, Mukteswar.

83. *Pseudo-fowl pest*.—This disease has been reported from a few scattered areas but it has not been possible to undertake any methods for its control for want of suitable prophylactic which has yet to be devised.

(g) *Equine diseases.*

84. *Glanders and farcy*.—These two forms of glanders have not been recorded in this Province for several years past but a routine test for detection of the disease among animals maintained at the military garrisons in the Province is carried out every year. Thus a horse and 34 mules were put to the mallein test with negative results.

85. *Surra*.—The total mortality among equines from this disease recorded by the Revenue department is 27 but the number actually examined and confirmed by the District Veterinary Officers was 37. Five of these died without treatment, 16 were destroyed with compensation and 16 were treated. The in-contact animals in all cases were examined and two animals which were found infected were also treated.

86. *Strangles*.—Twenty-two cases of strangles came under notice of the staff during the year as compared to 131 in the previous year.

87. *Rabies*.—Two horses underwent anti-rabic treatment during the year 1937–38.

(h) *Diseases of dogs and other animals.*

88. *Rabies*.—Brain specimens from 104 dogs, 2 foxes and 5 other animals were submitted by the staff for confirmation of diagnosis for rabies and 94 of these were confirmed by the Pasteur Institute, Coonoor. Anti-rabic vaccinations were given to 220 dogs and 2 elephants besides the 9 bovines and 2 equines referred to above.

89. *Trypanosomiasis*.—Four dogs in the Vizagapatam district were found to be suffering from trypanosomiasis and were treated with naganol successfully except in one case which died in spite of treatment.

90. *Non-contagious diseases*.—The treatment of cases of luxation of patella with injections of tincture iodine has been found to be increasingly popular as shown by the number of cases offered for treatment. Two thousand three hundred and seventy-eight bovines were treated for this complaint as against 1,328 cases in the previous year.

VI.—HOSPITALS AND DISPENSARIES.

91. The total number of veterinary institutions at the end of the year including those attached to the Madras Veterinary College and the Cattle Farms at Coimbatore and Hosur but excluding the private institutions at Vizianagram, Pithapuram,

Sivaganga and Dharmathupatti (Kannivadi zamindari) remained at 111 as in the previous year. Permanent buildings for the Veterinary dispensary, Bezwada, were completed during the year and occupied by this department on 1st July 1937.

92. The total number of in-and out-patients treated in the several Veterinary institutions in the Presidency during the year was 258,791 as against 262,774 of the previous year. The fall in the number of cases treated may be attributed to the introduction of fees during the year in all Veterinary institutions located in municipal areas and the change in the income limit for levy of fees from Rs. 200 to Rs. 100 per mensem. The number of cases supplied with medicine but not brought to the institutions was 3,883 as against 6,261 of the previous year.

93. The leading institutions in the Presidency with the number of cases treated in each are shown below:—

Name of institution.	Number of cases treated.
1. Madras Veterinary College Hospital . .	8,099
2. Veterinary Hospital, Coimbatore ...	6,915
3. Veterinary Hospital, Trichinopoly ...	5,186
4. Veterinary Hospital, Rajahmundry ...	5,162
5. Veterinary Dispensary, Rayapuram ...	5,009
6. Veterinary Hospital, Saidapet ...	4,727
7. Veterinary Hospital, Conjeeveram ...	4,530
8. Veterinary Hospital, Salem ...	4,150
9. Veterinary Dispensary, Madura ...	3,888
10. Veterinary Hospital, Calicut ...	3,796
11. Veterinary Hospital, Palghat ...	3,663
12. Veterinary Hospital, Bezwada ...	3,510

VII.—ITINERATING STAFF.

94. The total number of touring posts at the end of the year remained at 133 as in the previous year, as no new billets were sanctioned during the year. The headquarters of the Touring Veterinary Assistant Surgeons, Sompeta in the Vizagapatam circle, Vayalpad in the Madanapalle circle, Tirukoilur in the Madras circle, Ariyalur in the Trichinopoly circle and Telli-cherry in the Calicut circle were shifted to Ichapur, Piler Villupuram, Jayankondam and Cannanore respectively.

95. The total number of cases treated by the itinerating staff during the year was 128,981 as against 137,454 of the previous year. Of these, 34,685 were contagious cases and 94,296 non-contagious. The fall in the number of cases treated may be attributed to temporary closure of certain billets for some periods for want of men.

VIII.—CASTRATIONS.

96. There has been an appreciable increase in the number of castrations performed during the year, the figures for the two years 1936-37 and 1937-38 being 72,862 and 83,202, respectively. Most of the castrations were performed by the Burdizzo method which is becoming increasingly popular in the districts. The largest number of castrations performed was in the districts of Chittoor, Coimbatore and Vizagapatam, the figures for these districts being 6,854, 6,241 and 5,380, respectively.

IX.—MISCELLANEOUS.

97. *Criminal poisoning and malicious injury.*—The Chemical Examiner to Government examined the viscera of 19 animals and poison was detected in 10 cases. Twelve cases of criminal poisoning were prosecuted resulting in 10 convictions and 2 acquittals. One hundred and sixty-seven cases were examined by the staff of this department for malicious injury during the year and necessary certificates were issued to the Police.

98. *Society for the Prevention of Cruelty to Animals.*—The total number of convictions obtained under the Prevention of Cruelty to Animals Act in the Presidency was 13,686 as against 12,418 of the previous year, Trichinopoly and Coimbatore, recording as usual, the largest number of convictions, the figures for these districts being 2,771 and 3,169, respectively. Out of the total number of cases in which the accused were convicted, the animals in 2,306 cases were remanded to Veterinary institutions declared as infirmaries under the Act for treatment as against 2,786 so remanded in the previous year.

99. *Forest grazing—Protection of bison from rinderpest.*—The scheme of inoculation of animals entering forest bison areas has been sanctioned by Government as a permanent measure.

100. *Forest livestock.*—The general condition of the forest livestock during the year continued to be satisfactory. The total number of livestock which were under the Inspector of Livestock, Calicut, on 31st March 1938 was as follows:—

Elephants	...	...	...	...	...	110
Bullocks	...	...	...	...	...	4
Buffaloes	...	...	...	...	...	6

There were no cases of contagious disease among the forest livestock during the year except a solitary case of suspected attack of 'Tetanus' in a very good working elephant named "Looly" of the South Coimbatore division which was captured on 25th July 1907 when it was six years of age and which died on 25th July 1937. This animal was never sick or sorry during its 30

years of service in the department and it maintained good condition throughout. Three hundred and sixty-seven cases of non-contagious diseases were treated during the year as against 373 of the previous year. There were three deaths during the year including elephant "Looly" referred to above. Of the remaining two elephant calves, aged less than a month, one died of 'Anæmia' and the other of 'Pneumonia.' Elephant 'Oosman' a tusker of about 14 years of age bolted away on 20th August 1937.

101. *Cattle pentas.*—The Veterinary Assistant Surgeons engaged on special duty in connexion with the survey of cattle pentas in the Nallamalais of Kurnool and Cuddapah districts, have turned out good work during the year and a detailed report about the work done so far was submitted to Government in December last. After examination of the report, Government in their Order Ms. No. 465, Development, dated 22nd February 1938, sanctioned the continuance of the two posts of Veterinary Assistant Surgeons and peons till 30th April 1939.

102. A need for posting a special staff for controlling the spread of diseases in connexion with the movements of cattle to and from the grazing areas exists in the East Godavari Agency in like manner to the Nallamalai Hills. Proposals for conducting a detailed survey and investigation of the conditions in the agency areas of the East Godavari district are under the consideration of Government.

103. *Meat inspection.*—Several municipalities and union boards availed themselves of the services of local Veterinary Assistant Surgeons for meat inspection work during the year while in a few cases, the municipalities ceased to utilize the services of local Veterinary Assistant Surgeons for the purpose. The Municipal Councils, Vizianagram and Nandyal and the Panchayat Board, Ranipet, ceased to utilize the services of local Veterinary Assistant Surgeons in this way. The Veterinary Assistant Surgeons in charge of the veterinary institutions at Ellore and Tanuku discontinued meat inspection work as that work was entrusted to local sanitary inspectors at those places. The Veterinary Assistant Surgeon in charge, Veterinary Hospital, Kodaikanal, relieved himself of meat inspection work from 9th January 1938 and the Veterinary Assistant Surgeon in charge, Veterinary dispensary, Guruzala, discontinued meat inspection work from 14th February 1938 as the butchers did not produce animals for inspection. The matter was reported to the President, Panchayat Board, Guruzala, and the result of the action taken is awaited.

104. *Lethal chambers.*—Most of the lethal chambers for the destruction of stray dogs maintained by the local boards and municipalities were periodically inspected by the staff of the department. The lethal chamber at Tirupati was not functioning properly.

105. *Propaganda*.—Propaganda work on the usual lines was continued by the staff of this department in the course of their tours by distributing departmental leaflets on the important disease conditions of cattle, holding magic lantern lectures on veterinary matters, participating in the health and baby week celebrations, etc., and demonstrating castration by the Burdizzo method. Advantage was also taken, as in previous years, of the many cattle fairs and exhibitions to conduct magic lantern demonstrations and lectures with a view to educate the ryots on veterinary matters. The two motor vans of this department toured in the districts and did intensive propaganda work. In the places visited, charts and specimens were exhibited and explained to the ryots and in night halts, magic lantern lectures were given. People gathered in crowds in every place visited by the van, appreciated the lectures and realized the benefits of the department. Thus it will be seen that the tours of the vans have been of immense use to inform the ryot population of the remote parts about the benefits to them at the hands of this department. The motor exhibition vans of the Agricultural Department also continued to be used for propaganda work.

