II. WALLACEVILLE VETERINARY LABORATORY.

REPORT OF C. S. M. HOPKIRK, B.V.Sc., OFFICER IN CHARGE.

The work for the year ended 31st March last shows a great increase, particularly in examination of milk-samples for diagnosis of mastitis. There has been no corresponding increase in staff, however, thus making the work of those engaged much more difficult. It has been the aim of all to keep up the investigational work in spite of the increase of diagnostic work, but it would appear that very shortly there will have to be a definite rearrangement of work. There are so many diseases which require some attention beyond that already given—notably mastitis, contagious abortion, and so-called eclampsia of cattle, parasitic gastro-enteritis, rye-grass staggers, enzootic icterus, and nutritional problems in sheep, and coccidiosis of poultry—that it seems a matter of urgency for an increase of staff or a rearrangement of staff in the Live-stock Division for investigational purposes.

Specimens received.

The specimens received during the year for examination at Wallaceville and the branch laboratories at Hamilton and New Plymouth respectively may be classified in the following way:—

	Wallaceville.	Hamilton.	New Plymouth.
Milk-samples for mastitis	9,070	20,093	4,038
Whey-samples for agglutination test for contagious abortion	..	774	..
Blood-samples for agglutination test for contagious abortion	2,884	385	363
Tumours, miscellaneous	91	..	..
Cattle specimens	378	165 (semen-samples)	234 (sterility)
Sheep	331	..	..
Swine, general	208	..	..
Swine, muscle for trichina	19,625	..	..
Horses	25	..	..
Poultry	63	..	..
Dogs	10	..	..
Miscellaneous (disinfectants, &c.)	38	..	11
Totals	32,953	20,417	4,666

The large numbers of milk-samples which have been put through the Hamilton Laboratory, together with the help given to the Field Research Officer, Mr. Blake, has more than justified the creation of that branch.

CATTLE DISEASES.

Mastitis of Dairy Cows.

A very great deal of work has been done by the three laboratories on mastitis in the effort to show that this disease can be controlled by microscopical examination of milk-samples from each cow, and by the grouping of cows into affected, slightly affected, and acutely infected cows, for milking purposes. All A group (clean cows) are milked first, B and C groups being milked afterwards. This control scheme is an extension of the field experimental work performed last year by Mr. Blake in the Waikato. In that district a number of herds are under Mr. Blake's personal supervision, while others in a number of districts throughout New Zealand have been placed under supervision of other field officers of the Live-stock Division. The monthly examination of all cows' milks in these herds has greatly increased each officer's work. For the first season the herds under supervision are considered to be in a process of culling of infected animals, and it has left many herds with only very few cows in the A group. By placing incoming heifers in the second season in A group it is hoped to protect them very markedly from inflammatory conditions of the udder.

An extension of the control scheme is contemplated by co-operation with the Herd-testing Federation, and it is probable that this will take effect experimentally in one district only for the first season. Although it is difficult to obtain figures of value from the scheme as far as it has gone, by taking a group of over 1,000 cows and watching the examination of these month by month, a certain fluctuation of the disease may be noted, as shown in the following table:—

Month.	Wallaceville.			New Plymouth.		
	A.	B.	C.	A.	B.	C.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
September	..	..	..	46·5	35·4	18·1
October	47·7	38·1	14·2	50·3	33·9	15·8
November	63·2	30·0	6·8	53·1	40·6	6·3
December	56·7	31·8	13·5	50·7	45·6	3·7
January	55·4	36·7	7·6	56·7	39·1	4·2
February	52·6	42·2	5·2	52·7	44·2	3·1
March	43·4	42·6	14·0	59·8	33·1	7·3

It will be seen that in the flush of milk in November there is inclined to be a great number of A group cows as compared with B plus C, while in the calving and drying-off periods there is an increase in mastitis of the acute type.

It may be noted that this report refrains from calling the disease streptococcic mastitis as in former years. Cultural work as far as it has gone tends to show that leucocyte numbers upon which the grouping is based are certainly correlated with organisms, but that those organisms in carefully collected samples are micrococci, occasionally staphylococci, but not frequently streptococci. Streptococci do appear more frequently in acute C group cases. This phase of the work is the one now being pushed forward.