

VETERINARY LABORATORY, WALLACEVILLE, YEAR ENDING
31ST MARCH, 1938.

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

The year has been a busy one, resulting from increase in diagnostic service, from addition of new staff, and from the visit to the country of Dr. G. J. Hucker, of the New York State Agricultural Experiment Station, Geneva, New York, and Professor John Hammond, of Cambridge University, England. As was stated in the last annual report, there had been an appropriation from public funds for the building of a new laboratory. Plans for this building are now completed, but at the close of the year tenders had not been called, and the building will therefore not be ready for occupation for another year. During part of that time the Officer in Charge has been provided with facilities to travel abroad, visiting South Africa, Great Britain, the Continent, and the United States of America, and during this period the Laboratory will be in the charge of Mr. L. W. N. Fitch.

In making this report I should like to acknowledge with gratitude the excellent work carried out in their respective spheres by the whole of the staff of the Institute.

Mr. J. F. Filmer, B.V.Sc., was appointed Veterinary Research Officer and is working on mineral deficiencies of stock.

Mr. M. B. Buddle, B.V.Sc., was appointed Diagnostic Officer.

Mr. T. K. Ewer, B.V.Sc., was appointed Veterinary Research Officer and is at present stationed at Ashburton carrying out a survey of sheep diseases in Canterbury.

CATTLE DISEASES.

Mastitis.—The visit of Dr. G. J. Hucker, from the New York Agricultural Experiment Station, stimulated fresh interest in mastitis. Dr. Hucker spent five months in the country and did much to make the farmer mastitis-conscious. As a result of the visit trials of brom-thymol-blue testing were carried out, as against the plate method, leucocyte assessment, potentiometer, and udder palpation, and the brom-thymol-blue test was found sufficiently reliable to put into the hands of farmers as a field test for diseased udders. The brom-thymol-blue test gives no indication of the type of organism responsible, but picks out those quarters showing an alkaline reaction. The test is being applied widely by the herd-testing association through its testing officers.

Twenty-two heifers were obtained and were calved at Wallaceville and added to the small herd of older cows already in milk. Heifers were milked first. Three heifers were discarded, one for contagious abortion, a second for tuberculosis, and a third which gave too little milk to be worth keeping in the herd. During the whole milking-season there have been weekly tests of the milk by leucocyte assessment and by blood-agar shake-plates. The milk-production of the heifers has also been recorded.

In the nineteen heifers from September to March eight quarters developed streptococcal and six staphylococcal infections. Four heifers had two quarters, six had one quarter, and nine had no quarters affected. Two quarters only gave clinical evidence of mastitis.

By comparison with plate-culture methods the consistent results of examination of quarters by the leucocyte assessment might be stressed. Finally, the amount of staphylococcic mastitis compared with streptococcic should not be overlooked.

All heifers suffered severely from cow-pox during the spring, and it is possible that some of the infection of quarters came from that source.

Cultural tests of cow-pox lesions showed the presence of large numbers of *Staphylococci*, but, more interesting, large numbers of *Streptococci*, which appeared in all cultural tests to be similar to mastitis *Streptococci*. However, more work is required on this aspect of the problem.

The work of the mastitis-control scheme has gone forward, the numbers of Gisborne suppliers having been increased. It is of interest to report that ten of the control-scheme herds investigated by Mr. Ward, Technical Officer to the Dairy Board, have shown that in daughter-dam pairs, where the daughter is affected with mastitis the dam is very frequently affected, sufficiently so to indicate a genetical influence. This work has been made possible by the records gathered over five or more years under the mastitis-control scheme by Mr. A. E. Kidd.

Sterility : Artificial Insemination.—Mr. T. A. Blake has continued his work on artificial insemination of cows at Ruakura. The percentage of cows holding to first service by artificial insemination and natural service are quoted :—

Bull.			Artificial Insemination.		Natural Service.	
1	..	..	36 per cent. on 30 cows	..	52 per cent. on 42 cows.	
2	..	..	50 per cent. on 18 cows	..	58 per cent. on 20 cows.	
3	..	..	22 per cent. on 9 cows	..	44 per cent. on 26 cows.	
4	..	..	20 per cent. on 5 cows	..	77 per cent. on 27 cows.	
5	..	..	75 per cent. on 4 cows	..	36 per cent. on 11 cows.	