106. *Fairs and shows*.—Many annual and weekly cattle fairs and cattle shows conducted during the year were attended by the staff of this department. The provisions of the Cattle Disease Act were enforced in many of the fairs. The cattle show at Ongole withheld for many years was revived during the year and held in March 1938.

107. *Horse breeding*.—The Coimbatore District Board maintained two stallions—one at Coimbatore and the other at Tiruppur. They were periodically inspected by the District Veterinary Officer, Coimbatore. They served 37 mares and the amount collected was Rs. 114.

108. *Visiting committees*.—The members of most of the visiting committees attached to veterinary institutions do not appear to have evinced much interest in the working of the institutions, whereas in a few cases, the members of the committees took an active part in rendering help with regard to the working of the institutions.

109. *Levy of fees in veterinary institutions*.—During the year Government have extended the system of levy of fees to all the veterinary institutions situated in municipal towns except in the case of new institutions in those areas for which no fee will be levied in the first two years of their working. The income limit for the levy of fees from owners of patients has been fixed at Rs. 100 per mensem instead of Rs. 200 as before. It is too soon to pronounce any definite opinion about the working of the revised system of levy of fees.

110. *Inspection of animals intended for export to Ceylon*.—The total number of sheep and goats certified for export during the year was 30,463 as against 27,662 of the previous year. Government

in their Order Ms. No. 864, Development, dated 10th April 1937, have enhanced the rate of fees for inspection and issue of certificates from two annas to four annas per head of animal and the order was given effect to from 1st May 1937. The receipt realized during the year amounted to Rs. 7,302-12-0 while the expenditure was Rs. 2,293-11-6, thus leaving a credit balance of Rs. 5,009-0-6.

X.—FINANCE.

111. A statement showing the receipts and charges of this department for the year under report is appended (Appendix V). It will be observed from the statement that the total expenditure under Demand XIX—Veterinary (also Major head 41) including that incurred in connexion with the Veterinary Investigation Scheme and the charges in England was Rs. 11,11,946-15-4 as against Rs. 10,12,616-0-5 incurred during the previous year which excludes an expenditure of Rs. 12,162-9-8 towards the Veterinary Investigation Scheme debited directly to the Imperial Council of Agricultural Research Funds and Rs. 16,852 towards charges in England which was previously shown under another demand. Inclusive of these two items the total expenditure during 1936-37 for purposes of comparison amounted to Rs. 10,41,630-10-1. There was an increase in expenditure under all the sub-heads except under “Veterinary investigation” and “charges in England,” the actual expenditure under these two sub-heads being Rs. 10,114-7-10 and Rs. 8,753-10-4 respectively. The increased expenditure during 1936-37 under “Veterinary Investigation Scheme” is due to the revision of pay of the Veterinary Investigation Officer and the consequent drawal of arrears, and under “charges in England” is chiefly due to Mr. T. J. Hurley having gone on leave for four months and twenty-eight days from 2nd July 1936 in continuation of the vacation and the drawal of vacation emoluments and leave salary in England. The receipts of the department during the year under report amounted to Rs. 78,754-7-0 as against Rs. 54,009-15-11 of the previous year, which excludes the items (1) recoveries of overpayments, (2) transfer from the deposit account of grants made by the Imperial Council of Agricultural Research, (3) collection of payments for services rendered and (4) deduct refunds.

The total expenditure incurred by the Public Works Department (original works and repairs) on buildings of the civil veterinary department during the year 1937-38 as reported by the Accountant-General, Madras, was Rs. 46,108-10-8.

XI.—FUTURE PROGRAMME OF WORK.

112. *Education—(a) Instruction*.—Government sanctioned the extension of the diploma course of the Madras Veterinary College to a period of four years with effect from the academic year 1938-39 and ordered the submission of proposals for the revision of the B.V.Sc. degree course in consultation with the University of

115. *Propaganda*.—Propaganda on existing lines will be continued. As already mentioned in the previous year's report, it will be possible with the existing two vans to do propaganda work in each district for one month only. Government have sanctioned this year the purchase of an additional van instead of two asked for, for the use of this department and as soon as this is purchased and made ready for use, it will be sent out for propaganda work in the districts. With three vans, the department will be in a better position to do intensive propaganda work in the interior parts and bring home to the ryots the existence, usefulness and importance of the various activities of this department.

P. T. SAUNDERS,
Director of Veterinary Services.

APPENDIX I.

Statement showing the number of deaths from contagious diseases among animals during the year 1937-38
(as furnished by Collectors).

Districts.	Bovines.																		
	Rinderpest.			Anthrax.			Hæmorrhagic Septicæmia.			Blackquarter.			Foot and mouth.			Others.			
	Cattle.	Buttaloos.	Total.	Cattle.	Buttaloos.	Total.	Cattle.	Buttaloos.	Total.	Cattle.	Buttaloos.	Total.	Cattle.	Buttaloos.	Total.	Cattle.	Buttaloos.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Vizianagaram ..	1,365	102	1,467	829	18	392	302	3	305	845	14	859	609	8	617	3,739	99	3,838	7,473
Godavari, East ..	2,750	4	2,754	891	1	392	70	..	79	134	..	134	554	..	554	934	13	947	4,860
Kistna ..	261	224	485	56	12	46	39	17	56	84	..	84	92	..	92	621	34	655	1,450
Andhra ..	18	..	18	..	..	44	5	..	5	1,746	157	1,903	158	35	193	149	4	157	2,320
Chandabahal ..	2	..	2	62	..	44	5	..	494	419	10	429	19	5	24	7	7	11	1,015
Widore ..	70	85	155	238	114	342	465	22	494	312	77	385	73	8	81	567	79	646	2,339
Chingamp ..	42	15	57	155	14	109	353	256	579	730	30	760	44	8	18	389	28	479	1,435
South Arcot ..	36	10	46	72	..	74	8	..	460	460	10	470	44	..	44	451	28	479	1,121
North Arcot ..	6	3	9	64	2	66	139	19	148	1,345	33	1,378	21	9	30	346	43	389	1,890
Salem ..	30	..	30	19	..	19	16	8	24	1,264	1	1,265	4	..	4	546	6	552	1,804
Tanjore ..	5	1	6	30	6	19	213	91	304	137	8	145	18	3	21	331	119	450	1,962
Godavari, West ..	..	..	1,010	..	..	202	..	..	749	..	..	749	..	..	..	..	..	103	1,715
Guntur ..	..	..	1,030	..	..	98	..	..	714	..	..	714	..	..	11	..	..	394	2,945
Kurukool ..	..	..	377	..	..	282	..	..	356	..	..	356	..	..	181	..	..	578	1,736
Bellary ..	..	..	517	..	..	135	..	..	440	..	..	440	..	..	40	..	..	903	1,451
Chittoor ..	..	..	126	..	..	73	..	..	139	..	..	139	..	..	66	..	..	159	2,240
Trochinopoly ..	..	..	..	..	..	204	..	..	136	..	..	136	..	..	..	..	..	31	2,572
Madura ..	..	..	39	..	..	84	..	..	202	..	..	202	..	..	22	..	..	104	1,313
Raman ..	..	..	13	..	..	19	..	..	15	..	..	15	..	..	..	..	..	81	1,313
Tinnevely ..	..	..	10	..	..	19	..	..	80	..	..	80	..	..	35	..	..	92	943
Coimbatore ..	..	..	..	..	..	7	..	..	7	..	..	7	..	..	258	..	..	138	580
The Nilgiris ..	..	..	..	..	..	1	..	..	25	..	..	25	..	..	..	..	..	55	55
Malabar ..	..	..	27	..	..	443	..	..	779	..	..	76	..	..	31	..	..	342	1,623
South Kanara ..	..	..	105	..	..	54	..	..	131	..	..	8	..	..	13	..	..	75	576
Madras City ..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2
Total ..	..	..	7,983	..	..	3,282	..	..	5,670	..	..	11,189	..	..	2,358	..	..	10,948	41,430

Statement showing the number of deaths from contagious diseases among animals during the year 1937-38
(as furnished by Collectors)—*cont.*

Districts.	Sheep.					Goats.					Equines.					Others.												
	Anthrax.	Sheep pox.	Pneumonia.	Foot and Mouth.	Scabies.	Other diseases.	Total.	Anthrax.	Fox.	Pneumonia.	Foot and Mouth.	Scabies.	Other diseases.	Total.	Glanders.	Anthrax.	Surra.	Others.	Total.	Rabies.	Other diseases.	Total.	Surra.	Mange.	Pneumonia.	Other diseases.	Total.	
Vizagapatam						24	24																					
Godavari, East						1	53																					
Krishna	4					1	53																					
Anantapur				52																								
Cuddapah	52	31	2	8		383	476	45	21	184	39		52	341														
Nellore																												
Chingleput						17	175			4																		
South Arcot		158				107	122			2																		
North Arcot		15																										
Salem																												
Tanjore																												
Godavari, West.																												
Guntur																												
Kurduoh																												
Belary																												
Chittoor																												
Trichinopoly																												
Madura																												
Ramanad																												
Tinnevely																												
Coimbatore																												
The Nilgiris																												
Malabar																												
South Kanara																												
Madras City																												
Total	56	204	2	60		532	854	45	21	190	39		61	356		4	2	30	36	2	2	2	2					

APPENDIX II.

