

BIOLOGICAL TEST OF MILK FOR BOVINE TUBERCULOSIS.

Unfortunately, mortality of guinea-pigs did not enable the usual number of milks to be put through, but 265 from numerous town supplies were inoculated without sign of tuberculosis. In fifty-three *post mortems* evidence of Br. abortus infection was obtained.

Because of the large numbers of pigs showing tuberculosis, it was decided to test whey samples biologically the samples being obtained from the factory whey-tanks before being carted out to pig farms. Seventy-seven such samples were collected. They were inoculated each into two guinea-pigs, one to be killed at six weeks and the other at three months. After centrifugalization the whey deposit, diluted with saline because of the acidity, was used for inoculation. Inoculated guinea-pigs on *post mortem* examination were found to be free from both Br. abortus and tubercle bacillus infections. One case was found subsequently from the seventy-seven samples collected.

A start is being made on biological test of skimmed milk samples from farms where pigs are showing an unusual amount of tuberculosis and where home-separation is carried out.

MASTITIS.

The attention paid to mastitis in recent years had to be curtailed to a large extent in 1935 owing to lack of staff. This did not, however, interfere with the activities of the Hamilton and Wallaceville Laboratories in their examination of samples for the mammitis-control scheme. It will be noted from the table of specimens that the farmer is alive to the advantages of the scheme. In the group of cows examined at Wallaceville, the increase in A group and the decrease in C group is remarkably good, while at Hamilton the groups have not quite held their own. These figures are, however, only surface figures and mean very little. They give some indication of the state of the herds from month to month. It is hoped that the true position will be traced statistically during the coming winter after five years' work.

The work of Mr. A. E. Kidd at Hamilton, the constant examination of many thousand samples and the interest which he engenders in farmers in the scheme, is to be commended.

It is interesting to note that several factories in the North Island now examine milks of suppliers by the leucocyte-assessment method. These factories employ assistants who are becoming trained in the work.

Mr. T. A. Blake has again supervised mastitis control in some three herds, and has shown that the number of normal cows is still high, though not quite as good as after the original culling in 1930. However, the owners are very pleased with the success of the work, and their heifers offer a marked contrast in freedom from mastitis to those where no care is taken with the herd.

Treatment of cows with azamine, entozon, and chlorine has been fairly successful in the hands of Mr. Blake, and it would seem advisable to encourage local treatment of the mammary gland with recognized drugs.

STERILITY IN CATTLE.

Mr. Blake in a report on his activities in the Waikato stresses the large number of bulls to be found in dairy herds showing a poor sperm morphology. He reports that he examined ninety-four bulls, five stallions, and one boar during the year with results as follows:—

	Bulls.	Stallions.	Boar.
Good or fairly good	23	1	..
Fair	31	1	..
Poor	18	1	..
Bad	12	2	1
Sterile	10	..	..

Only five of the first group of good bulls were actually first-class, and they were putting 80 per cent. of cows in calf at the first service.

The herd histories of some of the bulls examined have been obtained with the following result:—

Sperm Morphology.	Number of Bulls.	Average per Cent. Success First Service.	Average Number Cows served.
Good or fairly good	10	68	34
Fair	13	48	40
Poor	8	43	24
Bad	5	35	33
Sterile	10	Nil	30

Mr. Blake expresses the opinion that the condition of bulls is due to infection and not diet deficiency. He has been unable to substantiate this by cultural tests, mainly because of lack of assistance. Mucus from cervixes of thirteen cows yielded a Streptococcus in seven instances, while out of twenty-one semen samples Streptococcus was found in three cases only.

No further work has been attempted on the position of the cow in temporary sterility.

During September and October an attempt was made by Mr. T. A. Blake, herd-testing officers, and myself to use a bull provided by the New Zealand Herd-testing Association for artificial insemination of cows in the Waikato. Unfortunately the bull was found to have a very poor sperm morphology and actually the scheme was of too ambitious a nature. Other bulls had to be utilized, but again several were bulls graded as poor by sperm examination and results on the whole confirmed that examination.

Results of the attempt were as follows: Bull "Ngahiwi," 15 per cent. cows held of 192 inseminated; bull "Colin," 50 per cent. cows held of 10 inseminated; bull "Gold Fortune," 100 per cent. cows held of 2 inseminated; Candy's bull, 33 per cent. cows held of 82 inseminated; Wyllie's bull, 59 per cent. cows held of 22 inseminated; Allen's bull, 20 per cent. cows held of 15 inseminated.