

Annual Report

ESS

OF THE

1929-30

Civil Veterinary Department,
Punjab,

For the year 1929-30.

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TABLE OF CONTENTS.

Subject.	Page.
Annual Report of the Civil Veterinary Department, Punjab, for the year 1929-30.	
CHAPTER I.—GENERAL ADMINISTRATION.	
Director, Veterinary Services, Punjab	1
CHAPTER II.—LIVE STOCK.	
(A)—Breeding Operations.	
1. GOVERNMENT CATTLE FARM, HISSAR.	
Climatic conditions	2
Live stock	<i>ib.</i>
Cattle-breeding	<i>ib.</i>
Supply of bulls to district boards	3
Feeding experiments	<i>ib.</i>
Sheep-breeding	4
Goat-breeding	<i>ib.</i>
Donkey-breeding	<i>ib.</i>
Arab-breeding	<i>ib.</i>
Contagious diseases	<i>ib.</i>
Equine contagious abortion	<i>ib.</i>
Hospital	5
Fodder	<i>ib.</i>
Fodder reserve	<i>ib.</i>
Expansion	6
Experiments and new crops	<i>ib.</i>
GENERAL.	
Bhoosa waggon	6
2. GRANTEE CATTLE FARMS	
Shergarh small holders' grant	8

Subject.	Page.
3. CATTLE-BREEDING IN SPECIAL TRACTS.	
(a) Hariana tract	8
(b) Dhanni tract	9-10
(c) Other tracts	11
(1) Montgomery District Cattle-breeding Scheme ..	11
(2) Nili Bar Cattle-breeding Scheme	12
(3) Dajil Village Cattle-breeding Scheme, Dera Ghazi Khan District	<i>ib.</i>
(4) Malwa Cattle-breeding Scheme	<i>ib.</i>
(5) Improvement of Cattle-and Buffalo-breeding in the Lahore District	<i>ib.</i>
4. GENERAL BREEDING WORK IN DISTRICT.	
(a) <i>Equines.</i>	
Number of stallions—Table VIII	13
Services of stallions—Table VIII	<i>ib.</i>
(b) <i>Bovines.</i>	
Stud bulls—Table VII	13
Buffalo-breeding	14
(c) <i>Others.</i>	
Sheep-and goat-breeding	15
5. CATTLE AND HORSE FAIRS AND SHOWS.	
Fairs and Shows—Table IX	16
(B)— <i>Diseases amongst Live Stock.</i>	
1. PREVENTION AND TREATMENT OF DISEASES.	
Control and prevention of contagious diseases in hill districts.	17

Subject.	Page.
HOSPITALS.	
Number of veterinary hospitals—Table V	18
Work of veterinary hospitals	<i>ib.</i>
Outlying dispensaries	<i>ib.</i>
Building of veterinary hospitals	19
Simla Veterinary Hospital	<i>ib.</i>
Treatment of diseases in villages—Table IV	<i>ib.</i>
2. INCIDENCE OF DISEASE.	
Mortality	19
(a) <i>Equines.</i>	
Glanders	20
Surra	<i>ib.</i>
(b) <i>Bovines.</i>	
Rinderpest	21
Foot and Mouth disease	<i>ib.</i>
Hæmorrhagic Septicæmia	<i>ib.</i>
Black Quarter	<i>ib.</i>
Anthrax	<i>ib.</i>
Other contagious diseases	<i>ib.</i>
(c) <i>Other Animals.</i>	
3. PREVENTIVE INOCULATION.	
Anti-Rinderpest inoculations	22
Inoculations against Hæmorrhagic Septicæmia	<i>ib.</i>
Preventive vaccintaions against Hæmorrhagic Septicæmia	<i>ib.</i>
Vaccinations against Black Quarter	<i>ib.</i>
Inoculations against Anthrax	23

Subject.	Page.
4. CASTRATIONS.	
CHAPTER III.—VETERINARY EDUCATION.	
1. PUNJAB VETERINARY COLLEGE, LAHORE.	
Charge	24
Students	<i>ib.</i>
Examinations	<i>ib.</i>
Hospital	25
Income and expenditure	<i>ib.</i>
Employment	<i>ib.</i>
General remarks	<i>ib.</i>
2. SHORT COURSES.	
Training of syces	25
Training in Surra treatment	<i>ib.</i>
Dressers' Course	26
Farriers' Course	<i>ib.</i>
3. VETERINARY RESEARCH.	
Hygiene Section	26
Medicine Section	<i>ib.</i>
Pathological Section	<i>ib.</i>
Parasitology Section	<i>ib.</i>
Surra Section	27
Examination of Pathological specimens at Superintendents' headquarters	<i>ib.</i>
Other research work done by Research Officer in the field.. .. .	<i>ib.</i>
4. DEMONSTRATION AND PROPAGANDA WORK.	
Literary work done by the staff of department	29
CHAPTER IV.—ESTABLISHMENT.	
(a) Gazetted officers	80
(b) Non-gazetted staff	81

Subject.	Page.
CHAPTER V.—EXPENDITURE OF THE DEPARTMENT.	
Expenditure—Table X	32
CHAPTER VI.—PROGRESS MADE BY THE DEPARTMENT IN GIVING EFFECT TO THE RECOMMENDATIONS OF THE ROYAL COMMISSION ON AGRICULTURE.	
(a) Sheep-breeding	33
(b) Goat-breeding	<i>ib.</i>
(c) Cattle-breeding—Milk and ghee supply	<i>ib.</i>
(d) Co-operative cattle-breeding societies	<i>ib.</i>
(e) Grants-in-aid	<i>ib.</i>
(f) Cattle fairs and shows	34
(g) Castrations	<i>ib.</i>
(h) Control of live stock improvement	<i>ib.</i>
(i) Diseases of live stock and their control	<i>ib.</i>
2. GENERAL REMARKS.	
General remarks	34 & 35

MEMORANDUM FOR THE DIRECTOR

TO : THE DIRECTOR

FROM : [Illegible]

[Illegible text]

[Illegible text]

Review of the Annual Report of the Civil Veterinary Department, Punjab, for the year 1929-30.

ALTHOUGH Civil Veterinary administration was provincialised in 1901, the annual reports up to and including that for the year 1910-11 were drawn up in a single combined report for the Civil Veterinary Department in the whole of India. The report for the year 1911-12 was the first dealing only with the Punjab and was submitted by the Director of Agriculture and this is the first single self-contained report presented by the Punjab Civil Veterinary Department after its separation in July 1928, from the Department of Agriculture.

2. The Department has a definite programme aiming at :—

- (a) the improvement of the stock both for draught and milk purposes.
- (b) the control and cure of disease.

The improvement of stock, outside the Hissar Cattle Farm, is in charge of a Live Stock Officer, and during the greater part of the year under report Mr. Garewal held the charge, and stimulated work in directions to which the report bears ample evidence. The Veterinary Department in the districts is responsible both for promoting better breeding and for the control and cure of disease and therefore the Live Stock Officer is also Assistant to the Director, Veterinary Services, for breeding.

3. The Hissar Cattle Farm was founded in 1809; this is the largest institution of its kind in India. From this farm 328 bulls were issued to district boards and 150 bulls, which were ready for issue, had to be retained owing to the fodder famine in the South-East Punjab, and it is hoped that they will be distributed as soon as conditions improve. A beginning has been made with 100 cows, under special feeding and treatment, with a view to test their milking qualities. Cow No. 201 which gave 6,055 lbs. in a lactation period of 300 days has calved again, and given a daily maximum yield of 39 lbs. A beginning has been made with goat breeding and two of the goats yielded 813 and 757 lbs. of milk in 135 and 130 days. Tests with regard to the yield of milk showed that the prejudice against lucerne is unfounded, and as a milk producing food both lucerne and berseem are

twice as valuable, weight for weight, as cabbage. The outturn of sunflower per acre exceeded by nearly 49 maunds that of berseem. An attempt has been made to introduce the salt bush from South Africa. Considerable progress was achieved in the grading up of the Bikaner desert sheep. The productivity of sunflower and Madras jowar and the inferiority of *Shaftal* as compared with lucerne and berseem were demonstrated by experiment, during the course of the year. Valuable information is being collected as the result of stall feeding experiments. The Ministry of Agriculture is greatly interested in all these experiments, and hopes that the Department will also undertake research to determine the best nourishing ration in various agricultural circles of the Province.

4. In the districts cattle breeding has received a slight set back partly owing to the shortage of rain in the south-eastern districts; but the Live Stock Officer has won public support for his work in almost all the districts. The grantee farms, particularly Jahangirabad farm, are working up to the modern ideas of breeding and if proper supervision is exercised these farms can be helped to build up pedigree breeds. In Hissar, Rohtak and Gurgaon nearly 1,246 farm-bred bulls are already at work. In the Dhanni Tract 134 bulls are at work; but the Dhanni Cow has for financial reasons not yet received as much attention as the Department would like to give. The Punjab Government (Ministry of Agriculture) will be glad if some work on cows is also started. In Montgomery tract, through the generosity of the grantee of the Jahangirabad farm, 23 farm-bred bulls have been placed in selected villages in the Dipalpur tahsil, villages have been selected in Dera Ghazi Khan for the improvement of the Dajil, and in Ludhiana district for the Malwa breeds. The Ministry of Agriculture attaches great importance to the improvement of local breeds by selection and is gratified that the Department has taken up this most interesting line of development. The introduction of a buffalo breeding scheme in particular villages is another promising line of work.

5. The study of the milk requirements in a village, the available supply of fodder and the elimination of poor

stock by better stock are lines to which Department should pay more attention by concentrating work in selected villages. The Royal Commission on Agriculture has shown that our villages generally carry a larger stock than can be supported by the fodder available and the Ministry of Agriculture will be glad if the Department will start enquiries in selected villages, ascertain their requirements in the matter of milk and draught animals and their fodder resources and then educate the peasant to eliminate the poor stock by replacing it with better cows and bullocks, and thus getting a better return. The proposed Nili Bar Cattle Farm still awaits the provision of funds ; and the scientific survey of cattle throughout the province, with a view to collecting material for decision as to the best lines on which to improve breeds, has not yet progressed far.

6. An interesting experiment is being made, though not for the first time, in the direction of introducing Merino sheep into Kangra district. As was remarked in the report for the year 1911-12 "continued efforts and patience will be needed with a view to enlist keenness on the part of the owners." The Ministry hopes, however, that the present experiment will prove more successful than that of 20 years ago. It has been proved that Merino sheep cannot be expected to thrive except in the cooler parts of the province.

7. As usual Rinderpest was the most destructive disease, followed by Hæmorrhagic Septicæmia. Serum simultaneous treatment has not yet been attempted on a large scale ; but the staff required for such inoculation is being trained, and, in the near future, the department should be in a position to undertake a more definitely organised campaign against Rinderpest. The Ministry will await with interest proposals to this effect.

8. The treatment of Surra has been conducted with gratifying success. This treatment also depends largely on the skill and experience of those who have to carry out the injections.

9. The Punjab Veterinary College has had a successful year and the experiment initiated last year of

raising the Entrance qualification for admissions to the College to the Intermediate standard in Science and Arts has been justified by its results, since 36 students passed their second examination out of 47 selected. Now that the Classification Rules for the Civil Veterinary Department have been issued, it will be possible to take steps to ensure regular recruitment with stability of prospects for those entering the service. In common with other sections of the Department the College suffered from the prevailing financial stringency. The work already performed by the Research Officer has shown how large a field awaits action, and how little can be done unless money is invested in the necessary facilities for carrying out the work. Such developments, however, must perforce await better times ; meanwhile the foundations are being laid for further research work.