Summary of results of preventive inoculation in the Province of Madras during the year 1937-38.

District.	(1)	Name of disease against which inoculation was undertaken.	(2)	(3) Method of inoculation.	Source of product.					Number of animals which died un inoculated in course of outbreaks.					Number of animals inoculated.					Number of inoculated animals which died of the disease.				
					(4)	(5) Number of outbreaks in which inoculation was undertaken.	(6) Number of villages affected in these outbreaks.	(7) Bovine population of affected villages.	(8) Bovines.	(9) Equines.	(10) Others.	(11) Bovines.	(12) Equines.	(13) Others.	(14) Bovines.	(15) Equines.	(16) Others.	(17) Others.	(18) Others.	(19) Others.	(20) Others.	(21) Others.	(22) Others.	(23) Others.
Vizagapatam					S.I., Madras	131	131	80,287	1,374			23,614		29										
Godavari, East					Do.	137	313	181,991	1,678			3,343*			21									
Godavari, West					Do.	47	118	163,398	745			2,988*												
Kistna					Do.	67			543		60	11,074												
Guntur					Do.	87			712		693	18,372		5										
Kurnool					Do.	6	6	2,600	149			86*												
Bellary					Do.	56	56	15,460	519			10,729		4,834										
Chittoor					Do.	13			139			1,349		153*										
Cuddapah					Do.	1	1	300	6			793												
Nellore					Do.	20	20	10,111	114		139	3,735*												
Chingleput					Do.							9,106												
South Arcot					Do.			400				4,093*												
North Arcot					Do.	2	2	2,284	7			3,371												
Salem					Do.	2	2	160	16			308*												
												181												
												3,881		5,552										
												103*												
												298*												
												58												
												85*												
												100												

S.I., Madras—Serum Institute, Madras.

* Clean area.

Summary of results of preventive inoculation in the Province of Madras during the year 1937-38—cont.

District.	(1) Name of disease against which inoculation was undertaken.	(2) Method of inoculation.	(3) Source of product.	(4) Number of outbreaks in which inoculation was undertaken.	(5) Number of villages affected in these outbreaks.	(6) Bovine population of affected villages.	Number of animals which died un inoculated in course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.		
							Bovines.	Equines.	Others.	Bovines.	Equines.	Others.	Bovines.	Equines.	Others.
Trichinopoly	Rinderpest.	Serum simultaneous inoculation with Bull virus.	(S.I., Madras	..	..	..	..	..	..	..	..	..	..	..	..
Tanjore	..	..	Do.	..	..	..	..	..	..	..	..	..	..	..	..
Madurai	..	..	Do.	4	4	..	9	..	..	1,234*	479	..	..	..	..
Ramanad	..	..	Do.	..	..	..	..	..	..	187*	..	..	..	..	..
Tinnevely	..	..	Do.	1	1	..	4	..	..	153	..	..	..	..	..
Coimbatore	..	..	Do.	..	..	..	..	..	..	3,024*	4*	..	..	..	..
The Nilgiris	..	..	Do.	..	..	..	..	..	..	1,156*	..	..	..	..	..
Malabar	..	..	Do.	21	21	27,594	125	..	..	1,951	..	..	..	..	..
South Kanara	..	..	Do.	..	..	..	..	..	..	421*	..	..	..	..	..
Madras City	..	..	Do.	..	..	..	..	..	..	101*	..	..	..	..	..
Total	..	..	..	595	675	483,986	6,140	..	892	114,636†	10,430†	152*	87	..	48
Vizagapatam	Post.	Inoculation with virus.	(S.I., Madras	..	..	..	..	..	..	23,400*	..	310	..	..	..
Godavari, East	..	..	Do.	4	4	3,500	29	..	..	762	..	..	..	..	..
Godavari, West	..	..	Do.	96	..	1,020	..	..	..	16,216	..	..	..	..	..
Kistna	..	..	Do.	39	..	..	474	..	..	9,412	..	408	..	..	..
Guntur	..	..	Do.	..	..	..	..	..	..	1,831	..	7*	..	..	..
Kurnool	..	..	Do.	..	..	..	..	..	..	89*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	5,031	..	3,428	..	..	..
..	..	..	Do.	1	1	..	44	..	..	100*	..	..	2	..	..
..	..	..	Do.	..	..	..	..	..	..	514	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	696*	..	..	..	..	..

Bellary	Rinder	Goat	Do.	3	3	3,009	60	..	..	1,333	..	..	..	..	..
Chittoor	..	..	Do.	2	..	..	24	..	..	375*	..	..	..	..	..
Nellore	..	..	Do.	5	5	4,600	52	..	20	719	..	..	5	..	17
South Arcot	..	..	Do.	..	..	..	..	..	..	1,037	..	770	..	..	..
Trichinopoly	..	..	Do.	..	..	..	..	..	..	473*	..	..	..	..	..
Tanjore	..	..	Do.	..	..	..	..	..	..	678*	..	..	..	..	..
Ramanad	..	..	Do.	..	..	..	..	..	..	166*	..	..	..	..	..
Tinnevely	..	..	Do.	..	..	..	..	..	..	383*	..	..	..	..	..
Coimbatore	..	..	Do.	..	..	..	..	..	..	101*	..	..	..	..	..
Malabar	..	..	Do.	..	..	..	..	..	..	25*	..	..	..	..	..
South Kanara	..	..	Do.	..	..	..	..	..	..	1,565*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	173*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	53	..	..	1	..	..
..	..	..	Do.	1	1	1,166	6	..	..	374*	..	..	..	..	..
Total	..	..	..	151	14	..	1,709	..	20	36,907†	4,916†	7*	8	..	17
Vizagapatam	..	..	(S.I., Madras	92	92	48,500	620	..	..	5,197*	..	..	58	..	..
Godavari, East	..	..	Do.	2	..	..	..	..	..	33,149	..	..	..	..	..
Godavari, West	..	..	Do.	..	..	..	..	..	..	11,387*	..	..	8	..	..
Kistna	..	..	Do.	..	..	..	..	..	..	126	..	..	..	..	..
Guntur	..	..	Do.	..	..	10,516	35	..	..	763*	..	..	..	..	..
Kurnool	..	..	Do.	..	..	2,425	24	..	..	933*	..	..	..	..	..
Bellary	..	..	Do.	..	..	4,000	99	..	..	536	..	..	..	..	..
Anantapur	..	..	Do.	..	..	..	..	..	..	887*	..	..	..	..	..
Chittoor	..	..	Do.	..	..	..	..	..	..	320	..	..	..	..	..
Cuddapah	..	..	Do.	3	3	2,500	27	..	20	601*	..	..	..	..	..
Nellore	..	..	Do.	..	..	..	..	..	..	7*	..	..	12	..	..
Chingleput	..	..	Do.	..	..	..	..	..	..	470	..	..	..	..	..
North Arcot	..	..	Do.	..	..	..	..	..	..	373*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	353*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	81*	..	..	2	..	..
..	..	..	Do.	..	..	..	..	..	..	243	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	75*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	206*	..	..	..	..	..
..	..	..	Do.	..	..	..	..	..	..	2,534*	..	..	..	..	..

S.I., Madras = Serum Institute, Madras.

* Clean area.

† Infected area.

Summary of results of preventive inoculation in the Province of Madras during the year 1937-1938—*cont.*

District.	Name of disease against which inoculation was undertaken.	Method of inoculation.	Source of product.	Number of outbreaks in which inoculation was undertaken.			Number of villages affected in these outbreaks.			Number of animals un inoculated in course of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.
				(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
South Arcot	Septicæmia	Serum alone.	I.V.R.I., Muktesar.	6	6	2,789	76	..	..	2,925 I.V.R.I., Muktesar.	..	..	..	4	..	..
North Arcot	Septicæmia	Serum alone.	S.I., Madras	26	26	14,250	157	..	..	2,981	..	..	..	..	..	..
Salem	Septicæmia	Serum alone.	Do.	1	1	1,708	15	..	..	40	..	..	..	..	..	..
Trichinopoly	Septicæmia	Serum alone.	I.V.R.I., Muktesar.	4	4	..	51	..	..	1,297	..	..	..	..	..	..
Tanjore	Septicæmia	Serum alone.	Do.	64	64	..	781	..	6	12,205	..	..	..	..	..	..
Madura	Septicæmia	Serum alone.	Do.	10	10	..	119	..	..	2,667	..	..	..	..	..	..
Ramnad	Septicæmia	Serum alone.	Do.	1	1	..	12	..	..	100	..	..	..	..	..	..
Tinnevely	Septicæmia	Serum alone.	Do.	9	9	..	71	..	..	1,288	..	..	..	..	..	..
The Nilgiris	Septicæmia	Serum alone.	S.I., Madras	2	..	..	14	..	..	113	..	..	..	..	..	..
Malabar	Septicæmia	Serum alone.	Do.	51	51	39,300	687	..	..	78 *	..	..	..	18	..	..
South Kanara	Septicæmia	Serum alone.	Do.	7	7	2,638	92	..	..	5,266	1	..	..	45	..	..
Total				538	657	844,606	5,790	6	6	137,653 †	1 †	..	..	..	..	..
Godavari West	Septicæmia.	Serum alone.	S.I., Madras	1	..	..	1	..	..	78	..	..	..	1	..	..
Guntur	Septicæmia.	Serum alone.	Do.	4	4	3,161	65	..	..	552	..	..	..	..	..	..
Kurnool	Septicæmia.	Serum alone.	Do.	2	2	700	21	..	..	523	..	..	..	..	..	..
Anantapur	Septicæmia.	Serum alone.	I.V.R.I., Muktesar	2	2	1,000	16	..	..	353	..	..	..	..	..	..
Nellore	Septicæmia.	Serum alone.	S.I., Madras	8	10	5,398	89	..	..	2,210	..	..	..	1	..	..
Chingleput	Septicæmia.	Serum alone.	Do.	5	5	460	65	..	..	256	..	..	..	..	..	..
South Arcot	Septicæmia.	Serum alone.	Do.	1	1	200	2	..	..	130	..	..	..	..	..	..
North Arcot	Septicæmia.	Serum alone.	Do.	1	1	..	..	..	..	114	..	..	..	..	..	..

