

This shows that of 66 cows artificially inseminated 39 per cent. held, while of 126 cows naturally served 53 per cent. held to the first service. Mr. Blake considers that he might have got better results if he had used liquid paraffin to prevent contact of the spermatozoa with the glassware.

Examination of Semen of Bulls.—Mr. T. A. Blake classified 65 bulls by semen examinations as: Good, 14; fair, 16; poor, 25; bad, 8; sterile, 2.

To date Mr. Blake has examined 1,170 bulls, 13 stallions, 16 boars, and 5 rams, and an attempt is being made to classify the results.

Trichomoniasis.—A sharp watch is being kept for further cases of this disease. All field and abattoir veterinarians have been instructed by the Director of the Live-stock Division to forward suspicious material to Wallaceville for confirmation. A fair number of samples have been received, but no further cases have been detected at Wallaceville.

Mr. Blake records a second herd affected in the Waikato.

In addition to material examined at Wallaceville, Mr. Blake has examined several specimens of pus from herds and from meat-works' cows, but has not demonstrated the *Trichomonad* in any of them. He records the presence of very small protozoan parasites in the semen of a sterile bull, and this observation was confirmed at Wallaceville. The parasites were morphologically similar to *Trichomonas bovis*, but much smaller. They were not found when the bull was examined on two subsequent occasions, and the significance of their presence is not known.

Bull-feeding Experiment.—An experiment has been started at Ruakura to test the effect of diet on bull-fertility. Four groups of six young bull calves, as closely matched as possible for weight, are to be maintained on the following types of diets: (1) High protein; (2) high carbohydrate; (3) stall fed on high concentrate-containing ration; (4) grass fed control—*i.e.*, normal method of bull feeding in New Zealand.

Grass Staggers and Milk-fever.—Losses attributed to milk-fever and grass staggers were somewhat severe in the Waikato this year. Mr. Marshall has continued his observation on the use of dolomite in ensilage and considers it fair to conclude from the results of three seasons' work that dolomite has been of considerable value in preventing grass tetany. Dolomite was fed in ensilage to cattle on twelve farms where grass tetany is usually experienced. On eleven of these no cases of grass tetany occurred, but on the twelfth farm four cows were lost. On two farms only did milk-fever occur, and Mr. Marshall considers that dolomite feeding checks the development of this condition also.

Johne's Disease.—Semi-annual tests are now being conducted on thirty-five herds. A total of 2,956 cows were tested this year with 131, or 3½ per cent., reactors. Material from the majority of these cases was examined at the Laboratory in an endeavour to check them by the demonstration of typical bacilli.

Ragwort.—A heifer has been stall fed for some eighteen months during which it has consumed daily an average of 1 lb. of ragwort in the rosette stage. The cow showed no ill effect, however, until she received regular doses of ragwort infusion. She then commenced to lose condition. After three months she was turned out to pasture, and is now being kept under observation.

SHEEP DISEASES.

Photosensitivity.—An early watch is being made to determine whether livers of lambs will show any damage which might indicate the possible future occurrence of facial eczema. During the later part of February and March a number of cases of facial eczema were reported, and the position in the Waikato became serious following rains at the end of March accompanied by warm conditions.

The importance of this condition is now well realized, and a committee composed of representatives of the Veterinary Laboratory, Wallaceville, the Chemical Laboratory, the Department of Agriculture, and the Department of Scientific and Industrial Research, under the chairmanship of Mr. J. F. Filmer, has been formed to investigate the disease during the forthcoming year. Methods of combating the disease are to be tested in addition to investigations of a fundamental nature aiming to elucidate more fully the aetiology of the condition.

Canterbury Sheep Survey.—Mr. T. K. Ewer, B.V.Sc., H.D.A., has been temporarily transferred to Canterbury to investigate with Mr. G. K. L. Knott, M.R.C.V.S., the underlying causes of lamb-mortality in this province. Mr. R. L. Jones has been sent to Christchurch to assist by carrying out routine parasitological examinations. Indications so far are that parasitic infestations are heavy—the main pathogenic species being *Trichostrongylus* spp., and in some cases *Haemonchus contortus*. In some cases clinical evidence of entero-toxæmia has been confirmed by laboratory methods. Entero-toxæmia has been diagnosed not only in lambs, but also in two-tooth sheep. In common with other districts, young sheep do not seem to do well under moist conditions with the grass coming away quickly. The view that this is largely due to increased water content and associated faulty digestion due to lack of incentive to cud-chewing seems to be gaining favour.

Mr. Jones made parasite counts of a number of sheep from the field and from works. In addition to the above observations a few very heavy *Ostertagia* infestations were observed. It is interesting to note that while the majority of the sheep were free from hookworms some showed a fair number. A prime lamb from one meatworks carried sixty-eight *Monodontus trigonocephalus*.

Ragwort.—Two of the four sheep mentioned in the 1936-37 report as having been fed daily 1 lb. each of rosette-stage ragwort since August, 1936, are still doing well on the same diet.

Of the other two, one died but showed no signs of ragwort cirrhosis at autopsy. The second received ragwort infusion for several days, when it was killed owing to its loss of condition. The liver showed small hæmorrhages in the vicinity of the central veins and signs of general toxic effects.