10. Twenty years ago the Civil Veterinary Department in the Punjab, including then the North-West Frontier, Province, was by far the most important sphere of veterinary work in India. Of a total expenditure of 20½ lakhs in the whole of India in 1909-10, nearly 5 lakhs was expended on veterinary administration in the Punjab and the North-West Frontier Province. In these two provinces 839 castrations were performed out of 1,662 in the whole of India, and out of the total number of cases otherwise treated in the whole of India, amounting to 968,044, 356,051 were treated in these provinces. In the year under report the total expenditure, partly by local bodies and partly by the Punjab Government, on veterinary objects has risen to Rs. 33½ lakhs, the Government contribution amounting to Rs. 14,09,912 and even this figure, owing to financial stringency, showed a decrease of nearly Rs. 1½ lakhs on the expenditure of the year 1928-29. The number of castrations in the Punjab alone rose to 384,191. The total number of preventive inoculations and vaccinations performed amounted to 476,406, and the total number of animals otherwise treated was 1,210,179. The latest figures available for the whole of India are those of 1927-28. In that year the number of castrations in the Punjab (272,185) was more than half the number of castrations in the whole of India (408,296). The number of inoculations and vaccinations in the

Punjab (649,771) was more than one-third of the total in the whole of India (1,727,055) and the number of cases otherwise treated in the Punjab (1,232,643) was more than one-third of the total number of cases treated in the whole of India (3,426,836). The number of institutions in the Punjab (241) was more than one-quarter of the number in the whole of India (831). In the present year the number of Veterinary Hospitals, however, has risen to 270 ; but even now one hospital goes to about 140 villages a position which can be hardly regarded as satisfactory.

11. The Minister feels that no one will be able to read the report without appreciating the skill, knowledge and enthusiasm which are brought to bear on the problems of animal husbandry in the province. The efficiency of the teaching in the Veterinary College is acknowledged almost as much outside the province as within ; the work being carried out at the Hissar Cattle Farm is perhaps less well known owing to the remoteness of its situation ; but there are few institutions, if any, in the Punjab which repay better a few hours inspection. Every aspect of the farm work reflects the care and skill of those in-charge and the Minister would be glad if more people could be induced to visit the finest institution of its kind East of Suez. The preventive and curative work of the Department is now extended into the villages, and the single fact that over one and-a-half million animals were treated in one way or another is itself sufficient evidence of the benefits which are being conferred.

12. The Punjab Government (Ministry of Agriculture) wishes to acknowledge the excellent work performed by all officers in the Department under the control of Mr. Quirke and to congratulate him on the results achieved ; it also wishes to place on record its appreciation of the work done at the College under Mr. Taylor and at the Hissar Farm under Mr. L. W. Smith.

By order of the Punjab
Government (Ministry of Agriculture).

JOGENDRA SINGH,
Minister for Agriculture.

J. W. HEARN,
*Secretary to Government,
Punjab, Revenue Department.*



Annual Report of the Civil Veterinary Department, Punjab, for the year 1929-30,

BY

Mr. T. F. Quirke, M. R. C. V. S., I. V. S., Director,
Veterinary Services, Punjab.

CHAPTER I.—General Administration.

1. Mr. W. Taylor, Principal, Punjab Veterinary College, Lahore, officiated as Director during my absence on 8 months' home leave ending November 13th, 1929.

Director, Veterinary Services, Punjab.

2. Both Mr. Taylor and I carried out inspection tours of certain districts, as well as attending most of the important cattle fairs where special propaganda work was being conducted by the staff of the department.

I inspected, on different occasions during the year, the Flissar Cattle Farm, as well as the grantee farms. I also visited Rakh Jabhowal near Chakwal, Jhelum District, in connection with the establishment of a Dhanni cattle-breeding farm, preliminary arrangements for which are now in progress. I paid a special visit to the Kue-ki-Bahawal Zail of the Montgomery District for the starting of a Montgomery cattle improvement scheme under which 23 Montgomery bulls bred on the Jehangirabad Cattle Farm have been distributed in selected villages.

I also toured in the Hariana, Dhanni and Malwa cattle-breeding tracts to examine the progress of the Department's live stock improvement schemes for these areas.

3. As a member of the Advisory Board, I attended the meeting of the Imperial Council of Agricultural Research at Pusa in December 1929.

CHAPTER II.—Live Stock.

(A) BREEDING OPERATIONS.

1. GOVERNMENT CATTLE FARM, HISSAR.

4. Mr. L. W. Smith held charge of the farm as Superintendent throughout the year.

Visitors to the farms included—

- (i) His Excellency the Governor of the Punjab.
- (ii) The Hon'ble Minister for Agriculture,
- (iii) The Financial Commissioner, Development,
- (iv) Sir Charles Todhunter, Mysore,
- (v) Dr. Leslie Colman, Mysore, and
- (vi) The Imperial Dairy Expert, Mr. W. Smith.

5. The annual rainfall amounted to 11.96 inches against the yearly average of 14 inches. Of the total rainfall 8.68 inches fell in the months of July and August, which were followed by seven months' draught. There was a bad dust haze prevailing for several weeks of the hot weather. The Bir grasses which had sprouted with the monsoon rains failed to grow in the subsequent dry period, particularly the more valuable grass Anjan.

6. During the year under report the issues of live stock for breeding purposes to Punjab zamindars and district boards included 331 bulls, 260 rams and ewes, 3 pony stallions and 9 donkey stallions.

7. Nine hundred and fifty-seven calves were born as against 1,190 in the previous year. The average live weight this year of Hissar calves at birth was determined as 58 lbs. Weights varied from 45 to 70 lbs.

Previous experience on the farm has shown very conclusively that the birth-rate amongst live stock is very seriously influenced by famine conditions. It has also been satisfactorily proved that it is impossible by stall feeding to maintain the farm herd in anything like the condition which results from good natural grazing.

8. Three hundred and twenty-eight bulls were issued to district boards compared with 324 during the previous year. In addition, there were 150 bulls ready for issue from the Farm in March 1930, but, owing to fodder famine in the Hariana Districts, these remained undistributed.

9. There are now some 100 odd selected cows and heifers from the farm herd of a milch type receiving special feeding and treatment suited to dairy cattle. The following statement shows the milk yield of some of these cows and heifers :—

No. of cows.	Date of calving.	Total milk yield in lbs.	Days in milk.	Maximum daily yield in lbs.	REMARKS.
201	2/22 13th October 1928	6,055	300	28	She has again calved, and her maximum daily yield has reached 39 lbs.
11 H. P. 28	30th May 1929	6,139	296	36	
190	2/22 11th November 1928	7,068	296	28	3rd lactation.
316	3/26 3rd December 1929	1,991	137	27	1st lactation.
379	4/25 22nd September 1929	2,228	222	20	Ditto.
169	2/25 25th November 1929	1,475	148	17	Ditto.
423	4/25 16th December 1929	1,161	118	23	Ditto.
107	1/25 27th July 1929	2,456	268	20	Ditto.

10. Lucerne, berseem and cabbage were tested as cattle foods to determine their influence on milk yield, and it was found that for this purpose 1 lb. of lucerne or berseem equals 2 lbs. of cabbage. The common belief amongst cattle-owners that lucerne lowers the milk yield was put to test and definitely disproved. Further trials on these three feeds are to be continued.

Feeding experiments.

11. There are two separate flocks of sheep maintained on the farm—a merino flock and a Bikaner indigenous flock. Two hundred and one young cross-bred merino rams and 152 ewes were issued, of which 190 rams and 70 ewes went to the Kangra District for breeding purposes.

A further lot of 107 Bikaner desert ewes and 5 lambs was purchased during the year in Bikaner State, bringing the total number of Bikaner ewes at the Farm to 155.

Careful selection, combined with adequate feeding, are bringing about a very noticeable improvement in the progeny of these desert sheep. No issues have yet been made to districts from this flock.

12. During the year under report 21 female goats were purchased from the Gujranwala District as a nucleus for the farm herd. Two of these goats yielded 813 and 757 lbs. of milk in 135 and 130 days' lactation, respectively. Selected male goats, as they come of age, will be issued to districts for breeding purposes.

13. The infusion of fresh blood into the donkey stud has been decided on. The purchase of an American jack, through the Army Remount Department, is being arranged for this purpose. The two jacks received early last year from the Mona Remount Depôt are producing some promising young stock.

14. The Arab stallion "Saad Salam," purchased from Bombay in November 1928, has produced some promising young stock.

15. There was considerably less mortality amongst the farm stock this year owing to the comparatively dry season.

Rinderpest caused 28 deaths; Foot and Mouth disease caused 2 deaths.

16. In collaboration with the Director of the Imperial Institute of Veterinary Research, Muktesar, an investigation of this disease is being conducted. One hundred and eleven mares were vaccinated.

ut of which 21 donkey and 6 pony mares subsequently aborted.

17. The brief summary of the work done at the farm hospital is as follows :—

Hospital.

1. Daily average number of animals treated	...	94
2. Inoculations performed	...	3,937
3. <i>Post-mortem</i> examinations	...	621
4. Castrations performed	...	61

18. The total receipts of fodder were 137,856 maunds from direct cultivation, 6,995 maunds from tenants, in addition to 3,463

Fodder,

maunds of hay from the Bir.

19. The fodder reserve on the 31st March 1930 amounted to 151,993 maunds as against 193,681 maunds in the previ-

Fodder reserve.

ous year. Owing to the very poor monsoon rains, and consequent shortage of grazing available, stall feeding had to be resorted to earlier than usual, which accounts for the heavy drain on the farm's fodder reserves. In dealing with such large numbers of live stock, it is necessary to exercise very careful judgment before attempting to supplement by hand feeding any shortage of grazing. The following extract from the report of the Superintendent of the farm is of interest in this connection :—

" It has been noticed that, if stall feeding is resorted to too early, the cows do not go out into the Bir to graze, but hang about the yard. First of all they eat " Anjan, " ' Palvan ' and other succulent grasses and later the coarser ones such as ' Ghamoor, ' ' Bkur ' etc. From April to June the cows rely for their green ration on the green leaves of Jal and Kair bushes, which at this time of the year grow very abundantly in the Bir, and are much relished by the stock. The leaves of these bushes are a great stand-by in times of famine."

The fodder reserve position is, however, being made more secure as the result of the increased area now being brought under cultivation. In this district, where the annual rainfall amounts to 14 inches only, and in most years badly distributed, it is almost essential to work up fodder reserves against two successive bad years. The huge fodder reserve required can be appreciated from the fact that there was a total head of stock

amounting to, 7,016 on the farm at the end of the year, whilst the local rainfall rate, as well as the irrigation facilities, do not permit of any large expansion of the cultivated area.

20. The new blocks at Thaska and Balak were considerably improved during the year under report.

Expansion.

Rectangulation and general lay-out of the cultivated area were further developed, with very satisfactory results.

21. Experiments in fodder crops are being carried out at the stable, and the Mundianwala blocks, cabbage, Guinea grass, shaftal, Madras juar, sunflower and salt bush, being given special attention.

Experiments and new crops.

The superiority of juar, as a fodder-yielding crop for the farm, is well established. Madras juar is reported to be the best yielding fodder juar yet grown on the Farm.

Sunflower is regarded as a very promising green fodder for the farm. The outturn per acre of sunflower exceeded berseem by nearly 49 maunds.

The salt bush of South Africa has proved a highly drought-resisting plant so badly needed in the arid areas of the Punjab. Small patches of salt bush started from seed have now been established on the farm. It is too early to express any definite opinion as to its usefulness.

From a few plants imported in July 1929, there is now an area of 3 acres of Guinea grass established.

Shaftal was found to be less productive than lucerne or berseem on the farm, and has been discontinued as a farm fodder crop.

General.

22. An improved type of bhoosa waggon, as will appear from the photograph attached to this report, was designed and built in the farm workshop by the Assistant Superintendent, Fodder, Mr. Read. It weighs, unladen, 20½ maunds, whilst its carrying capacity is 20 maunds of bhoosa.

Bhoosa waggon.

2. GRANTEE CATTLE FARMS.

Name of the farm.	Area in acres.	REQUIRED STRENGTH OF HERD.		DETAILS OF STOCK AT THE CLOSE OF THE YEAR.				
		Cows.	Bulls.	Cows.	Herd bulls.	Produce.		Bulls issued during the year.
						Male.	Female.	
<i>Hissar Breed Farms.</i>								
1. Bahadur Nagar Farm.	8,191	400	6	414	7	272	293	72
2. Qadirabad Farm	1,000	125	3	127	8	70	88	10
3. Fazalabad Farm	3,140	400	6	330	6	197	209	14
<i>Montgomery or Sahiwal Breed Farms.</i>								
4. Jehangirabad Farm.	4,226	500	8	499	7	318	368	54
5. Allahdad Khan Farm.	3,800	125	3	182	2	142	163	15
<i>Dairy Farm.</i>								
6. Montgomery Dairy Farm.	485	150	3	114	3	31	87	...
		Buffaloes	...	26	3	5	9	...