Salem	Haemorrhagic	Vaccine	Do.	1	1	..	168	..	..	60	..	..	..	..	..	..
Tanjore	Haemorrhagic	Vaccine	I.V.R.I., Muktesar.	22	22	..	..	..	11	3,750	..	..	..	..	..	..
Madura	Haemorrhagic	Vaccine	S.I., Madras	9	9	..	82	..	..	2,665	..	..	..	..	..	..
Tinnevely	Haemorrhagic	Vaccine	Do.	1	1	..	20	..	..	137	..	..	..	..	..	..
Malabar	Haemorrhagic	Vaccine	Do.	11	11	..	64	..	..	987	..	..	..	..	..	..
Total				68	69	..	593	..	11	11,315	..	..	2	..	..	..
Vizagapatam	Black quarter	Serum alone	I.V.R.I., Muktesar.	14	14	9,270	90	..	..	2,330	S.I., Madras.	..	..	..	..	..
Godavari West	Black quarter	Serum alone	Do.	1	..	..	..	..	..	733 I.V.R.I., Muktesar.	..	..	..	..	..	..
Kistna	Black quarter	Serum alone	Do.	2	2	3,606	20	..	..	301	..	..	..	..	..	..
Guntur	Black quarter	Serum alone	Do.	2	2	3,228	12	..	..	771	..	..	..	..	..	..
Kurnool	Black quarter	Serum alone	Do.	2	2	2,500	78	..	..	499	..	..	1	..	..	..
Bellary	Black quarter	Serum alone	Do.	14	14	3,500	162	..	..	1,900	..	..	..	1	..	..
Anantapur	Black quarter	Serum alone	Do.	90	90	30,850	840	..	..	3,004	..	..	..	3	..	..
Chittoor	Black quarter	Serum alone	Do.	57	57	12,328	283	..	..	18,018	..	..	..	37	..	..
Cuddapah	Black quarter	Serum alone	Do.	36	58	12,461	253	..	..	12,481	..	..	..	..	..	..
Nellore	Black quarter	Serum alone	Do.	23	24	23,546	161	..	..	209 *	..	..	..	..	..	..
Chingleput	Black quarter	Serum alone	Do.	7	7	4,400	57	..	..	6,744	..	..	..	..	..	..
South Arcot	Black quarter	Serum alone	Do.	23	23	7,280	358	..	..	4,359	..	..	..	..	..	..
North Arcot	Black quarter	Serum alone	Do.	50	52	37,249	377	..	..	3,131	..	..	..	..	..	..
Salem	Black quarter	Serum alone	Do.	39	41	24,663	252	..	..	6,081	..	..	..	..	..	..
Tanjore	Black quarter	Serum alone	Do.	8	8	..	32	..	..	7,129	..	..	..	..	..	..
Trichinopoly	Black quarter	Serum alone	Do.	6	6	..	58	..	14	7,735	..	..	..	..	..	..
Tanjore	Black quarter	Serum alone	Do.	56	56	..	214	..	..	1,377	..	..	..	..	..	..
Madura	Black quarter	Serum alone	Do.	5	5	..	44	..	..	1,118	..	..	..	..	..	..
Ramnad	Black quarter	Serum alone	Do.	1	1	..	4	..	..	16,870	..	..	..	..	..	..
Tinnevely	Black quarter	Serum alone	Do.	9	9	..	49	..	..	754	..	..	..	..	..	..
Coimbatore	Black quarter	Serum alone	Do.	4	..	..	19	..	..	210	..	..	..	..	..	..
Malabar	Black quarter	Serum alone	Do.	..	..	..	..	..	..	2,051	..	..	..	..	..	..
Total				449	462	174,881	3,863	..	14	96,830 †	..	..	..	42	..	..

* Clean area. † Infected area.
S.I., Madras = Serum Institute, Madras. I.V.R.I., Muktesar = Imperial Veterinary Research Institute, Muktesar.

Summary of results of preventive inoculation in the Province of Madras during the year 1937-1938—contd.

District.	(1)	Name of disease against which inoculation was undertaken.	(2)	Method of inoculation.	(3)	(4)	Source of product.				Number of animals unisoculated in course of outbreaks.			Number of animals inoculated.			Number of animals inoculated animals which died of the disease.		
							(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
							I.V.R.I., Muktesar.												
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Anantapur ..	..	Blackquarter.	Vaccine alone.	Do.	126	126	38,770	865	..	..	26,663*	..	..	36	..	..
Chittoor ..	..	..	..	Do.	118	118	102,544	589	..	..	568	..	..	82	..	..
Cuddapah ..	..	..	..	Do.	19	35	6,750	109	..	..	241*	..	..	..	..	..
Nellore ..	..	..	..	Do.	18	29	20,565	69	..	..	4,732	..	..	..	..	..
Chingleput ..	..	..	..	Do.	3	3	1,500	20	..	..	4,968	..	..	..	..	..
South Arcot ..	..	..	..	Do.	9	9	4,279	90	..	..	134*	..	..	..	..	..
North Arcot ..	..	..	..	Do.	99	100	59,706	587	..	..	727	..	..	..	..	..
Salem ..	..	..	..	Do.	68	64	38,751	374	..	..	2,144	..	..	1	..	..
Trichinopoly ..	..	..	..	Do.	20	20	..	44	..	..	13,774	..	..	2	..	..
Tanjore ..	..	..	..	Do.	5	5	..	57	..	..	10,170	..	..	..	..	..
Madura ..	..	..	..	Do.	91	91	..	500	..	..	816*	..	..	..	..	..
Ramnad ..	..	..	..	Do.	4	4	..	16	..	..	4,647	..	..	..	..	..
Tinnevely ..	..	..	..	Do.	1	1	..	8	..	..	1,400	..	..	..	..	..
Coimbatore ..	..	..	..	Do.	26	..	..	101	..	..	20,828	..	..	9	..	..
Malabar ..	..	..	..	Do.	3	3	..	19	..	..	105	..	..	..	..	..
											1,864	..	..	..	..	..
											292	..	..	..	..	..
											4,815	..	..	7	..	7
											5,288*	..	206*	..	..	..
											221	..	..	..	..	..
Total ..	..	..	..	..	658	681	298,178	3,793	..	..	127,646†	..	7† 139	..	7	7
											7,182*	..	206*	..	..	..
Vizagapatam ..	..	Black quarter.	Serum alone.	I.V.R.I., Muktesar.	1	1	1,200	..	..	1	76	34	1	..	..	..
Godavari, East ..	..	..	..	Do.	2	52	8,000	31	..	..	194	..	..	2	..	..
Godavari, West ..	..	..	..	Do.	4	33	8,371	24	..	..	776	..	..	..	..	..
Kurnool ..	..	..	..	Do.	1	1	401	4	..	..	221	..	..	..	..	..
Nellore ..	..	..	..	Do.	8	8	3,300	33	..	26	1,813	..	988	..	..	..
Chingleput ..	..	..	..	Do.	13	..	1,125	56	..	6	2,173	..	218	..	..	..
South Arcot ..	..	..	..	Do.	2	..	1,825	31	..	..	812	..	..	..	..	..
North Arcot ..	..	..	..	Do.	4	4	1,547	31	..	..	555	..	..	7	..	..
Trichinopoly ..	..	..	..	Do.	2	2	..	1	..	73	154	..	848	4	..	9
Coimbatore ..	..	..	..	Do.	1	..	..	..	..	..	74	..	..	..	..	..
The Nilgiris ..	..	..	..	Do.	2	..	..	4	..	..	278	..	..	..	..	..

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* Clean area. † Infected area.
I.V.R.I., Muktesar = Imperial Veterinary Research Institute, Muktesar.

Summary of results of preventive inoculation in the Province of Madras during the year 1937-1938—cont.

