

*Ketosis in Pregnant Ewes: "Sleepy Sickness."*—Another attempt was made to test the value of the calcium-phosphate-potassium-iodide lick. Arrangements were made on six farms for sheep to have access to the lick over the latter part of the period of gestation. Control groups were also run on each farm. Owing to the favourable feed conditions at lambing-time no clinical ketosis occurred. On testing the urine for ketones just before lambing, nearly all ewes were negative, and the few showing only a very slight ketonuria were more or less evenly distributed between the lick and control groups.

At Wallaceville a small flock specially selected to contain a high percentage of twin-bearing ewes was divided into two groups, one to receive lick, the other a control. One month before lambing, both groups were placed on a low plane of nutrition in an endeavour to induce ketosis. The drop in the plane of nutrition was generally not severe enough to produce more than a comparatively mild ketonuria in animals in both groups. Only two animals in the control group developed clinical ketosis, 1 of these dying four weeks post-partum. In the lick group, 1 subclinical case recovered on lambing, 1 died before lambing, and 2 others died after lambing and after they had been removed from the lick. Although there was a slightly higher incidence of ketosis in the lick group, the fact that the feed on the control paddock was slightly better than that on the lick paddock makes any assessment of the value of the lick impossible.

At no stage in the above experiment did any of the 13 ewes bearing a single lamb show any sign of ketonuria, whereas in the 26 twin-bearing ewes all but 7 showed a ketonuria ranging from a (+) to a 4+ Rothera test. The 6 cases which developed were all ewes carrying twins.

*Foot-rot.*—In January, 1947, steps were taken to eradicate foot-rot from the Experimental Station at Manutuke. The method adopted was that successfully practised in Australia, where paddocks are kept free of sheep for a period of not less than seven days, after which only clean sheep are returned to them. All affected sheep are treated at weekly intervals and placed in a hospital paddock. After being cured they are retained in a convalescent paddock for one week before being allowed to enter the clean paddock. Should successful results be achieved at Manutuke, where conditions are particularly favourable, attempts will be made to clean up foot-rot from other more difficult areas with a view to the general adoption of the above method.

#### DAIRY COW RESEARCH

*Mastitis.*—With the collaboration of practising veterinarians, the effectiveness of intra-mammary injections of 25,000 units of penicillin on three successive days has been tested. A total of 205 quarters affected with clinical streptococcal mastitis were treated. A total of 170 (83 per cent.) showed clinical recovery, and of these the streptococcus disappeared from 143 (70 per cent.). Very poor results were obtained in cases due to staphylococcus or pyogenes.

An attempt is being made at Ruakura to evolve an effective system for controlling mastitis in New Zealand dairy herds. The cows are segregated on cultural test at calving and thereafter at eight-week intervals. Infected cows are milked last. Teat-cups are disinfected with hypochlorite between each cow at No. 1 dairy (120 cows) and between each herd in No. 2 dairy (80 cows). Teats of all cows are dipped in hypochlorite after milking. Treatment of all clinical cases immediately on detection is carried out with penicillin, except where alternative treatment is indicated diagnostically. The scheme has not been in progress long enough to assess its value, two full seasons' data being desirable before any analysis can be undertaken.

*Studies of Milking-machine Methods.*—Equipment to permit semi-automatic measurement of the weight of milk produced at each milking and its sampling for testing purposes has been designed and tested. The equipment is an integral part of the milking-machine. A high level of accuracy has been obtained, and the equipment is being manufactured for installation in all the experimental dairies of the Station. By enabling the weighing and sampling of every milking, absolute milk and fat yields will be obtained at a very