23. There are under departmental supervision 6 grantee farms in the Lower Bari Doab Canal Colony, including a dairy grant of 485 acres near Montgomery, for the supply of milk to that city. The table above gives some details of the number of stock carried on these farms.

The Jehangirabad Farm shows the greatest progress up-to-date. The farm stock have been consistently well looked after by the grantee, who has also shown a willingness to improve the general management of his farm in accordance with the recommendations of the department. There has now been built up on this farm a herd of Montgomery cows representative of the best types of this breed from which surplus heifers are gradually being absorbed into the districts. Cream to the value of Rs. 20,451 was sold to the Military Dairy Farm, Lahore Cantonment, at 13 annas per lb. The limiting factor to any substantial progress on this and

the other grantee farms is that the grantees are not *sufficiently keen* in practising modern methods of animal husbandry, which they regard with certain disfavour because of the additional labour and cost involved. The department is greatly handicapped in this respect because the conditions of these grants do not insist on the appointment of fully trained dairy supervisors on these farms, nor do the present market prices for milk and other dairy products offer sufficient inducement to the grantees for any voluntary effort in this direction.

The more frequent visits of the Live Stock Officer and his assistant to these farms are, however, having a very good effect on their general progress.

24. These grants, consisting of 218½ rectangles of land in 7 different chaks, are situated at a distance of about 12 miles from Renala Khurd Railway Station and 8 miles from Wan Radha Ram Railway Station in the Montgomery District. Cows giving less than 2,000 lbs. of milk in a 300 days' lactation period are not approved. The milk yield of all the approved cows, which are all of the Montgomery breed, is recorded and pedigree herd registers maintained by the Co-operative Department.

Shergarh small holders' grants.

3. CATTLE BREEDING IN SPECIAL TRACTS.

(a) *Haryana Tract.*

25. The following statement shows the allotments made, and the expenditure incurred, by the district boards of Hissar, Rohtak and Gurgaon towards the Haryana cattle improvement scheme:—

District.	Government grant.	District Board contribution.	Total.	Expenditure.
Hissar ...	Rs. 5,000	Rs. 3,000	Rs. 8,000	Rs. 8,000
Rohtak ...	16,500	16,500	33,000	(a) 26,136
Gurgaon ...	18,200	...	18,200	17,648
Cash Prizes ..	2,000	...	2,000	2,000

(a) The balance of Rs. 6,864 in Rohtak District was earmarked for the granting of subsidies to selected cows at Rs. 5 per month per cow. A scheme of subsidising special Haryana cows has been recently introduced at the request of the Rohtak District Board in order to encourage the retention by local zamindars of the more valuable Haryana cows within the district.

Fodder shortage was very keenly felt during the year under report, particularly in the Hissar and Gurgaon Districts. The number of bulls supplied, and the total number of approved bulls now working, in the three districts of the Hariana scheme are as follows :—

Name of District.	Number of approved bulls distributed during the year.	Total number of bulls working in the district.
Hissar	32	192
Rohtak	88	448
Gurgaon ... ..	...	606
Total ...	116	1,246

The holding of one-day cattle shows throughout the Hariana tract has helped greatly to popularise the work of the scheme, besides giving an opportunity for the staff of the department to keep in touch with the zamindars of the area and to check covering results of the approved bulls which are located in the different villages.

(b) Dhanni Tract.

26. The following statement shows the allotments made, and the expenditure incurred, by the district boards of the Attock, Rawalpindi, Jhelum,

Shahpur and Mianwali Districts
cattle improvement scheme :—

the D

District.	Balance on 31st March 1929.	Government grant.	Board's contribution.	Board's contribution.
	Rs.	Rs.	Rs.	Rs.
Attock ..	3,372	10,000	5,000	17,903
Bawalpindi ..	4,223	9,000	4,500	12,751
Jhelum .	654	8,000	4,023	12,677
Mianwali ...	954	12,000	6,000	17,804
Shahpur ...	...	2,560	1,280	3,838
Cash Prizes ...	...	2,000	...	2,000

Financial provision was also made by a Government grant of Rs. 3,000 for the holding of a divisional Dhanni Cattle Show at a central place, Choa Saidan Shah in Jhelum District, where all five districts of the Dhanni cattle scheme could compete. A most successful show was held after the expiry of the financial year from 9th to 13th April 1930 to coincide with the Katas festival. The attendance was estimated at about thirty thousand people.

Cash prizes were also awarded at different cattle fairs such as Chakwal, Dina, Tallagang, Fatehjang, Mianwali, Gujar Khan and Jatli, where classes for approved bulls and their progeny were arranged. This system of small awards is having an excellent effect in stimulating keenness amongst zamindars for better quality cattle. It is also valuable propaganda for the interest shown both by the district boards and the department in the encouragement of the cattle-breeding industry.

The number of bulls supplied this year as well the total number of approved bulls now, working these districts is as follows :—

Name of District.	NUMBER OF BULLS SUPPLIED DURING THE YEAR.		TOTAL NUMBER OF BULLS WORKING IN THE DISTRICT ON 1st April 1930.	
	District Board bulls.	Subsidy bulls.	District Board bulls.	Subsidy bulls.
1. Mianwali ...	...	13	12	48
2. Attock ...	...	28	18	36
3. Rawalpindi ...	6	9	24	17
4. Jhelum ...	...	10	30	27
5. Shahpur ...	4	7	72	11
Total ...	10	67	156	134

A small monthly subsidy scheme has been started for specially selected Dhanni cows, which are properly looked after and maintained in regular breeding to the satisfaction of the department. It is too early to note any results. The number of cows receiving subsidies at the end of the financial year in all four districts of the tract was 320.

His Excellency the Governor of the Punjab had an opportunity of inspecting the work of this scheme at Gujar Khan and Chakwal, and was very pleased with the progress being made.

(c) *Other Tracts.*

(1) **Montgomery District Cattle-breeding Scheme.**

27. Through the generosity of the grantee of the Jehangirabad Montgomery Cattle farm the department has been able to effect the distribution, free of charge, 23 farm-bred Montgomery bulls in selected villages the Dipalpur Tahsil. Further additions are promised.

(2) Nili Bar Cattle-breeding Scheme.

28. A scheme is under preparation for the starting of a 9,000 acres' Government Cattle Farm in the Nili Bar Colony for the breeding of Dajil cattle, in addition to buffalo-breeding. The lands have been taken over by the department and leased out on temporary cultivation to tenants, pending financial provision being made for their utilisation as a stock-breeding farm.

(3) Dajil Village Cattle-breeding Scheme, Dera Ghazi Khan District.

29. The areas of Dajil, Lalgah and other villages of the Jampur Tahsil have been selected for concentrating Dajil bu'ls. All preliminary arrangements have been made in anticipation of the provision of funds by the district board. The department has started a vigorous castration campaign in the selected area.

(4) Malwa Cattle-breeding Scheme.

30. This scheme for the resuscitation of the Malwa breed of cattle is being tried in the home of that breed lying within the Ferozepore and Ludhiana Districts. Forty Hissar bulls given by the grantee of the Bahadurnagar Cattle Farm, free of cost, in the interests of the scheme, as well as 35 Hissar bulls purchased by the district boards (15 by the District Board, Ferozepore, and 20 by the District Board, Ludhiana), have been concentrated in selected villages. This breed, once famous for its speed and stamina in the tract, is nearly related to the Hariana breed, of which it is believed to be an offshoot.

(5) Improvement of Cattle- and Buffalo-breeding in the Lahore District.

31. The Department is concentrating attention on certain zails around Kahna Nau in Tahsil Lahore where local conditons are favourable to the improvement of stock. Seventy-nine Hissar bulls have this year been concentrated in selected villages.

I have been very favourably impressed by the improvement hitherto effected within this area by the department in raising the standard of the village type by location of our Hissar bulls. I am confident that we may expect quite substantial results in future as the result of this policy of concentration.

The introduction of a buffalo-breeding scheme in particular villages of this area is also under contemplation.

4. GENERAL BREEDING WORK IN DISTRICTS.

(a) Equines.

32. At the close of the year under report there were 64 horse and pony stallions in the non-selected

Number of stallions—Table VIII.

districts of the province as compared with 60 at the close of the previous year.

The following additions and castings were made amongst horse and donkey stallions:—

	Horses.	Donkeys.
Additions	6	9
Castings	2	4

The district of Dera Ghazi Khan has been declared as a non-selected district for the purpose of mule-breeding operations.

33. The total number of mares covered by horse and donkey stallions during the year under report was 3,041 and 3,377 as compared with 3,600 and 3,473 during the previous year. Arrangements are being made for reducing the number of horse and donkey stallions owing to the diminution in the number of mares now being kept for breeding purposes in the non-selected districts.

Services of stallions—Table VIII.

(b) Bovines.

34. At the close of the year under report there were 3,359 district board stud bulls at work in the various districts of the province against 3,130 last year. There were 596 additions and 367 castings during the year.

Stud bulls—Table VII.

35. Indents for 336 Hissar bulls were sent to the Government Cattle Farm, Hissar, all of which were supplied before the close of the year. The castings include bulls which died or were cast on account of old

age, or being otherwise unsuitable for further retention on the strength of approved bulls.

36. The number of stud bulls supplied to district boards this year shows that steady progress is being maintained in district cattle-breeding work. The department's extension programme was, however, greatly handicapped owing to the poor financial condition of certain district boards, particularly in the barani areas, where the cattle-breeding industry suffered a severe set-back due to fodder famine.

As a consequence, a number of bulls in excess of the demand at the Government Cattle Farm, Hissar, which had been handled and were ready for issue in March 1930, had to be retained on the farm for a future issue.

37. The department had hoped to be able to help certain poor district boards outside the Dhanni and Hariana tracts, such as Dera Ghazi Khan, Jhang and Muzaffargarh, through a Government grant-in-aid, to enable them to distribute up to the minimum requirements of bulls as decided in the five years' programme. A sum of Rs. 15,000 was proposed for this purpose, but the scheme had to be abandoned owing to financial stringency.

38. The majority of the district boards have come to realise the necessity for taking steps to protect the cattle-breeding industry against the indiscriminate letting loose of bulls in their districts for breeding; they have framed suitable bye-laws under sections 56 and 57 of the District Boards Act, which become operative after notification by Government. The department, being anxious to make these bye-laws effective, is making every effort to stimulate interest in the villages. It is too soon to form any opinion of the effect of the introduction of these bye-laws in the villages; it will naturally depend on the thoroughness with which they will be enforced.

Buffalo-breeding.

39. To meet the increasing demand for milk and ghee, buffalo-breeding is receiving special attention in certain well-defined areas throughout the province. A

and response has been made by certain district boards, such as Gujranwala, Sialkot, Amritsar and Gurdaspur, help to increase the average milk yield of village buffaloes by creating keenness amongst local zamindars and by providing the necessary funds for the purchase of buffalo bulls where these are below the standard required.

The department is experiencing the need of a Government buffalo-breeding farm from which issues of pedigree buffalo bulls can be made to districts. The Jalalabad area of Ferozepore District has hitherto furnished the requirements of the central districts for buffalo bulls.

(c) *Others.*

40. There are indications, particularly in the Ferozepore District, of some revival of interest in the possibilities of the camel for agricultural purposes.

To meet this demand, a scheme of subsidising specially selected privately owned camel stallions has been drawn up by the department and the necessary funds provided by the district board. The scheme is now in its second year and promises to give very satisfactory results. Efforts have been confined to a portion of the Abohar Tahsil, where there are now 10 camel stallions on subsidy work. Four hundred and twelve coverings have been registered against 340 in the previous year. There is great scope for expansion of this scheme in the Abohar Tahsil when the necessary funds and staff can be provided.

Enquiries are also being conducted by the department into the possibilities of reviving camel-breeding in other suitable areas of the province as an aid to agriculture.

Sheep-and Goat-breeding.