District.	(1)	(2) Name of disease against which inoculation was undertaken.	(3) Method of inoculation.	(4) Source of product.	(5) Number of outbreaks in which inoculation was undertaken.	(6) Number of villages affected in these outbreaks.	(7) Bovine population of affected villages.	Number of animals un inoculated in source of outbreaks.			Number of animals inoculated.			Number of inoculated animals which died of the disease.		
								Bovines.	Hquines.	Others.	Bovines.	Hquines.	Others.	Bovines.	Hquines.	Others.
Rannad ..	..	..	..	I.V.R.I., Muktesar.	1	1	..	1	..	..	246	..	..	..	..	..
Madras ..	..	..	..	Do.	3	..	..	4	..	..	906	..	13	..	..	..
Malabar ..	..	..	..	Do.	20	..	..	127	..	..	2,521	..	..	5	..	..
Total ..	..	..	..	..	64	102	25,768	348	..	106	10,799	34	2,063	18	..	9
Vizagapatam ..	..	..	..	I.R.V.I., Muktesar.	1	1	..	..	..	10	..	..	27	..	..	..
Trichinopoly ..	..	..	..	Do.	2	2	..	..	..	40	..	..	95	..	..	..
Madura ..	..	..	..	Do.	..	..	..	..	..	..	..	..	..	..	..	..
Rannad F ..	..	..	..	Do.	1	1	..	..	..	20	..	..	31 *	..	..	..
North Arcot ..	..	..	..	Do.	1	1	..	..	..	..	..	..	53	..	..	..
Total ..	..	..	..	..	5	5	..	..	..	70	..	..	193 †	..	..	7
Rannad ..	..	..	..	I.V.R.I., Muktesar.	1	1	..	..	..	20	..	..	6	..	..	..
Total ..	..	..	..	..	1	1	..	..	..	20	..	..	6	..	..	..

Guntur ..	..	Sheep pox	..	Local Do.	2	2	1,550	..	..	22	..	..	503	..	..	6	..	..	..	..
Nellore ..	..	..	..	Do.	1	..	679	..	..	5	..	..	267	..	..	..	..	..	..	..
Madura ..	..	..	..	Do.	1	1	..	..	..	25	..	..	83	..	..	..	..	..	..	..
Total ..	..	..	..	..	4	3	2,229	..	..	52	..	..	853	..	..	6	..	..	..	..
North Arcot ..	..	..	..	I.V.R.I., Muktesar.	1	..	..	..	..	..	..	..	630	..	..	..	..	..	..	..
Salem ..	..	..	..	Do.	..	..	..	..	..	..	..	..	227*	..	..	1	..	..	..	..
Trichinopoly ..	..	..	..	Do.	1	1	..	..	..	1	..	..	46	..	..	..	..	..	..	..
Tanjore ..	..	..	..	Do.	1	1	..	..	..	5	..	..	17*	..	..	..	..	..	..	..
Total ..	..	..	..	..	3	2	..	..	..	6	..	..	786†	..	..	1	..	..	..	..
Grand total ..	..	..	..	..	2,840	2,825	..	22,909	..	1,217	583,779†	35	19,635†	364	..	95	..	..	..	..
											113,787*		648*							

* Clean area.
† Infected area.
I.V.R.I., Muktesar = Imperial Veterinary Research Institute, Muktesar.

Abstract of Appendix II.

	Kindercast.										Hamorrhagic Septicæmia.			
	Serum simultaneous.					Goats spleen tissue vaccination.					Serum alone.		Vaccine alone.	
	With bull virus.		With goat virus.			Infected.		Clean.			Infected.		Clean.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Bovines	..	114,636	23,400	36,907	5,197	35,000	3,756	26,741	166	53	1,37,653	78	11,815	..
Others	..	10,420	152	4,916	7	1	..	..	385	..	1	..	..	..
Equines	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	125,056	23,552	41,823	5,204	35,001	3,756	26,741	551	55	137,654	78	11,815	..

	Blackquarter.										Fowl cholera.				Sheep pox.				Grand total.
	Serum alone.		Sero-vaccine.		Vaccine alone.		Serum alone.		Sero-vaccine.		Serum alone.		Ovination.		Vaccination.				
	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.	Infected.	Clean.			
(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)			
Bovines	96,830	209	8,571	292	127,646	7,182	10,799	..	193	38	6	..	863	..	786	244			
Others	..	..	..	..	7	206	2,063	..	..	..	..	..	..	..	..	20,233			
Equines	..	..	..	..	..	..	34	..	..	..	..	..	..	..	..	35			
Total	96,830	209	8,571	292	127,653	7,388	12,901	..	193	38	6	..	863	..	786	244			

APPENDIX III.

Statement showing the number of animals treated and castrated on tour during the year 1937-38.

Districts.	Castrations performed.			Treated for contagious diseases.			Treated for non-contagious diseases.			Total number of castrations performed and cases treated.						
	Number of Veterinary Assistant employed.	Number of villages visited.		Equines.	Bovines.	Others.	Total.	Equines.	Bovines.		Others.	Total.				
Vizagapatam Circle—	11	1,933	..	2	3,153	155	3,310	..	2,896	168	3,064	49	9,691	231	9,971	16,345
Vizagapatam District—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rajahmundry Circle—	3	437	3	3	1,257	20	1,280	..	1,008	..	1,008	14	1,247	45	1,306	3,594
East Godavari (Agency) Do.	5	632	3	3	1,275	11	1,289	..	3,030	7	3,037	44	2,278	60	2,332	6,708
West Godavari ..	4	522	1	1	1,035	5	1,041	..	2,207	..	2,207	34	1,776	59	1,869	5,117
Rayachoti Circle—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kistna ..	8	1,029	5	2	2,071	108	2,184	..	2,467	22	2,489	19	3,816	120	3,935	8,628
Guntur ..	5	783	2	2	575	126	703	2	2,407	619	3,028	42	3,055	284	3,331	7,112
Nellore Circle—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nellore ..	10	1,599	3	3	2,712	368	3,083	..	3,032	246	3,278	90	5,944	366	6,400	12,761
Cuddapah ..	7	924	..	..	636	334	1,020	..	3,645	59	3,704	13	2,833	44	2,890	7,614
Bellary Circle—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bellary ..	6	784	6	6	1,645	324	1,975	2	2,579	9	1,549	41	2,358	37	2,436	5,960
Kurnool ..	8	894	11	11	1,122	380	1,513	..	2,579	270	2,849	80	5,092	163	5,255	9,697
Madanapalle Circle—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	6	1,265	3	3	4,324	1,228	5,555	4	1,147	4	1,155	52	4,222	171	4,445	11,155
Anantapur ..	6	1,029	7	7	2,671	1,131	3,809	31	2,072	32	2,135	77	3,140	1,122	4,339	10,283
Vellore Circle—	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	6	825	..	..	2,502	141	2,643	..	571	4	575	19	2,773	48	2,840	6,058
Salem ..	5	862	6	6	1,375	749	2,130	..	309	72	381	61	2,364	190	2,554	5,126
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	3	510	7	7	1,829	1,714	3,550	6	1,987	110	2,102	108	5,229	318	5,655	11,307
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	6	645	..	..	473	267	745	..	82	..	82	274	2,101	721	3,098	8,923
Chittoor ..	5	609	..	..	1,871	46	1,917	..	530	7	537	18	2,619	278	2,902	5,356
Chittoor ..	5	609	..	..	1,795	153	1,948	..	432	12	444	15	2,242	214	2,474	4,866
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	4	649	2	2	1,438	355	1,795	..	202	30	232	56	2,622	145	2,823	4,860
Chittoor ..	4	672	..	..	1,100	505	1,605	..	44	39	83	12	2,272	266	2,540	5,238
Chittoor ..	5	771	..	..	2,110	235	2,345	..	64	78	142	12	3,665	109	3,786	6,273
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	5	1,180	1	1	1,980	490	2,471	..	120	24	144	12	4,267	141	4,420	7,035
Chittoor ..	5	1,215	..	..	2,349	402	2,751	..	105	..	105	19	3,417	59	3,496	6,351
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	4	558	1	1	3,434	56	3,491	..	158	..	158	25	8,748	208	8,981	7,625
Chittoor ..	4	432	..	..	1,619	52	1,671	..	197	5	202	23	3,573	49	3,650	5,823
Chittoor ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chittoor ..	3	..	63	63	46,351	9,405	55,756	44	32,824	1,617	34,441	1,204	87,644	5,448	94,296	1,94,805

APPEN

Statement showing the number of animals treated and castrated at

Districts.	Number of veterinary institutions.	Number of Veterinary Assistant Surgeons employed.	Number of in-patients treated during the year.				Number of out-patients treated during the year.			
			Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Vizagapatam Circle—										
Vizagapatam ..	6	6	6	105	42	153	566	7,460	2,979	11,005
Rajahmundry Circle—										
East Godavari ..	9	9	88	592	41	721	968	11,337	5,047	17,352
West Godavari ..	3	3	5	255	4	264	357	3,862	1,794	6,013
Bezwada Circle—										
Kistna ..	7	7	4	306	7	317	534	9,208	3,301	13,043
Guntur ..	5	5	9	209	8	226	383	5,443	2,323	8,149
Nellore Circle—										
Nellore ..	3	3	22	172	6	200	1,298	3,528	1,165	5,989
Cuddapah ..	4	4	..	17	..	17	164	5,137	836	6,187
Bellary Circle—										
Bellary ..	4	4	14	100	19	133	447	4,471	1,733	6,701
Kurnool ..	4	4	26	258	16	300	1,071	4,476	1,965	7,512
Madanapalle Circle—										
Chittoor ..	2	2	6	290	11	307	157	4,719	1,195	6,071
Anantapur ..	3	3	35	165	3	203	427	2,911	925	4,263
Vellore Circle—										
North Arcot ..	3	3	20	190	33	243	561	5,675	1,469	7,725
Salem ..	5	5	60	1,275	238	1,573	1,169	5,625	2,915	9,709
Coimbatore Circle—										
Coimbatore ..	9	11	87	1,870	349	2,306	974	15,598	5,995	22,567
The Nilgiris ..	2	2	3	56	273	332	163	1,317	3,583	5,063
Calicut Circle—										
Malabar ..	4	4	24	247	78	349	169	4,796	6,239	11,204
South Kanara ..	2	2	3	49	17	69	62	2,504	1,998	4,564
Madura Circle—										
Madura ..	5	5	92	315	27	434	457	5,972	3,763	10,192
Ramnad ..	5	5	3	128	20	151	114	5,794	2,025	7,933
Tinnevely ..	2	2	14	544	14	572	93	2,733	1,432	4,258
Trichinopoly Circle—										
Trichinopoly ..	4	5	27	238	81	344	267	8,510	2,338	11,115
Tanjore ..	9	9	4	331	22	357	256	16,220	3,767	19,243
Madras Circle—										
South Arcot ..	4	4	14	243	32	289	330	7,575	1,224	9,129
Chingleput ..	5	5	31	228	138	397	378	9,943	3,880	13,701
Madras City ..	2	5	251	403	481	1,135	264	4,053	7,656	11,973
Total ..	111	117	848	8,584	1,960	11,392	11,629	157,865	71,117	240,611
Private Institutions—										
Vizianagaram ..	1	1	145	451	56	652	530	1,906	950	3,886
Pithapuram ..	..	..	..	..	..	..	..	..	..	..
Sivaganga ..	..	..	..	..	..	..	..	..	..	..
Dharmathupatti ..	1	1	..	15	5	20	5	2,340	385	2,730
Total ..	2	2	145	466	61	672	535	4,246	1,335	6,116
Grand total ..	113	119	993	9,050	2,021	12,064	12,164	162,111	72,452	246,727

DIX IV.

Veterinary Hospitals and Dispensaries during the year 1937-38.

Grand total of in- and out-patients treated during the year.	Total number of cases supplied with medicine but not brought to institutions.	Castrations performed.				Receipts.	Expenditure.
		Equines.	Bovines.	Others.	Total.		
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
						RS. A. P.	RS. A. P.
11,168	213	5	2,056	9	2,070	1,462 15 0	14,794 6 3
18,073	1,152	7	2,299	15	2,321	868 13 0	23,864 6 3
6,277	163	..	777	5	782	571 1 0	8,808 0 3
13,360	112	5	1,150	29	1,184	750 15 0	17,744 4 10
8,375	117	1	390	34	425	614 11 8	11,712 8 2
6,189	24	7	302	31	430	196 6 0	7,674 6 4
6,154	149	..	1,077	716	1,793	169 4 0	9,261 1 1
6,834	75	3	610	342	955	415 6 0	10,822 15 1
7,812	96	1	507	449	957	373 13 0	11,035 8 11
6,378	20	2	1,159	138	1,299	98 8 5	5,449 13 3
4,466	59	..	486	186	672	410 12 0	7,750 12 10
7,968	73	4	708	71	783	236 12 0	7,894 5 1
11,282	16	7	329	393	729	241 0 6	13,578 10 8
24,873	174	36	1,959	696	2,691	1,763 15 3	24,990 13 3
5,395	64	4	68	57	129	2,334 9 0	7,271 8 6
11,553	115	3	838	91	932	940 13 0	12,048 8 4
4,633	64	..	497	240	737	332 8 0	5,263 10 0
10,626	27	1	1,016	386	1,403	1,079 2 0	13,602 13 3
8,084	70	3	415	460	878	190 9 9	11,205 14 0
4,880	28	..	158	61	219	153 11 0	6,475 2 3
11,459	79	2	903	241	1,146	864 9 0	11,543 9 2
19,600	403	11	1,513	710	2,234	2,305 9 6	28,491 13 4
9,418	156	1	1,047	47	1,095	227 11 0	10,280 5 8
14,098	69	1	795	96	892	911 12 0	15,478 5 5
13,108	..	1	28	26	55	5,623 5 0	18,419 3 7
352,003	3,517	105	21,177	5,529	26,811	23,138 8 1	3,13,462 14 6
4,038	316	44	97	35	176	308 8 0	2,768 0 0
available.	50	..	336	55	391	72 5 6	1,366 0 0
2,750	366	44	433	90	567	380 13 6	5,813 10 9
6,738	366	44	433	90	567	380 13 6	5,813 10 9
356,791	3,893	149	21,610	5,619	27,378	23,519 5 7	3,19,376 9 3

APPENDIX V.

Statement showing the Receipts and charges of the Civil Veterinary Department for 1937-38.

Receipts.

	RS.	A.	P.	RS.	A.	P.
XXX. Veterinary—						
Veterinary College fees				34,426	9	0
Other Receipts—						
Rents of buildings	3,119	13	0			
Recoveries of overpay- ments	102	7	0			
Contribution from local bodies	2,160	0	0			
Sale of used animals in the Serum Institute ..	6,666	2	0			
Transfer from the de- posit account of grants made by the Imperial Council of Agricultural Research	9,609	3	3			
Other receipts	21,413	15	9			
	43,071	9	0	43,071	9	0
Collection of payments for services rendered				2,251	11	0
Deduct refunds				—995	6	0
Total Receipts				78,754	7	0

Charges.

41. Veterinary—						
a. Superintendence—						
A. Direction—						
Charged on Revenues—						
Pay of officers				26,400	0	0
Allowances				4,471	14	0
Total Charged on Revenues ..				30,871	14	0
Voted—						
Pay of Establishments				19,911	1	0
Allowances				2,842	7	0
Other charges—						
Books and periodicals				1,548	12	2
Service postage and telegrams				1,665	3	9

Charges—cont.

41. Veterinary—cont.

a. Superintendence—cont.

A. Direction—cont.

Other charges—cont.

	RS.	A.	P.
Other contingencies	5,376	9	8
Apparatus and materials	3,908	0	0
Customs duty	151	15	0
Total—Voted	35,404	0	7
Total—Direction	66,275	14	7

B. Circle officers—

Voted—

Pay of officers	53,393	8	0
Pay of establishments	27,731	4	0
Allowances	21,920	10	0
Other charges—			
Rents	1,568	12	11
Service postage and telegrams	7,182	5	9
Other contingencies	4,204	11	1
Grants-in-aid (horse-breeding operations) ..	300	0	0
Compensations under the Glanders and Farcy Act	241	8	0

Total—Circle Officers .. 1,16,542 11 9

Total—Superintendence .. 1,82,818 10 4

b. Subordinate Establishment—

I. Ordinary areas—

Voted—

Pay of establishments	1,81,534	14	0
Allowances	53,585	5	0
Contingencies—			
Tour charges	14,866	6	0
Service postage and telegrams	6,009	5	3
Other contingencies	7,478	12	7
Purchase of sera including freight	88,908	1	0

Total—Ordinary areas .. 3,52,382 11 10

RS. A. P.

41. Veterinary—*cont.*b. Subordinate Establishment—*cont.*

II. Partially excluded areas—

Voted—

Pay of establishments	5,021	4	0
Travelling allowance	1,217	6	0
Contingencies	731	2	0

Total—Partially excluded areas .. 6,969 12 0

Total—Subordinate establishment .. 3,59,352 7 10

c. Hospitals and Dispensaries—

I. Ordinary areas—

Voted—

Pay of establishments	1,79,051	2	0
Other charges—			
Allowances and honoraria	6,052	1	0
Pay of menials	41,558	8	6
Rents	12,923	13	1
Petty construction and repairs	7,491	3	6
Office expenses	7,763	4	11
Service postage and telegrams	4,571	1	6
Other contingencies	4,577	1	7
Medicines and other hospital necessities	27,953	1	3

Total—Ordinary areas .. 2,91,941 5 4

II. Partially excluded areas—

Voted—

Pay and travelling allowance of establishments	3,516	3	0
Other charges	1,392	13	0

Total—Partially excluded areas .. 4,909 0 0

Total—Hospitals and Dispensaries .. 2,96,850 5 4

d. Veterinary instruction—

Veterinary College—

Charged on revenues—

Pay of officers	7,837	1	0
Allowances and honoraria	1,408	5	4

Total—Charged on Revenues .. 9,245 6 4

Voted—

Pay of officers	47,279	9	0
Pay of establishments	32,346	0	0
Allowances and honoraria	5,466	15	0
Contingencies—			
Rates and taxes	7,826	4	0
Pay of menials	2,606	7	0

RS. A. P.

d. Veterinary instruction—*cont.*Voted—*cont.*Contingencies—*cont.*

Electric current and telephone charges ..	2,250	2	3
Customs duty	121	3	0
Office expenses and cleaning charges ..	2,301	15	3
Scholarships	1,169	12	0
Apparatus and materials	12,486	5	4
Feed and upkeep of sick animals	3,126	11	8
Maintenance of shoeing forge	1,725	5	4
Researches, etc.	803	2	0
Other contingencies	2,524	0	6

Total—Voted .. 1,21,833 12 4

Total—Veterinary Instruction .. 1,31,079 2 8

Other charges—

A. Serum Institute—

Voted—

Pay of officers	8,021	3	0
Pay of establishments	16,253	7	0

Other charges—

Travelling allowance and other compensatory allowance	1,547	5	0
Electric current and telephone charges ..	1,991	15	0
Pay of menials	6,410	6	0
Service postage and telegrams	2,124	0	0
Other contingencies	14,488	4	3
Livestock	33,903	10	0
Maintenance charges	24,458	3	3
Apparatus and materials	13,779	13	6
Customs duty	..		