41. Government has extended its sanction to the supply of rams and ewes from the Government Cattle Farm, Hissar, to approved breeders in hill districts at a concession rate, experimentally for 3 years. A similar scheme for the supply of merino sheep to Kangra District only at a concession rate has been in force from

1928-29. During this year 130 rams and 70 ewes were supplied to *bona fide* zamindars in Kangra District, who own large numbers of sheep.

In spite of the handicaps and difficulties owing to local conditions, the results of this scheme have so far been encouraging. The scheme has now reached a stage when, if it is vigorously pushed through and a sustained effort made for another 3 years, a very substantial and permanent improvement is likely to result. Owing to the shortage of staff in hill areas, it is difficult for the department to maintain the necessary close supervision required.

42. The starting of a self-contained sheep-breeding farm at Sambalpani in the Attock District was considered, but the proposal had eventually to be abandoned on account of the difficulty in providing fodder during the months when no grazing is available.

43. Experience has definitely proved the unsuitability of the merino in the hands of the illiterate sheep-owner for improving the indigenous flocks of the plains districts. Only very hardy disease-resisting breeds of sheep, such as the indigenous breeds, can stand up to local conditions. The department will therefore, in future, pursue its policy of improving the indigenous breeds of the plains by selection and better feeding.

44. The goat herd on the Hissar Farm has not been sufficiently long established to be in a position to supply selected young male and female goats for distribution in the districts. There are, however, some shortly reaching the age for issue which will be sold in selected areas.

5. CATTLE AND HORSE FAIRS AND SHOWS.

45. The detailed information regarding cattle fairs and shows under this department is given in table IX.

IX. These were held in 24 districts of the province. All fairs were attended as usual by the officers of this department. The total number of cattle fairs in the Punjab was 139 against 98 in the previous year.

(B) DISEASES AMONGST LIVE STOCK.

1. PREVENTION AND TREATMENT OF DISEASES.

46. In the absence of any specific powers to prohibit the movements of infected live stock, the application of protective agents on a large scale, such as sera and vaccines, on which we are now entirely dependent in this country, cannot be said to be on a very sound basis. The one redeeming feature of the whole situation is that our indigenous breeds of live stock are noticeably disease-resistant and, with more adequate feeding, would suffer less mortality from such diseases as Rinderpest and Hæmorrhagic Septicæmia which are prevalent in this province, with varying degrees of intensity, from year to year.

The hopes which were entertained for the use of goats as virus producers in the carrying out of the serum simultaneous method of inoculation against Rinderpest have not been realised. It has therefore been decided not to defer the adoption of the serum simultaneous method any longer and arrangements are being made for as many outbreaks as possible to be dealt with by this method in future. I regard the development of the fodder resources, particularly in the cattle-breeding tracts as of major importance in the fight against disease.

47. The whole problem of contagious disease amongst live stock in the Kangra District has been carefully studied by the department, and necessary recommendations made to the district board and Government.

Control and prevention of contagious disease in hill districts.

It has been decided to make similar surveys of other districts so that the local authorities may appreciate the department's difficulties in dealing with contagious disease without powers to prohibit the movements of infected live stock in their areas.

Hospitals.

48. During the year 12 new hospitals were started providing a net work of 270 hospitals for the province. The different revenue divisions are now served hospitals as follows:—

Division	Hospitals	Villages to be served
1. Jullundur Division	45	149
2. Lahore	59	157
3. Multan	57	139
4. Ambala	56	121
5. Rawalpindi	53	110

Owing to financial stringency this part of the years' expansion programme for the next year has been considerably curtailed.

49. The total number of animals treated in veterinary hospitals was 934,700 against 857,951 during the previous year. In addition, 125,721 cases against 94,684 last year were supplied with medicine but were not brought to the hospitals.

The steady increase in the number of cases treated at our veterinary hospitals is very satisfactory.

The department, however, rightly insists that staff will regard the control of contagious disease and the improvement of the live stock of their ilaqas as major activities.

50. Reports are almost unanimous that the system of outlying dispensaries, which was introduced some 3 years ago, has done much to popularise the work of this department in the villages. Fresh demands for permanent veterinary dispensaries are now being received from localities served by these dispensaries.

51. Rs. 71,048 were allotted by Government as grants-in-aid, under specified conditions, to the undernoted district boards for the construction of veterinary hospitals in rural areas :

Building of veterinary hospitals.

veterinary hospitals in rural areas :

	Rs.
1. Rohtak District Board	5,000
2. Karnal „ „	23,168
3. Ambala „ „	7,500
4. Ferozepore „ „	5,000
5. Amritsar „ „	4,000
6. Sialkot „ „	5,950
7. Gujranwala „ „	2,600
8. Shahpur „ „	3,580
9. Jhang „ „	1,500
10. Dera Ghazi Khan „ „	12,750
Total	71,048

52. The only provincial hospital in the province is at Simla, which is being maintained by Government through the agency of the municipality. The receipts and expenditure of the Simla Veterinary Hospital during the year under report were Rs. 12,226 and Rs. 8,808 respectively against Rs. 12,425 and Rs. 9,227 respectively during the previous year.

Simla veterinary hospital.

The surplus of income over expenditure which was credited into the Government treasury by the Municipality amounted to Rs. 3,418 against Rs. 3,198 last year.

This result represents a very satisfactory year's working. There is a very insistent demand which must soon be met for the provision of better accommodation for patients at this hospital.

53. Forty-one thousand, seven hundred and seventy-nine villages were visited by the district staff on tour, and 304,212 animals were treated as compared with 262,650 cases during the previous year.

Treatment of diseases in villages—Table IV.

35,589 villages and year.

2. INCIDENCE OF DISEASE.

54. The year under report was, on the whole, a healthy one for the province, the total stock of diseases, as reported by patwaris, being 24,282 against 29,146 in the previous year. Rinder-

Mortality.

from contagious

pest accounted for 46 per cent. of the total mortality reported from bovine diseases. The death-roll from Hæmorrhagic Septicæmia came next in importance owing to fairly extensive outbreaks in the Sialkot, Amritsar, Gurdaspur and Muzaffargarh Districts.

Rs. 1,500 were again sanctioned by Government for the grant of rewards to patwaris and lambardars showing promptness in reporting cattle disease.

(a) *Equines.*

NOTE.—Only those outbreaks of contagious diseases amongst equines which occur in non-selected districts of the province are dealt with by this department.

55. During the year under report 1 case of Glanders was detected in Amritsar City. This case occurred amongst tonga ponies, which are generally kept under most insanitary conditions within municipal areas.

Glanders.

56. Apart from the special Surra centres, the total number of cases confirmed from other areas by microscopical examination of the blood was 53 as compared with 15 during the previous year. The following 22 Surra centres were maintained during this year. Four hundred and eighty-seven Surra cases were treated at these centres, including 100 camels and 387 ponies, of which 94 camels and 354 ponies were discharged as cured. Enquiries show that, out of 129 cases discharged as cured during the previous season's work, there were only 7 relapses:—

Surra.

- | | |
|-----------------------|----------------|
| 1. Sharakpore. | 12. Nuh. |
| 2. Muridke. | 13. Darapur. |
| 3. Bhera. | 14. Pasrur. |
| 4. Satrah. | 15. Jalalabad. |
| 5. Sheikhpura. | 16. Dinga. |
| 6. Qila Harnam Singh. | 17. Sonepat. |
| 7. Wandoh. | 18. Gohana. |
| 8. Mukerian. | 19. Isa Khel. |
| 9. Karnal. | 20. Akalgarh. |
| 10. Panipat. | 21. Hafizabad. |
| 11. Kaithal. | 22. Sohawa. |

57. A decision against the retention of the Sohawa laboratory, the buildings of which had become unsafe, was reached during this year. Instead, a large Surra centre has been established at Sheikhpura, where some vacant buildings are being adapted for the purposes of

investigational work under Deputy Superintendent
 Khan Singh, who is now in charge of the Gujran-
 alkot and Sheikhpura Districts.

(b) *Bovines.*

Rinderpest appeared in all the districts of the
 province, except Simla and Mianwali.
 It was particularly severe in the
 districts of Karnal, Kangra, Rohtak, Multan and Feroze-

The disease appeared in 23 districts, being most
 severe in Rohtak District.

Hæmorrhagic Septicæmia appeared in all dis-
 tricts, except Simla. This disease
 was responsible for heavy mortality
 in Gujran-alkot and Amritsar Districts.

This disease was reported from 12 districts of
 the province. The heaviest mortality
 took place in Sheikhpura Dis-
 trict.

Anthrax was confirmed from Sheikhpura
 and Gujrat Districts. The disease
 appeared in a subacute form.

During the year under report contagious
 pleuro-pneumonia of goats, as well as
 other diseases of a contagious nature,
 occurred in 12 districts of the province.

In view of the prevalence of Brucella infections in
 sheep and goats in this province, it is of interest to note
 that contagious abortion in bovines caused by the
 bacteria has now to be added to the list of animal
 diseases communicable to man, in whom it takes a form
 indistinguishable from Malta Fever—the undulant Fever
 of the Mediterranean. The latter is a remittent fever,
 with a very characteristic temperature chart, visible
 for weeks or months, which may prove
 fatal in about 3 per cent. of cases.

There is reason to believe that infected goats yield
 much more heavily charged with the bacilli than is
 the case in cows. There is also a possibility that the
 bacilli derived from cows are less virulent for man than
 those from goats. A reassuring piece of information is

that boiling of milk is a perfectly certain means of prevention; indeed a temperature much below the boiling-point can be relied upon to destroy the bacilli.

(c) *Other Animals.*

64. The following diseases occurred among "Other Animals" of the province during the year:—

Rinderpest, Foot and Mouth disease, Hæmorrhagic Septicæmia and other contagious diseases.

3. PREVENTIVE INOCULATION.

65. Anti-Rinderpest inoculations were performed. 517 outbreaks and 97,846 cattle were inoculated against 436 outbreaks and 92,576 inoculations in the previous year. Ninety animals died after inoculation, these were probably in the incubative stage of the disease at the time of inoculation.

66. Serum simultaneous inoculations against Rinderpest were performed at the Jehangirabad Cattle Farm on 51 bulls for issue with satisfactory results. Serum simultaneous inoculations of 1,951 cattle were also performed in 2 villages of the Ambala District and 5 villages of the Karnal District during the month of August.

67. Preventive serum inoculations against Hæmorrhagic Septicæmia were performed in 482 outbreaks and 113,755 animals were inoculated as compared with 414 outbreaks and 101,157 inoculations last year.

68. Vaccinations against this disease were performed on 243,689 animals in 1,200 villages of 27 districts against 297,692 animals in 1,044 villages of 27 districts during the previous year. The highest number of vaccinations (18,268) was carried out in the low-lying areas of the Muzaffargarh District.

69. Vaccinations were performed on 19,083 animals in 120 villages of 12 districts against 28,666, 131 and 14 respectively, during the previous year.

70. Preventive inoculations against Anthrax were employed with good results in 3 outbreaks in the Sheikhupura District and 34 animals were inoculated.

Inoculations against Anthrax.

4. CASTRATIONS.

71. One lakh, seventy-nine thousand and fourteen castrations were performed on tour as compared with 170,424 during the previous year. One lakh, eighty-five thousand one hundred and seventy-seven castrations were performed in the veterinary hospitals against 160,465 in the preceding year. Veterinary Assistants have come to realise their responsibility for the carrying out of castration work in their areas. The response has been very satisfactory.

CHAPTER III.—Veterinary Education

1. PUNJAB VETERINARY COLLEGE, LAHORE
72. Captain Walker held charge as Principal of the college from the beginning of the year up till 13th November 1927. He was relieved by Mr. W. Taylor on the 14th November 1927. Mr. Taylor's version from the post of Director, Veterinary Services, Punjab, which he was officiating in the absence of Mr. Quirke, who proceeded on leave *ex-India*.
73. Of the 122 candidates for admission to the college in September 1927, 11 were admitted, 11 of whom were from other provinces and Indian States. The total number of students included 5 Graduates, 52 Intermediates and 61 candidates admitted as agriculturists. Sixteen out of the 61 candidates admitted were agriculturists. The total number of students at the close of the year was 192. Twenty-three students were admitted to the college during this year.
74. The results below indicate satisfactory results during the year:—

Examination.