Total—Serum Institute .. 1,22,978 3 0

B. Veterinary Investigation—

Voted—

Pay of staff and other charges—

Veterinary Investigation Officer ..	3,927	15	0
Veterinary Assistant Surgeon, clerk and peon	2,063	7	0
Travelling Allowance and other compensatory allowance	3,033	7	0
Other contingencies	584	6	3
Apparatus and materials	505	4	7
Customs duty	..		

Total—Veterinary Investigation .. 10,114 7 10

Total—Other charges .. 1,33,092 10 10

	RS.	A.	P.
f. Charges in England—			
Voted—			
A. Leave salaries and deputation pay ..	3,550	3	0
Charged on revenues—			
B. Sterling overseas pay	4,384	10	10
Voted—			
C. Stores for India	870	2	4
Total—Charges in England ..	8,805	0	2
g. Loss or gain by exchange—			
Charged on revenues—			
A. Other than on stores	— 28	7	8
Voted—			
A. Other than on stores	— 18	5	10
B. Stores	— 4	8	4
Total—Loss or gain by exchange ..	— 51	5	10
Total—Veterinary ..	11,11,946	15	4

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Government of Madras

DEVELOPMENT DEPARTMENT

G.O. No. 2165, 2nd September 1938

Veterinary—Administration Report—1937-38—Recorded.

READ—the following paper:—

From the Director of Veterinary Services, dated 18th July 1938,
R.O.C. No. 907-A/38.

Order—No. 2165, Development, dated 2nd September 1938.

Recorded.

2. The touring of District Veterinary Officers during the year was satisfactory. They carried out a larger number of inoculations than during the year previous and themselves performed as many as 4,223 goat virus vaccinations, 21,893 goat spleen tissue vaccinations and 6,094 other inoculations. They attended several cattle fairs and shows and some of them toured with the departmental vans for purposes of propaganda work. With a view to these officers establishing closer contact with cattle owners and ensuring a stricter control over the spread of contagious diseases, the Government had prescribed in August 1937 a minimum touring for them of 20 days in the month with a minimum number of night halts for 15 days or a total minimum of 120 days with 90 night halts in a half year. The Government are glad to note that almost all of them are now doing more than the minima prescribed.

3. The mortality from contagious diseases in cattle increased considerably during the year, rinderpest itself accounting for 7,983 deaths and blackquarter for 11,189 deaths out of a total cattle mortality of 41,430. The corresponding figures for the previous year were 5,102, 7,929 and 33,199. Deaths from rinderpest increased by more than 50 per cent and those from blackquarter by 40 per cent. It is reported that on the whole the year should be considered to have been more favourable than the previous from the point of view of incidence of contagious diseases and that most of the outbreaks of rinderpest occurred in the districts bordering on other Provinces and States. The Central districts suffered most from blackquarter; the incidence of anthrax was high in the West Coast districts; hæmorrhagic septicæmia took a heavy toll in the districts of Chingleput and Nellore and the Northern and Central districts generally suffered most from foot-and-mouth disease. On the whole 296,491 cattle and buffaloes and 15,870 sheep

and goats were protected against rinderpest by the various methods of inoculation. Diseases of poultry chiefly fowl-cholera and fowl-pox were also controlled by vaccination but no suitable prophylactic could be found yet for the pseudo-fowl pest. A scheme for research on this pest has been drawn up and submitted to the Imperial Council of Agricultural Research for a grant.

4. There was a slight fall in the total number of cases treated in Veterinary institutions in the mufassal. It is too early to say whether it was due to the system of levying fees introduced during the year in all institutions in municipal areas which are considered well established and to the orders issued extending the range of people who are liable to pay, down to those who derive an income of Rs. 100 per mensem. Since the close of the year, the Government have sanctioned the opening of four new dispensaries on a contributory basis, three in the West Tanjore District Board area and the fourth in the Karaikudi Municipal area.

5. There was no change in the strength of the subordinate touring staff during the year but in April last the Government sanctioned 12 new touring assistants for employment in the districts of West Godavari, Cuddapah, Guntur, Madura, Chittoor, Vizagapatam, Malabar, Coimbatore, North Arcot, Bellary, Chingleput and Tanjore.

6. Propaganda on the usual lines was done by the staff with the help of two motor units. A third unit was sanctioned by Government after the close of the year.

7. There were 118 students under instruction in the Madras Veterinary college at the end of the year. It is observed that 17 came out successful out of the 24 who sat for the preliminary examinations of the B.V.Sc. degree newly introduced in the previous year. Even though there is unemployment even to a distressing degree among young men educated or equipped for other walks of life, there is none among the eligible and suitable men who have passed out of the college. In fact there is a dearth of candidates applying for recruitment to the Public Service Commission. The Government hope to see larger numbers passing out of the college. But it should not be at the sacrifice of efficiency. In fact with a view to increasing efficiency the Government have recently issued orders extending the period of the diploma course from three to four years and the question of extending the degree course to five years is now under consideration.

8. There was a slight fall in the number of cases treated and operations performed at the college hospital. But the number of cases treated at the branch dispensary at Rayapuram which is a feeder to the college hospital showed an appreciable increase from 4,640 during 1936-37 to 5,009 in 1937-38, the daily average attendance increasing from 45.62 to 50.2. Some interesting experiments and post-mortem examinations conducted at the college laboratory are mentioned in the report. The existence of anthrax in an

elephant, in a monkey and in a boar sent from the hospitals at Bobbili, Ellore and the Hosur cattle-farm respectively was confirmed microscopically. Autogenous vaccines were prepared and supplied for 60 animals during the year. Samples of water received from the Superintendent, Government Ophthalmic Hospital, were analysed as to their suitability for drinking water for cattle. The Biology museum was strengthened during the year by the addition of over 160 specimens, and an interesting collection of parasites received from the Punjab Veterinary College and of some specimens of worms from Nagpur was added to the Parasitology museum.

9. The Serum institute has completed its sixth year of existence. The Institute was provided during the year with cold storage equipment and additional laboratory material. As many as 1,567,000 unit doses of anti-rinderpest serum, and 185,480 unit doses of anti-hæmorrhagic septicæmia serum were manufactured during the year at the Institute, the issues of these products from the Institute amounting to 1,651,500 and 181,040 doses respectively. The institute issued also 24,500 doses of hæmorrhagic septicæmia vaccine, 193,000 doses of rinderpest bull virus, 73,475 doses of goat blood virus and 89,800 doses of goat spleen tissue vaccine, the quantities showing an all round increase over the issues made during the previous year. The local manufacture of this sera and vaccine resulted in a gain of over Rs. 1½ lakhs during the year under review. It is reported that a wider use was made of the rinderpest goat spleen tissue vaccine in the field during the year but as the immunity conferred was found to be weak, the method is being further tested for use in outbreaks. Instructions were issued to the staff for the use of goat blood virus with a simultaneous injection of anti-rinderpest serum. This is expected to confer lasting immunity on protected cattle, besides effecting economy in the use of serum. An interesting item of research mentioned in the report is the investigation of the working capacity of animals in the Nellore and Cuddapah districts where a peculiar disease attributable to the drinking water appears to result in progressive emaciation of the cattle. During the year the Government sanctioned the manufacture of certain additional biological products at the Institute, viz., anti-blackquarter serum, blackquarter vaccine and hæmorrhagic septicæmia vaccine. The production of hæmorrhagic septicæmia vaccine was begun during the year and it is expected that the manufacture of the other products will be taken up as soon as the necessary building and equipment have been provided by the Public Works Department.

10. The Disease Investigation Officer whose work is financed by the Imperial Council of Agricultural Research underwent a course of special training at the Mukteswar laboratory during the year. He continued research into the incidence of diseases among sheep and goats in this Presidency and investigated 13 diseases affecting these animals.

11. A change of administrative importance to the department was effected towards the close of the year by the transfer to it of the Livestock section from the control of the Agricultural department. The reasons for the transfer have been explained in G.O. No. 490, Development, dated 25th February 1938, issued on the subject. There are various proposals in contemplation to expand the section and to increase its usefulness to the Province. It is expected that the Veterinary department with its large district staff, both itinerant and stationary, well trained in all matters pertaining to livestock and familiar with its conditions will be able to devise and execute measures of future improvement without any great increase of cost to Government.