Year.	Appeared.
1st	53
2nd	35
3rd	45
4th	26

The raising, last year, of the Entrance examination for admission to the College to the Intermediate level in Science or Arts Faculty promises to be quite successful. Out of 47 students selected under the new rules in October 1928, 36 recently passed the examination. The Principal of the college is of the opinion that, assuming prospects of employment to be favourable, there will not be any difficulty in obtaining F.S. group students in the course of a few years. The Intermediate colleges will cater for such students by providing more facilities in their institutions for such students in future.

75. The attendance in the various wards of the Hospital was as follows :--

	In-patients.	Against last year.	Out-patients.	Against last year.
1. General Ward ...	1,495	1 755	4,057	3,722
2. Dog Ward ...	438	419	662	523
3. Contagious Wards ...	293	268	156	149

The average daily attendance was 136.58 against 137.83 last year. Forty-seven dogs underwent the anti-rabic treatment during the year against 49 last year.

One hundred and fourteen X-ray photographs were taken against 95 last year.

76. The total income and expenditure of the college, as given in table I, were Rs. 36,964 and Rs. 1,95,479 respectively.

77. The demand for qualified men continues to be satisfactory.

78. The health of the students remained good. Their behaviour, in spite of the political agitation in the country, was excellent.

2. SHORT COURSES.

79. A 15 days' free course of training is now being given twice a year in April and October at the Hissar Farm. Free accommodation is also provided for syces attending these courses.

80. Thirteen Veterinary Assistants, as well as 37 students of the Final Class, Punjab Veterinary College, were trained for Surra treatment work during the year.

51. One candidate of Holkar's Mounted Es-
 Indore, was trained in the Dress
 Farriers' Course. Class during the summer vaca-
 Another from the Junagadh State was trained in
 Dog Ward of the College from December 1929
 March 1930.

52. Eighteen candidates joined the Farriers' C
 in September 1929. Twenty-se
 Farriers' Course. candidates of the previous
 successfully completed the course during the year.

3. VETERINARY RESEARCH.

53. Investigations into the "milk supply
 Hygiene Section. Lahore" are being carried out
 the instance of the Board
 Economic Inquiry, Punjab, under the supervision of
 Professor of Hygiene. A preliminary investigat
 into the conditions of slaughter-houses in the provi
 is also being made by this officer.

54. A small laboratory has been equipped in
 Medicine Section. Medicine Section of the college
 connection with the teaching
 clinical diagnostics for the testing and analysis
 urine. Electrolytic Chlorine is being manufactured
 the Hospital Section of the college, which has prov
 satisfactory and economical for use in the clinic.

55. The following work was done in the Path
 Pathological Section. logical Laboratory :—

Post-mortem examinations carried out during the 102
 year.

Pathological specimens examined 126
 Small animals maintained for experimental 184
 purposes.

Samples of milk examined free of charge for the 27
 public in the Hygiene Section and reports
 submitted.

56. Certain experiments were carried out with
 Parasitology Section. Tetrachlorethylene (Nema capsule
 of Parke Davis & Co.) for the treat
 ment of equine intestinal Strongylosis and Ascariasis.

About 200 specimens were also examined during the year for external and internal parasites of animals and birds.

87. Three new methods of treatment of Surra were tried with a view to reduce the time taken, and the number of injections required, under the present system of treatment. Though the results obtained so far are satisfactory, nothing can be definitely said as the experiments were carried out on artificial Surra cases only. Arrangements are, however, being made to try these methods on natural Surra cases in the near future.

Surra Section.

Treatment according to—

Method I extends over 29 days, including 5 intravenous injections.

„ II „ „ 21 „ „ 5 „

„ III „ „ 16 „ „ 4 „

88. Fifty-four specimens were received from the subordinate veterinary staff.

Examination of pathological specimens at Superintendent's headquarters.

89. An investigation into the prevalence of "Coccidiosis in Cattle and Buffaloes" in certain villages of the Jhelum District was carried out by the Superintendent of the circle in collaboration with the Research Officer.

90. The carrying out of research into animal diseases, of which there are many awaiting investigation, is greatly handicapped by the fact that the Research Officer has no proper facilities for carrying out his work. He has no laboratory, neither has he any staff to assist him.

Other research work done by Research Officer in the field.

In the early part of the year, in collaboration with the Professor of Pathology, work was carried out on two important diseases—one affecting poultry and the other affecting buffaloes. Investigations into these diseases are still in progress, and, although the organisms responsible have not yet been definitely

determined, the mortality from these diseases has been reduced by suitable preventive measures.

The period from June 16th until September 16th 1929, was spent by the Research Officer on special duty at the Imperial Institute of Veterinary Research Muktesar.

During the months from June to September a fatal disease occurring amongst cattle and horses in the Sheikhpura and Gujrat Districts was investigated, in the report which proved to be an atypical form of Anthrax, a report was submitted, with photographs. Prophylactic measures were adopted which brought about a cessation of the outbreaks.

Investigations were also carried out on Coccidiosis in cattle, which was prevalent in the Jhelum District.

During the cold weather a number of visits were paid to Mr. Branford's farm at Lyallpur to determine the cause of abortion amongst his mares, and satisfactory tests were carried out in order to isolate affected animals.

During the year periodic visits were paid to the Government Cattle Farm at Hissar in connection with outbreaks of disease.

A large number of specimens and slides were submitted by Veterinary Assistants in charge of the various hospitals in the Punjab. These were examined and reported upon.

4. DEMONSTRATION AND PROPAGANDA WORK.

91. During the year under report lectures were delivered by the subordinate veterinary staff at all important horse and cattle fairs in the province. At the same time, simple hand-bills and pamphlets in the vernacular, dealing with contagious diseases of animals were distributed. Lectures were also delivered to the rural uplift classes in schools and villages by the members of the department in the course of their tours.

Demonstrations by means of magic-lantern slides, diagrams, charts and pathological specimens, as well as exhibits of live stock, were made at all the important horse and cattle fairs throughout the province.

Although progress has been made in these simple methods of propaganda, there is very great scope for further advance on the lines of practical addresses and demonstrations ; these could be carried out with greater effect with the aid of appropriate cinematograph films.

District board meetings were also attended by the members of the department for discussing matters relating to the department.

92. *Literary work done by the staff of the department.*—An article on “ Necrosis of the Palatal Flap in a Camel ” by Messrs. Aggarwala and Nanda was published in the English Veterinary Journal, Volume 86, No. 2, for the month of February 1930.

Two books entitled “ A Laboratory Manual of Milk Inspection ” and “ Feeding of Cows ” were written by Mr. Aggarwala, Professor of Hygiene, Punjab Veterinary College.

In addition to the above, several articles containing useful information on cattle diseases were contributed by different members of the department to the Punjab Veterinary Journal and also as professional circulars to the district staff.

CHAPTER IV—Establishment.

(a) *Gazetted Officers.*

93. The following statement shows the strength of gazetted officers employed in the Department during the year :—

Sphere Jurisdiction.	Superintendents.	Assistant Superintendent.	Deputy Superintendents.	Total.	REMARKS.
Lahore and Jullundur Divisions, Ferozapore.	1	...	2	3	
Ambala Division, Ambala.	1	...	4	5	
Rawalpindi and Multan Divisions, Rawalpindi.	*2	...	4	6	*Includes 1 Assistant Superintendent.
Live Stock Section, Lahore.	†1	...	1	2	†Live Stock Officer.
Camel Specialist's Office, Sohawa.	...	...	‡1	1	‡Sohawa Laboratory.
Government Cattle Farm, Hissar.	2 (1)	4 (2)	3	9	(1) Includes 1 Superintendent on leave preparatory to retirement. (2) Includes 2 officers under training, viz., Messrs. S. M. Sarwar and San to k h Singh.
Punjab Veterinary College, Lahore.	1 (Principal)	8 Professors (Superior Service). 1 Research Officer.	7 (Professor.)	12	
Total	8	8	22	38	

(b) Non-gazetted Staff.

94. The following additional staff was sanctioned during the year :—

Veterinary Assistant Surgeons	...	...	12
Veterinary Assistants	...	...	11
			—
Total	...	...	23
			—

At the close of the year, the sanctioned cadre of the subordinate veterinary staff was—

Veterinary Inspectors	...	...	...	16
Veterinary Assistant Surgeons	...	...	...	40
Veterinary Assistants	...	...	...	316
				—
Total	...	...	...	372

CHAPTER V.—Expenditure of the Department.

95. Details of expenditure under different heads are shown in this table. During the year under report the total expenditure amounted to Rs. 23,87,726 as compared with Rs. 24,60,562 in the previous year.

Of the total expenditure, a sum of Rs. 14,09,912 was contributed by Government and Rs. 9,77,814 by local bodies.

The figures shown under "Provincial" were supplied by the Accountant-General, Punjab, as usual, whilst those under "Local" were obtained from the local bodies concerned.

CHAPTER VI.

1. PROGRESS MADE BY THE DEPARTMENT IN GIVING EFFECT TO THE RECOMMENDATIONS OF THE ROYAL COMMISSION ON AGRICULTURE.

(a) Sheep breeding.

96. One hundred and ninety cross-bred merino rams and 70 ewes were issued to breeders in the Kangra District at concession rates as against 70 rams last year. Government has, during the year, further extended, the scope of this concession to genuine breeders of all hill areas in the Province. The flock of Bikanir desert sheep recently established on the Hissar Farm will meet the demand for the issue of suitable rams in the plains districts.

Sites for the starting of sheep-breeding farms in the Jhelum and Campbellpur Districts were inspected, but so far no suitable area for a self-contained farm in these hill districts has been selected.

A preliminary investigation has been completed of the possibilities of developing the sheep-breeding industry in the Dera Ghazi Khan District.

(b) Goat-breeding.

97. The flock of indigenous goats which was started on the Hissar Farm in 1923 is making satisfactory progress. A number of male and female goats for issue to districts will shortly be available.

(c) Cattle-breeding—Milk and Ghee Supply.

98. A greater number of pure Hissar-bred bulls was supplied this year to districts from the Government Cattle Farm, Hissar, than in the previous years.

The details given elsewhere in this report of the department's cattle-breeding work testify to the steady progress which is being made in raising the standard of our village cattle in this province.

(d) Co-operative Cattle-breeding Societies.

99. There were 37 cattle-breeding societies in Amritsar, 5 in Sheikhpura, 7 in Gurdaspur and 6 in the Hissar District. The progress of these societies, though slow, is, on the whole, satisfactory.

(e) Grants-in-aid.

100. Liberal grants-in-aid were given for the encouragement of cat-
ment for the encouragement of cat-
details of which are given elsewhere in

(f) Cattle Fairs and Shows

101. The number has increased f-
during this year. The department is ma-
these events to popularise its work in the

(g) Castrations.

102. Three lakhs, sixty-three thousand
and ten castrations were performed as ag-
the previous year.

(h) Control of Live Stock Improv-

103. The Live Stock Officer has been
administrative charge of district work,
made Assistant to the Director, Veterinary
breeding) solely for the study of animal
promoting schemes of cattle improvement.

(i) Diseases of Live Stock and their

104. Details of the department's
given elsewhere in this report.

2. GENERAL REMARKS.

105. The reorganisation of the de-
well as the training of young officers are b-
with a minimum amount of interference t-
work. Only three of the five divisional
yet been opened; it is hoped, however,
possible to provide for a separate office a-
the near future.

In these days, when the department's
rapidly expanding, the present strengt-
makes it extremely difficult to spare men
going courses of training. The lack of sui-
sion is regrettable as such courses are esser-
efficiency of a technical department.

As usual, Commissioner's and Deputy Com-
sanads were awarded to zamindars in the d-
tricts for special help rendered to the dep-

The Director wishes to record his appreciation of the assistance received from all officers of the department. The names of the following Deputy Superintendents deserve special mention for their good work :—

- (1) Deputy Superintendent Khan Sabib M. Talib Khan, Rawalpindi Division ;
- (2) Deputy Superintendent Khawaja Ghulam Hasan, Lahore Division ;
- (3) Deputy Superintendent M. Mohammad Abdullah, Jullundur Division ; and
- (4) Deputy Superintendent S. Khidmat Singh, Rohtak District.

The expansion of the department's activities has added very considerably to the clerical work, particularly of the headquarters office. The able assistance rendered by Office Superintendent Lala Ram Bhattan is gratefully acknowledged.

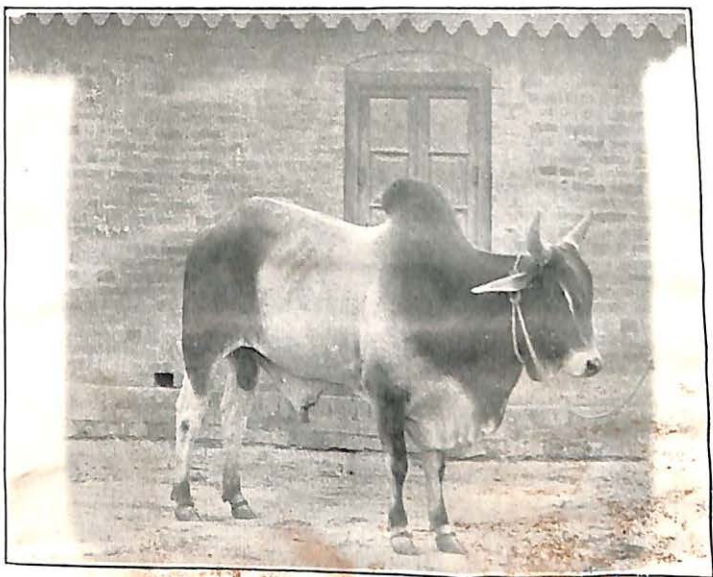
The Director also wishes to thank district officers for the assistance rendered to the staff of this department in the course of their duties.

T. F. QUIRKE,

Director, Veterinary Services, Punjab.

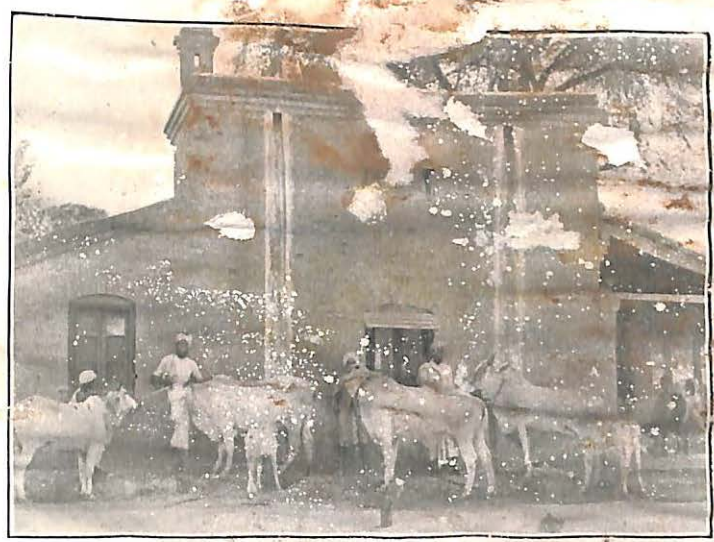


REMA



Average Malwa Type of Bull taken at Moga, District Ferozepore.

, Veter



Group of Cows of Malwa Breed taken at Moga, District Ferozepore.

TABLE II.

SHOWING NUMBER OF DEATHS FROM CONTAGIOUS DISEASES AMONGST ANIMALS DURING THE YEAR 1929-30.

1	EQUINES.							BOVINES.							OTHERS.							REMARKS.					
	Glanders.	Anthrax.	Stru.	Dourine.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth disease.	Haemorrhagic septicaemia.	Black quarter.	Anthrax.	Other contagious diseases.	Total.	Rinderpest.	Foot and mouth disease.	Contagious pneumo pneumonia.	Mangé.	Gillar.	Rabies.	Goat pox.	Haemorrhagic septicaemia.		Black quarter.	Liver flukes.	Influenza.	Other contagious diseases.	Total.
Government cattle Farm, Hissar.	28	(a) 2	(b) 2	5	...	(c) 1	38	...	...	...	...	...	...	3	...	...	...	...	...	3	(a) Debility owing to foot and mouth disease.
Total for 1929-30	23	2	2	5	...	1	38	...	...	...	...	...	...	3	...	...	...	...	...	3	(b) They were suspected cases.
Total for 1928-29	2	5	18	17	2	...	44	...	4	...	...	...	...	...	...	...	...	...	(d) 36	40	(d) Contagious apthra.
Total for 1927-28	4	9	20	53	...	(e) 4	95	...	18	...	...	...	...	...	...	...	...	...	...	18	(e) Naval ill.

11:

TABLE IV.

SHOWING THE NUMBER OF ANIMALS TREATED AND CASTRATED

DISTRICT.	Number of villages visited.	Number of Veterinary Assistants employed.	CASTRATIONS PERFORMED.			
			Equines.	Bovines.	Others.	Total.
1	2	3	4	5	6	7
Hissar	1,779	11	10	11,011	5,953	16,974
Rohtak	2,056	15	35	9,898	879	10,812
Gurgaon	2,532	13	19	8,270	1,204	9,493
Karnal	1,649	12	8	9,677	597	10,282
Ambala	1,296	8	12	2,914	608	3,534
Simla	534	4	10	344	624	978
Kangra	1,483	13	112	4,789	1,982	6,883
Hoshiarpore	1,601	10	12	5,801	898	6,711
Jullundur	1,140	9	..	3,586	523	4,109
Ludhiana	1,266	10	..	4,617	897	5,514
Ferozepore	1,576	12	24	5,789	2,049	7,862
Lahore	1,175	14	21	4,042	1,015	5,078
Amritsar	1,351	13	1	2,794	229	3,024
Gurdaspur	916	10	2	2,813	466	3,281
Sialkot	3,183	10	12	2,843	395	3,250
Gujranwala	774	9	8	4,835	392	5,235
Sheikhupura	1,124	14	15	2,981	1,022	4,018
Gujrat	891	9	27	2,123	411	2,561
Shahpur	1,638	12	31	2,548	2,336	4,915
Jhelum	1,969	11	88	3,432	551	4,071
Rawalpindi	1,768	10	4	2,855	283	3,142
Attock	1,947	9	34	3,415	1,078	4,527
Mianwali	1,114	12	39	3,123	2,068	5,230
Montgomery	1,337	9	106	5,111	824	6,041
Lyallpur	1,635	15	34	5,980	1,550	7,564
Jhang	1,029	10	15	6,422	76	6,513
Multan	1,318	12	92	7,779	1,087	8,958
Muzaffargarh	949	8	23	9,786	794	10,603
Dera Ghazi Khan	699	7	51	6,267	1,533	7,851
Total	41,779	311	845	145,845	32,324	179,014
Total of 1928-29	35,589	296	1,042	140,119	29,263	170,424
Total of 1927-28	34,048	277	962	117,913	24,447	143,322

IV.

BY VETERINARY ASSISTANTS ON TOUR DURING 1929-30.

TREATED FOR CONTAGIOUS DISEASES.				TREATED FOR NON-CONTAGIOUS DISEASES.				Total No. of cases treated and castrations performed.
Equines.	Bovines.	Others.	Total.	Equines.	Bovines.	Others.	Total.	
8	9	10	11	12	13	14	15	16
121	4,855	1,447	6,423	588	7,786	5,073	13,447	36,844
27	3,136	69	3,232	225	4,321	348	4,894	18,938
27	3,944	52	4,023	543	6,725	729	7,997	21,513
1	7,122	62	7,185	274	5,502	283	6,059	23,526
13	5,655	81	5,749	421	4,623	65	5,109	14,392
6	283	13	302	42	1,485	288	1,815	3,095
16	15,157	4,218	19,391	846	9,276	2,869	12,991	39,265
26	4,111	109	4,246	947	3,856	603	5,406	16,363
..	4,822	10	4,832	407	3,555	91	4,053	12,994
6	4,550	62	4,618	153	5,679	537	6,369	16,501
24	4,844	4,686	9,554	540	2,692	882	4,114	21,530
18	987	151	1,156	810	2,940	514	4,264	10,498
9	2,029	31	2,069	624	4,324	354	5,302	10,395
..	2,507	57	2,564	517	3,121	133	3,771	9,616
17	3,572	68	3,657	757	5,816	127	6,700	13,607
28	959	304	1,291	955	3,382	145	4,482	11,008
104	2,604	91	2,799	1,347	5,559	406	7,312	14,129
15	1,143	19	1,177	1,253	2,118	521	3,892	7,630
29	2,448	441	2,918	1,374	2,433	1,073	4,880	12,713
23	2,799	434	3,256	1,692	3,454	512	5,658	12,986
4	1,195	37	1,236	784	1,330	498	2,612	6,990
31	4,509	936	5,476	1,318	2,817	729	4,864	14,867
26	13,518	1,423	14,967	1,709	2,892	577	5,178	25,375
76	784	72	932	1,184	3,608	722	5,514	12,487
50	3,275	124	3,449	1,807	7,829	656	10,292	21,305
8	619	69	696	1,368	4,495	849	6,712	13,921
41	6,790	565	7,396	1,838	7,205	1,080	10,123	26,477
7	5,234	123	5,364	934	3,199	783	4,916	20,883
21	2,028	101	2,150	1,191	1,584	603	3,378	13,379
774	115,479	15,855	132,108	26,448	123,606	22,650	172,104	483,826
1,026	104,861	9,097	114,984	25,221	106,451	15,994	147,666	433,074
649	100,702	10,035	111,386	17,556	79,794	11,303	108,653	363,361

SHOWING NUMBER OF ANIMALS TREATED AND CASTRATED AT VETERI-

District.	Number of Veteri- nary Dispensaries.	Number of Veteri- nary Assistants employed.	NUMBER OF IN-PATIENTS TREAT- ED DURING THE YEAR.				NUMBER OF OUT- DURING THE	
			Equines.	Bovines.	Other ani- mals.	Total.	Equines.	Bovine.
1	2	3	4	5	6	7	8	9
Hissar	10	10	282	425	60	776	3,694	16,553
Rohtak	14	14	407	1,255	59	1,721	4,076	37,162
Gurgaon	12	12	440	337	104	881	5,540	26,205
Karnal	10	10	485	739	24	1,248	2,948	16,604
Ambala	7	7	403	521	22	946	4,951	22,572
Simla	3	3	204	50	363	617	605	3,326
Kangra	12	12	295	142	49	486	7,772	14,474
Hoshiarpur	9	9	521	325	86	932	5,742	24,337
Jullundur	8	8	442	568	37	1,047	4,109	21,622
Ludhiana	7	7	424	570	134	1,128	3,573	20,874
Ferozepore	9	9	577	506	319	1,402	5,865	17,383
Lahore	11	11	500	432	10	942	8,631	17,061
Amritsar	11	11	717	635	286	1,638	9,445	26,654
Gurdaspur	10	10	380	235	133	748	7,308	17,777
Sialkot	9	9	452	176	5	633	11,395	24,819
Gujranwala	8	8	892	523	39	1,454	10,757	18,976
Sheikhupura	10	10	510	287	6	803	9,723	14,531
Gujrat	8	8	294	189	48	531	12,740	20,255
Shahpur	11	11	638	419	119	1,176	15,925	22,667
Jhelum	9	9	229	152	25	406	7,748	13,919
Rawalpindi	7	7	889	359	422	1,670	6,443	10,712
Attock	8	8	395	279	63	737	7,927	16,069
Mianwan	10	10	439	170	43	652	9,446	13,085
Montgomery	8	8	557	343	39	939	6,747	11,947
Lyallpur	15	15	626	921	59	1,606	11,742	31,218
Jhang	9	9	547	253	67	867	8,996	12,945
Multan	11	11	838	543	135	1,516	8,609	14,216
Muzaffargarh	7	7	517	348	345	1,210	7,131	13,819
Dera Ghazi Khan	7	7	478	160	78	716	9,207	9,547
Total	270	270	14,378	11,862	3,188	20,428	218,885	531,419
Total of 1928-29	258	258	14,567	11,563	2,937	20,067	209,737	488,587
Total of 1927-28	241	241	14,486	10,641	2,642	27,769	203,859	442,274

NARY HOSPITALS AND DISPENSARIES DURING THE YEAR 1929-30.