(By order of His Excellency the Governor)

C. J. PAUL,
Secretary to Government.

To the Director of Veterinary Services.
 „ the Director of Agriculture.
 „ the Accountant-General, Madras.
 „ all Collectors.
 „ the Board of Revenue.
 „ the Surgeon-General, through the Education and Public Health Department.
 „ the Revenue Department.
 „ the Public Works Department.
 „ the Government of India, Department of Education, Health and Lands (with C.L.).
 „ the Secretary, Imperial Council of Agricultural Research (with C.L.).
 „ the Director, Imperial Veterinary Research Institute (with C.L.).
 Press.

DEVELOPMENT DEPARTMENT.

NOTES CONNECTED WITH G.O. No. 2165, DEVELOPMENT, DATED 2ND SEPTEMBER 1938.

[SUBJECT.—*Veterinary—Administration Report for 1937-38.*]

From the Director of Veterinary Services, dated 18th July 1938,
R.O.C. No. 907-A/38.

Please see the annual administration report of the Civil Veterinary Department for 1937-38 submitted by the Director of Veterinary Services.

2. *Touring of officers.*—The touring done by the District Veterinary Officers during the year as compared with that of the two previous years is given below :—

District Veterinary Officers.	Number of days toured.		
	1935-36.	1936-37.	1937-38.
Vizagapatam	237	199	212
Rajahmundry	183	204	227
Bezwada	193	194	231
Nellore	197	205	243
Bellary	182	192	214
Madanapalle	182	194	215
Vellore	200	229	219
Coimbatore	205	190	231
Calicut	182	182	242
Madura	180	190	231
Trichinopoly	193	192	256
Madras	172	214	223

It will be observed that all the officers have done the minimum touring required.

3. *Extent of Veterinary Aid.*—The following statement shows the total number of Veterinary Assistant Surgeons, hospitals and dispensaries and touring billets at the end of the year as compared with that in the last two previous years :—

	1935-36.	1936-37.	1937-38.
Permanent and temporary	282	309	314
Number of permanent posts	257	247	247
Hospitals and dispensaries	113	111	111
Touring billets	109	133	133

4. *Contagious diseases.*—The system of registering and reporting of outbreaks and mortality in sheep and goats was introduced during the year under report.

The number of deaths from contagious diseases during the year was 41,430. The following are the details of the important diseases as compared with that of the last two years :—

	1935-36.	1936-37.	1937-38.
Rinderpest	2,752	5,102	7,983
Anthrax	2,183	3,339	3,282
Hæmorrhagic septicæmia	5,664	6,353	5,670
Blackquarter	5,857	7,929	11,189
Foot-and-mouth disease	976	2,965	2,358

It will be observed that mortality in cattle has increased to a large extent during the year. Rinderpest has increased by more than 50 per cent as compared with that of last year. The Director states that most of the outbreaks occurred in districts

bordering on other Provinces and States, the Central and Southern districts being almost free. The use of goat blood virus with a simultaneous injection of ante-rinderpest serum is being used in the control of the disease among cattle as this ensures a lasting immunity among cattle. The total number of animals protected against rinderpest by the different methods was as follows :—

	Cattle and buffaloes.	Sheep and goats.	Other animals.
Serum simultaneous inoculations with bull virus.	138,036	10,567	5
Serum simultaneous inoculations with goat blood virus.	42,104	4,916	7
Goat blood virus alone	30,497	..	..
Goat spleen tissue vaccine	85,630	2	..
Serum alone	224	385	..
Total	296,491	15,870	12

Blackquarter also has increased by nearly 50 per cent over that of last year. The Director states that the Central districts where conditions in respect of soil and moisture are favourable suffered more heavily than other districts. The number of animals protected against this disease was :—

	Cattle.	Buffaloes.	Sheep.
Serum alone method	91,867	5,172	..
Vaccine alone method	128,035	6,793	213
Sero-vaccine method	8,715	148	..
Total	228,617	12,113	213

5. *Touring Staff.*—There was no increase in the strength of the touring staff during the year. The total number of cases treated by the itinerating staff during the year was 128,981 as against 137,454 in the previous year. Of these 34,685 were contagious cases and 94,296 were non-contagious ones. The Director attributes the fall in the number of cases to the temporary closure of certain billets for some periods due to want of men.

6. *Hospitals and Dispensaries.*—The number of institutions during the year remained the same as in the previous year, viz., 111. A statement showing the number of cases treated at the institutions during the year as compared with the last two years is furnished below :—

	1935-36.	1936-37.	1937-38.
Number of cases treated	253,230	262,774	258,791
Number of cases supplied with medicine.	4,582	6,261	3,883
Number of castrations performed.	24,068	24,479	27,378

7. *Prevention of Cruelty to Animals Act.*—The number of convictions under the Act and the number of animals sent to infirmaries are compared below with those of the previous years :—

Year.	Number of convictions.	Number sent to infirmaries.
1932-33	19,299	2,620
1933-34	9,595	3,283
1934-35	11,408	3,454
1935-36	12,551	3,780
1936-37	12,418	2,786
1937-38	13,686	2,306

Trichinopoly and Coimbatore districts have as usual recorded the largest number of convictions, the figures being 2,771 and 3,169 respectively.

8. *Veterinary College.*—The total number of students in the College at the end of the year and those that were awarded diploma are compared with those of the previous years :—

Year.	Strength.	Number awarded diplomas.
On 31st March 1932	125	39
Do. 1933	118	22
Do. 1934	117	26
Do. 1935	107	30
Do. 1936	96	24
Do. 1937	101	15
Do. 1938	118	12

The total number of students that appeared for the diploma examination last year was 23 and the number that came out successful was 12. The Board considered that on the whole the results were satisfactory.

In the Refresher Course, 10 students underwent the course last year, 6 from this Presidency, 2 from Hyderabad, 1 from Bangalore (Mysore) and 1 from Travancore.

9. *Research.*—The number of specimens received and examined in the different sections of the College laboratory including the clinical laboratory was 9,444 as against 10,363 in the previous year, specimens which were examined and which deserve special mention are detailed in paragraph 31 on pages 13-18 of the report.

10. *Serum Institute.*—The following statement shows the quantity of anti-rinderpest serum and anti-hæmorrhagic septicæmia serum manufactured at the Institute during the year as compared with the previous year :—

	Quantity manufactured in	
	1936-37.	1937-38.
Anti-rinderpest serum (Unit doses) ..	1,356,000	1,567,000
Anti-hæmorrhagic Septicæmia serum (Unit doses).	160,500	185,480

A statement showing the issues made of the various kinds of serum, virus, etc., from the Institute during the year as compared with the previous year is given below :—

	1936-37.	1937-38.
Anti-rinderpest serum (Unit doses) ..	1,403,200	1,651,500
Anti-hæmorrhagic Septicæmia serum (Unit doses).	151,940	181,040
Hæmorrhagic Septicæmia vaccine (doses).	..	24,500
Rinderpest bull virus (in c.c.) ..	181,450	193,000
Rinderpest goat blood virus (in c.c.) ..	55,050	73,475
Rinderpest goat spleen tissue vaccine (in c.c.).	..	89,800

Of the above, the last produce was widely used in the field and was in good demand throughout the year. It may be mentioned that experiments on the preparation of a desicated goat spleen tissue vaccine for issue in the field are in progress.

Although the Government sanctioned the manufacture of anti-blackquarter serum, blackquarter vaccine and hæmorrhagic septicæmia vaccine during the year, the Director reports that it was found possible to manufacture only the last named product (hæmorrhagic septicæmia vaccine), as the manufacture of the other products could not be taken up for want of accommodation and equipment.

It may be of interest to note that in previous years the contract for the disposal of discontinued animals by sale went to the local butchers but during the year under report there was a change in the personnel of the contract and it is gratifying to learn that the contractor had been able to sell over 50 per cent of the buffaloes and almost all the calves to agriculturists for work and ploughing purposes.

S.G.A.—2/3-8-38.

A draft review is submitted for approval.

R. RAMASWAMI AYYANGAR—5-8-38.

The Director of Veterinary Services' touring must have been almost useless. He should be told so in a separate memorandum.

A | Can office work out savings to the Provincial Revenues by the
| Serum Institute? It should be mentioned in the review.

C. J. PAUL—7-8-38.

With reference to Secretary's instructions at A above, a statement has been worked out showing the savings in the manufacture of the various kinds of serum, etc., manufactured at the Institute. It shows that a saving of Rs 1,29,591 has been effected in the manufacture of the five biological products first mentioned in the statement calculated on the basis of the issues of these products made from the Institute during the year 1937-38. The Institute manufactured also 89,800 doses of Rinderpest goat spleen tissue vaccine at a cost of Rs. 1,905-14-7. This manufacture has not been taken into account as the Muktesar rate for this product is not known. If a more accurate statement is required, one may be got from the Director of Veterinary Services.

S.G.A.—10-8-38.

R.R.—12-8-38.

Draft review is submitted for approval.

C.J.P.—12-8-38.

V. I. M[UNISWAMI PILLAI]—25-8-38.

S. R[AMANATHAN]—26-8-38.

E[RSKINE]—1-9-38.

Issue urgently. Put up an Official Memorandum to the Director of Veterinary Services regarding touring.

C.J.P.—2-9-38.

[G.O. No. 2165, Development, dated 2nd September 1938]