PATIENTS TREATED YEAR.		Grand total of in-patients and out-patients treated during the year.	Total number of cases supplied with medicines but not brought to Hospitals.	CASTRATIONS PERFORMED.				Receipts.	Expenditure.
Other animals.	Total.			Equines.	Bovines.	Other animals.	Total.		
10	11	12	13	14	15	16	17	18	19
10,614	30,861	31,637	9,985	79	7,581	5,122	12,782	439	16,198
4,929	46,167	47,888	4,731	62	14,853	1,446	16,361	801	26,991
4,790	36,535	37,416	5,810	141	9,654	814	10,609	105	15,720
3,152	22,794	24,042	3,042	140	4,723	616	5,479	..	39,912
4,716	32,239	33,185	15,502	178	7,749	1,292	9,219	2,605	20,728
1,709	5,730	6,347	581	12	233	236	481	12,613	10,739
10,616	32,862	33,348	51,138	326	3,042	1,477	4,845	..	19,585
4,948	35,027	35,959	1,752	107	8,087	1,190	9,384	111	11,468
4,224	29,955	31,002	1,965	25	8,804	788	9,617	357	10,252
6,862	31,309	32,437	2,174	33	6,017	474	6,524	235	18,690
7,801	31,049	32,451	2,302	147	7,134	1,834	9,115	489	26,291
13,578	39,270	40,212	1,765	86	3,768	1,015	4,869	..	13,963
8,873	39,972	41,610	729	85	4,643	193	4,921	..	22,323
2,549	27,634	28,382	615	59	4,103	476	4,638	181	10,351
2,611	38,825	39,458	2,617	61	5,370	246	5,676	..	18,507
3,137	32,870	34,324	1,111	98	5,940	284	6,322	..	15,211
2,601	26,855	27,658	3,071	34	3,492	391	3,917	..	18,572
3,066	36,061	36,592	459	1,350	7,557	255	9,162	197	7,297
8,875	47,467	48,643	2,140	172	6,330	1,628	8,130	854	19,194
3,785	25,452	25,858	899	74	3,304	348	3,726	420	10,096
4,278	21,433	23,103	487	69	3,131	13	3,213	2,536	8,988
4,660	28,656	29,393	1,265	67	3,612	42	3,721	65	10,385
8,552	31,083	31,735	1,148	138	2,041	1,161	3,340	16	13,640
2,411	21,105	22,044	1,524	109	4,223	143	4,475	46	10,275
5,227	48,187	49,793	1,665	105	6,411	643	7,169	140	23,596
4,436	26,377	27,244	1,002	54	4,611	42	4,707	94	14,156
5,657	28,482	29,909	2,080	57	3,878	216	4,157	..	21,530
7,585	28,485	29,695	1,944	78	4,001	384	4,463	59	12,584
3,871	22,625	23,341	2,158	85	3,675	411	4,171	353	17,538
155,063	905,367	934,795	125,721	4,031	157,967	23,179	185,177	22,716	475,675
130,560	828,884	857,951	94,684	3,289	138,016	19,160	160,465	21,116	534,815
118,247	484,380	792,149	109,833	3,762	112,161	12,917	128,840	28,545	503,517

TABLE VII.

RETURN OF STUD BULLS FOR THE YEAR, 1929-30.

Area.	PROPERTY OF LOCAL BODIES.					REMARKS.
	Number on 1st April 1929.	Obtained during the year.		Casualties during the year.	Balance remaining on 31st March 1930.	
		Number.	Average price paid			
1	2	3	4	5	6	7
Hissar ..	183	32	250	23	192	
Rohtak ..	376	83	250	11	448	
Gurgaon ..	643	..	..	37	606	
Karnal ..	201	59	250	9	251	
Ambala ..	93	15	250	13	95	
Kangra ..	23	40	..	1	62	
Hoshiarpur ..	145	20	250	12	153	
Jullundur ..	83	16	250	4	95	
Ludhiana ..	87	42	250	11	118	
Ferozepore ..	65	35	250	4	96	
Lahore ..	128	57	250	21	164	
Amritsar District Board.	99	20	250	6	113	
Amritsar Municipal Committee.	4	..	..	1	3	
Gurdaspur	66	12	250	7	71	
Sialkot ..	62	9	250	12	59	
Gujranwala District Board.	40	10	250	3	47	
Gujranwala Municipal Committee.	1	..	..	..	1	
Sheikhpura ..	90	18	250	5	103	
Gujrat District Board.	66	..	..	10	56	
Gujrat Municipal Committee.	1	..	..	..	1	
Shahpur ..	84	11	..	12	83	
Jhelum ..	71	10	..	24	57	
Rawalpindi ..	49	15	..	23	41	
Attock ..	59	28	..	33	54	
Mianwali ..	86	13	..	44	55	
Montgomery ..	51	30	..	9	72	
Lyallpur ..	181	14	250	9	186	
Jhang ..	21	..	250	3	18	
Multan ..	50	..	..	14	36	
Muzaffargarh ..	6	..	..	3	10	
Dera Ghazi Khan	16	7	..	3	13	
Total ..	3,130	596	..	367	3,359	
Total of 1928-29	2,926	611	..	407	3,130	
Total of 1927-28	2,501	732	..	343	2,890	

NUMBER OF HORSE AND DONKEY STALLIONS UNDER

District.	NUMBER ON 1ST APRIL 1929.				OBTAINED DURING THE YEAR.				CASUALTIES DURING THE YEAR.				BALANCE MARCH	
	Horses.		Donkeys.		Horses.		Donkeys.		Horses.		Donkeys.		Horses.	
	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.	Provincial.	District Board.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Total	21	39	68	12	2	4	4	5	1	1	3	1	22	42
Total of 1928-29	20	44	69	13	2	1	2	1	2	5	2	2	20	40
Total of 1927-28	21	45	69	12	2	3	9	2	3	4	9	1	20	46

VIII.

LOCAL BODIES, THEIR SERVICES AND PRODUCE DURING 1929-30.

ON 31st 1930.		STALLIONS ACTUALLY EMPLOYED AT STUD.				NUMBER OF MARES COVERED.				AVERAGE NUMBER OF MARES COVERED PER STALLION.			
		Donkeys.		Horses.		Horses.		Donkeys.		Horses.		Donkeys.	
Provincial.	District Board.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.	Year under report.	Previous year.
16	17	18	19	20	21	22	23	24	25	26	27	28	29
69	16	65	65	83	81	3,041	3,600	3,377	3,473	47	60	39	43
69	12	60	66	81	81	3,600	3,581	3,473	3,076	60	54.3	43	37.9
69	13	63	65	81	78	3,587	3,603	3,076	7,377	54.3	55.4	37.9	43.2

TABLE

ABSTRACT OF PARTICULARS REGARDING CATTLE

Area.	Number of Cattle Fairs and Shows held.	TOTAL NUMBER OF STOCK PRESENT.						
		Bulls.	Bullocks.	Cows.	Young stock.	Buffaloes.	Camels.	Others.
1	2	3	4	5	6	7	8	9
Hissar	8	1	156,470	1,865	..	6,012	10,011	2,468
Rohtak	4	10	68,067	2,672	..	24,130	915	5,813
Gurgaon	2	..	12,222	922	8,990	924	104	641
Hoshiarpur	3	2	731	564	327	2,248	85	2,297
Jullundur District Board	3	5	1,388	1,725	3,200	6,639	67	374
Jullundur Municipal Committee.	1	..	1,600	2,076	408	6,110	39	2,626
Ludhiana	2	102	4,338	5,719	6,718	2,500	100	4,841
Ferezepore	28	42	18,747	10,770	25,446	21,911	14,645	4,951
Lahore	5	150	1,303	1,351	1,770	3,976	185	929
Amritsar District Board ..	3	554	3,458	7,769	2,978	12,030	294	..
Amritsar Municipal Committee.	2	..	..	..	..	..	..	..
Gurdaspur	1	-1	..	70	100	40	..	..
Sialkot	7	..	..	..	..	..	..	..
Gujranwala	3	18	7,300	7,700	5,600	13,500	56	1,830
Sheikhupura	6	3	300	760	1,531	684	38	529
Sangla Small Town Committee.	2	37	220	277	44	708	5	358
Gujrat	2	446	497	384	355	323	5	..
Shahpur	2	60	139	88	98	37	6	..
Jhelum	2	241	41	391	326	19	..	103
Rawalpindi	2	68	3,987	1,627	691	113	21	358
Attock	2	307	86	698	654	..	60	504
Mianwali	2	380	463	933	538	92	244	650
Montgomery	1	208	660	386	176	599	598	1,230
Lyalpur	38	38	3,023	2,514	1,474	8,116	7,781	1,255
Jhang	1	94	121	211	152	60	229	30
Multan	1	19	38	19	68	7	15	..
Dera Ghazi Khan	6	96	378	305	294	22	..	..
Total	139	2,882	285,637	51,796	61,938	110,800	35,503	31,787
Total of 1928-29	98	2,814	195,335	39,815	56,918	92,526	32,458	30,466
Total of 1927-28	94	4,477	203,525	370,787	85,991	89,522	20,181	31,396

SHOWS HELD DURING THE YEAR 1929-30.

OF ANIMALS D.		Amount realized in fees.	Total number of animals that competed for prizes.	PRIZE-MONEY PROVIDED.				Amount actually award- ed.	Number of medals awarded.
Buffaloes.	Camels.			From Provincial Funds.	From Local Fund.	From other sources.	Total.		
13	14	15	16	17	18	19	20	21	22
..	..	50,604	..	..	..	..	..	..	..
..	..	60,825	1,172	..	3,620	..	3,620	3,620	4
..	..	1,464	172	..	264	..	264	264	..
6	39.7	88	1,934	165	..	1,382	..	1,382	529
..	..	84	4,232	279	..	1,240	..	1,240	706
7	45	88	9,022	202	..	402	..	402	402
..	..	..	3,059	519	..	1,792	..	1,792	1,792
..	..	..	69,960	1,047	..	2,860	835	3,695	3,801
..	..	..	5,777	884	30	2,038	..	2,068	2,068
..	..	..	4,027	566	..	1,092	..	1,092	1,085
..	..	..	35,070	588	..	2,594	..	2,594	2,087
..	..	..	..	30	..	100	..	100	100
..	..	..	50,619	680	..	2,140	..	2,140	1,703
..	..	..	11,923	143	..	1,100	..	1,100	524
..	..	..	1,504	..	..	600	..	600	600
..	..	..	1,771	204	..	410	..	410	316
..	..	..	384	1,087	..	1,460	..	1,460	1,460
28	80	..	124	305	..	1,300	..	1,300	1,292
32	32	107	..	259	..	1,342	..	1,342	1,092
..	..	..	472	1,441	..	698	10	708	708
28	10	..	..	2,151	..	1,100	39	1,149	1,149
..	..	..	..	1,874	..	2,909	..	2,909	2,909
40	68	..	407	641	..	1,075	..	1,075	1,075
26	29	104	691	1,049	..	2,300	..	2,300	2,300
37	61	79	17,908	796	..	1,200	..	1,200	1,200
..	..	..	..	166	..	300	..	300	300
17	32	..	122	1,095	..	900	..	900	870
..	..	..	..	..	..	..	..	37,142	33,952
..	..	..	..	..	30	36,218	894	36,521	33,351
241	396.7	550	331,809	17,515	747	32,827	2,917	36,521	33,351
..	..	..	250,488	14,735	..	38,598	1,196	39,794	36,485
..	..	..	305,199	..	..	..	..	..	..

TABLE X.

STATEMENT SHOWING THE COST OF THE CIVIL VETERINARY DEPARTMENT
DURING THE OFFICIAL YEAR 1929-30 IN THE PROVINCE
OF THE PUNJAB.

Major Heads.	AMOUNT.			
	Imperial.	Provincial.	Local.	Total.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
Direction	50,929	..	50,929
Superintendence	2,37,761	..	2,37,761
Veterinary Instruction	1,61,174	6,404	1,67,578
Subordinate Establishment	3,91,081	..	3,91,081
Hospitals and Dispensaries	93,288	4,75,675	5,68,963
Breeding Operations	4,41,160	4,95,735	9,36,895
Prizes
Fairs and Shows
Camel specialist	34,519	..	34,519
Total	14,09,912	9,77,814	23,87,726
Total of 1928-29	13,92,167	10,68,395	24,60,562
Total of 1927-28	11,44,915	10,99,952	22,44,867

TABLE XI.

(EXPENDITURE BY LOCAL BODIES)

Area.	HOSPITAL CHARGES.								Bulk.
	Stipends.	Pay of compounders and menials.	Cost of medicines and instruments.	Expenditure on buildings and repairs.	Furniture.	Contingencies.	Total.	Purchase.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Hissar	150	5,693	4,025	6,480	...	...	16,198	8,000
Rohtak	499	5,413	8,151	13,427	...	...	28,091	18,151
Gurgaon	300	6,961	4,469	2,094	333	1,884	15,720	...	
Karnal	300	5,316	4,913	19,313	302	1,108	30,912	10,000	
Ambala ... ..	...	4,287	3,178	11,927	528	815	20,728	3,750
Simla District Board ... ..	...	1,293	591	363	107	237	2,591	...
Simla Municipal Committee	660	459	652	728	...	5,809	8,148	...	
Kangra ... ..	...	5,268	...	10,309	...	4,008	19,585	5,000
Hoshiarpur	180	4,932	3,740	2,287	183	327	11,468	4,741	
Jullundur District Board...	400	5,550	3,179	815	...	708	10,252	5,000	
Ludhiana ... ..	...	4,371	4,033	9,687	207	492	18,690	7,928
Ferozepur ... ..	...	4,862	4,788	16,539	...	4,890	26,291	5,273
Lahore	136	7,255	4,783	1,935	...	...	13,993	5,000
Amritsar District Board ...	347	5,191	4,697	7,811	32	634	17,815	...	
Amritsar Municipal Com- mittee.	...	1,480	1,443	398	10	1,167	4,508	...	
Gurdaspur	154	4,772	3,055	1,858	...	666	10,351	3,000	
Sialkot	240	4,562	2,084	19,841	233	788	18,507	2,250	
Gujranwala	269	4,819	2,952	6,495	186	799	16,211	2,500	
Sheikhupura ... ..	...	6,439	4,628	7,507	...	...	18,572	4,500
Sangla Small Town Com- mittee.	...	...	...	...	...	...	...	...
Gujrat	195	3,558	2,558	323	202	658	7,297	...	
Shahpur	300	5,232	...	8,081	...	5,878	19,194	...	
Jhelum ... ..	...	4,702	3,032	1,901	83	373	10,094	12,372
Rawalpindi ... ..	...	3,675	...	1,098	...	4,210	8,983	...
Attock ... ..	...	3,434	1,557	3,838	104	1,452	10,365	...
Janwall	516	5,212	4,015	3,553	424	406	13,640	...	
Montgomery ... ..	...	4,461	2,916	2,196	194	478	10,275	3,000
Multan ... ..	...	5,556	...	10,014	...	5,660	21,630	...
Lyalpur	720	11,144	6,070	1,284	1,035	4,063	23,598	3,572	
Jhang ... ..	...	5,407	3,362	4,662	331	594	14,156	864
Muzaffargarh	660	4,639	...	5,784	...	2,161	13,584	...	
Dera Ghazi Khan	288	3,676	2,885	10,977	...	...	17,538	...
Total	6,404	1,50,232	86,304	1,84,537	4,447	50,155	4,76,675	1,04,999	
Total of 1928-29	5,277	1,42,263	86,353	2,54,466	4,801	46,932	5,34,815	1,09,461	
Total of 1927-28	5,064	1,29,115	97,704	2,29,675	4,348	42,675	5,03,517	1,30,728	

XI.

AS SUPPLIED BY DISTRICTS FOR THE YEAR 1929-30.

OPERATIONS.					FAIRS AND SHOWS.					Grand total of columns 2, 8, 15 and 20.
Horses and ponies.		Donkeys.		Total.	Horse fair.		Cattle fair.		Total.	
Purchase.	Up-keep.	Purchase.	Up-keep.		Prizes.	Contingencies.	Prizes.	Contingencies.		
11	12	13	14	15	16	17	18	19	20	21
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
...	3,854	...	1,924	14,711	...	...	...	15,143	15,143	46,233
...	5,383	401	666	32,585	...	...	3,320	13,709	17,419	77,494
...	2,043	...	2,531	5,260	...	...	264	999	1,263	22,543
...	2,000	...	2,476	20,419	...	...	...	...	...	30,787
...	1,015	...	1,931	10,059	...	...	...	...	...	2,551
...	...	...	...	...	...	...	...	...	...	6,808
...	...	...	...	...	...	...	...	...	...	21,575
...	538	...	1,257	1,490	...	...	...	...	...	21,054
...	749	...	971	8,026	144	355	529	354	3,857	22,302
...	1,572	...	1,046	7,693	...	...	1,108	2,749	3,169	33,038
...	2,758	...	4,419	13,079	...	...	1,792	377	17,531	58,621
...	1,000	...	...	14,799	...	...	3,801	13,780	10,957	38,393
...	4,868	...	...	13,337	2,077	6,803	2,077	6,814	7,865	38,341
...	8,064	...	...	12,334	466	...	1,085	170	2,647	7,158
...	6,865	...	...	3	400	40	2,087	...	...	100
...	...	...	...	...	...	...	100	...	12,152	38,826
...	4,348	...	2,468	10,069	...	...	1,703	10,449	3,796	24,963
1,002	1,848	...	934	7,127	...	...	524	3,972	2,496	24,743
...	2,507	...	207	5,586	...	...	800	1,511	410	410
1,500	6,100	350	684	13,075	355	...	316	...	...	...
...	...	...	...	...	94	...	...	...	...	...
...	1,533	...	286	5,760	200	788	1,460	588	3,028	14,297
...	4,669	...	1,424	10,250	243	...	1,292	5,712	7,247	37,000
...	1,219	...	1,075	14,971	...	...	1,023	307	1,309	26,466
1,300	5,148	...	170	19,269	400	2,847	698	500	4,445	32,697
...	3,566	...	2,048	25,517	119	...	1,100	1,998	3,215	37,117
...	2,290	...	2,556	22,657	1,096	204	2,909	1,440	5,739	42,555
...	6,281	...	901	10,272	660	2,810	1,075	...	4,555	25,082
...	5,743	...	992	6,459	...	...	800	...	450	28,452
...	9,307	...	...	13,226	200	3,600	2,300	14,418	20,698	58,760
...	388	...	520	3,814	485	3,462	1,200	1,151	6,293	24,068
...	4,782	...	...	5,548	1,940	1,314	870	1,256	1,256	30,048
...	4,366	1,653	397	9,867	...	...	...	...	4,124	31,797
7,760	1,09,393	2,604	31,704	3,34,190	8,899	32,459	33,903	96,185	1,61,545	9,77,814
9,695	1,19,166	983	35,581	3,48,542	5,374	26,406	33,351	1,16,630	1,81,761	10,68,395
9,505	1,23,820	4,818	36,705	3,94,936	3,402	62,762	34,935	1,12,580	2,46,435	10,99,953

TABLE XIII.

BREEDING RESULTS AT THE GOVERNMENT CATTLE FARM HISSAR, FOR THE YEAR 1929-30

Class.	Average No. of— (1) Cows. (2) Mares. (3) Ewes. (4) Goats. present during the year.	Total No. of births.	Percentage.	PREVIOUS 2 YEARS.						REMARKS.
				1927-28.			1928-29.			
				Average No. of— (1) Cows. (2) Mares. (3) Ewes. (4) Goats. present during the year.	Total No. of births.	Percentage.	Average No. of— (1) Cows. (2) Mares. (3) Ewes. (4) Goats. present during the year.	Total No. of births.	Percentage.	
1	2	3	4	5	6	7	8	9	10	11
Cattle Breeding ..	1,966	957	48.68	1,700	1,274	74.94	1,873	1,190	63.53	
Mule Breeding ..	..	1	..	..	7	..	..	4	..	
Donkey Breeding ..	76	31	40.79	83	40	48.19	82	40	48.78	
Sheep Breeding ..	538	491	78.44	521	321	61.61	527	696	100%	
Arab Breeding ..	13	10	76.92	13	11	84.61	13	8	61.53	
Goat Breeding ..	58	100	89.66	..	..	..	52	104	92.3	

Mule Breeding has since been abolished. 58 Ewes lambed twice during the year and 5 gave twins during the year and 3 ewes lambed twice during the year and gave one lamb at one time and 2 at the second time. 21 goats gave birth to twins during the year. 5 goats gave birth to 3 kids each during the year. 2 goats kidded twice during the year.

TABLE XIV.

SHOWING MAIN RESULTS OF THE WORKING OF THE HISSAR CATTLE
FARM DURING THE OFFICIAL YEAR 1929-30.

Particulars.	Amount.	Previous year's figures.
A.		
<i>Receipts.</i>		
	Rs. A. P.	Rs. A. P.
Sale of animals (exclusive of concessions to local bodies)	1,49,374 8 6	1,26,941 4 0
Miscellaneous receipts	39,368 2 6	50,512 10 6
Public Works Department receipts on account of house rent	1,200 0 0	1,140 3 0
<i>Deduct—Refunds</i> .. .. .	..	..
Total ..	(a)1,89,942 11 0	1,78,594 1 6
B.		
<i>Concessions allowed to Local Bodies.</i>		
Bulls	88,050 0 0	87,650 0 0
Donkeys	5,400 0 0	2,100 0 0
Sheep	1,600 0 0	437 0 0
Arab stallions and horse colts	1,000 0 0	2,675 10 0
Miscellaneous bulls to agricultural farms .. .. .	..	400 0 0
Goats (to Punjab Veterinary College)	20 0 0	..
Total ..	96,070 0 0	93,262 10 0
Total A and B ..	2,86,012 11 0	2,71,856 11 6

(a) Excludes Rs. 246 on account of recoveries for service payments.

TABLE XIV—CONCLUDED.

Particulars.	Amount.			Pr fi
	Rs.	A.	P.	
<i>Expenditure.</i>				
Salary of officers	(a)35,530	1	0	29,9
Salary of subordinate staff	(b)98,584	9	0	87,9
Travelling and conveyance allowance	(c)7,038	13	0	4,1
<i>Contingencies and Supplies and Services.</i>				
A. Feed of animals (inclusive of reserve fodder)	48,722	4	0	45,6
B. Purchase of animals	16,154	2	0	29,56
C. Other heads	(d)99,718	4	0	88,86
Stationery and printing	572	5	7	13
Expenditure on buildings through the Public Works Department	29,152	10	0	27,47
Total	3,35,473	0	7	3,13,707
Capital on the 1st day of the year	21,69,727	10	10	20,12,692
Capital at the end of the year	21,41,640	9	5	21,69,727
1. Valuation of animals	8,26,116	4	0	7,75,612
2. Valuation of grain	10,167	5	3	17,401
3. Valuation of fodder	1,37,836	11	5	2,07,476
4. Valuation of machinery, medicines, dead stock articles, stationery, etc.	1,77,595	9	0	1,64,206
5. Valuation of buildings	5,50,742	0	0	5,39,096

(a) Includes Rs. 438-1-0 on account of house rent allowance paid to the D. Superintendent (Fodder) and pay of officers under training.

(b) Includes Rs. 300 on account of compensatory allowance and Rs. 431-8-0 on account of grain compensation allowance and travelling allowances of officers under training.

(c) Includes Rs. 1,161-5-0 on account of motor-car allowance to the Assistant Superintendents, and excludes Rs. 14-8-0 on account of expenditure under "47—Miscellaneous Charges for Treatment of Patients at the Pasteur Institute, Kasauli."

(d) Excludes expenditure on stores purchased from foreign countries and met out of the budget placed at the disposal of the High Commissioner for India and the books met from "47—Miscellaneous—Purchase of Books and Periodicals."

UNJAB
SRATIONS OF THE
EPARTMENT

4





