

districts. It is now believed to be a magnesium blood deficiency, and the use of magnesium sulphate hypodermically is regarded as most useful in subacute cases. Various methods of supplying magnesium in the diet to cattle are being tried.

"Foul-foot" in Cattle.—Advice regarding methods of preventing the occurrence of this condition in dairy herds has been disseminated. It is almost invariably associated with dirty and muddy conditions surrounding holding-yards, and removal of these conditions by more extensive use of concrete usually brings about improved results as far as the foot trouble is concerned. Investigation into this condition from the bacteriological aspect is desirable, with a view to establishing the most common causal organism.

Chronic Bovine Hæmaturia.—No special mention is made of this condition by field officers during the year.

Ergotism and "Fescue Poisoning."—Mr. McIlwaine, Veterinarian, Palmerston North, records having seen a number of cases with typically affected feet. This results from the practice of feeding cattle on the roadside during the winter months, where tall fescue is prevalent. Mr. McIlwaine remarks that in some instances apart from any foot lesions, cattle present a haggard appearance, with a dry, long coat which persists throughout the summer. These cases are known as "fescued" animals, and could be mistaken for tuberculous cattle.

Parasitic Disease in Young Cattle.—As mentioned in previous reports, this condition is responsible for considerable loss in young cattle. Many calves die or have their constitutions undermined by the action of internal parasites. In combating the trouble, the importance of the provision of extra nutritious feed in assisting the young animal to overcome the effects of the parasites cannot be overestimated. In this respect chaff, oats, and good hay, will do far more good than drenching with worm medicine.

SHEEP.

With much improved prices for wool and fat sheep, the sheep-farmer must be regarded as having had a satisfactory year. From the health viewpoint the seasonal conditions were unfavourable for sheep in the North Island generally. The percentage of lambs on many farms was considerably lower than usual, this being in many instances attributed to the existence of facial eczema amongst the ewes when the rams were put out. The season was not a good one for early fat lambs, and the numbers coming forward to the freezing-works in the early summer were much below the average. With an abnormal rainfall from January onwards, and prolific growth of pastures, conditions very favourable to parasitic development, it was only to be expected that losses would occur in lambs from this cause. Such losses have occurred in many districts, and the outlook for hoggets in the winter period is not too encouraging in this respect. The year under review has, however, not been marked by any very extensive outbreak of sheep disease.

Photosensitization (Facial Eczema).—No serious occurrence of this disease took place during the year. In the light of past experience its development was not expected, as the growth of feed maintained throughout the summer and into the autumn period, with not excessive temperatures, were conditions inimical to the occurrence of facial eczema. It was, however, noticed that ewes affected in the previous year's outbreak wintered badly, and in many instances had no milk when they lambed. Another point which is brought to light is the resultant liver damage in sheep which have survived an attack of facial eczema, this disturbance leading up to an unthrifty condition of the animal.

In the South Island the occurrence of facial eczema was again noticed in the Mackenzie Country. A botanical survey of the pastures showed the presence of species of hypericum, which it is considered may have some influence in the production of the disease in tussock country. Further experimental work has been arranged in this connection.

Parasitic Disease.—As stated in last year's report, the losses occasioned to sheep-farmers through parasitism of their flocks is greater than from any other cause. Seasonal conditions exert a marked contributory factor in this connection, and the high rainfall, and resulting growth of pastures, with absence of hot drying weather, of the past summer and autumn provided ideal conditions for development of parasitic larvæ. At the same time the unsuitable nature of the feed for lambs reduced their nutritional level, with the result that the lambs quickly succumb to the effects of the parasites. Mortality has already occurred, and it is probable that considerable loss of hoggets will take place during the winter months. The Live-stock Division has, by articles in the press and other means, advised sheepowners of the urgent necessity of early action in order to avoid heavy mortalities later. In attacking the problem of internal parasites of sheep, too much reliance must not be placed on the specific action of any anthelmintic agent, whilst neglecting the maintenance of the lamb's strength by the provision of extra suitable supplementary feed. In this respect the feeding of chaff, oats, and good hay will be found to produce results. The difficulty which is said to be experienced in getting hoggets to eat hay in the early winter might be overcome by educating them earlier to take it, and this has even been practised by some sheep-farmers before the lambs are weaned. The benefits of such practice are indicated in seasons when through abnormal conditions the pasture is luxuriant, and cannot be maintained in that short condition which provides the best sheep feed.

Infectious Enterotoxæmia of Lambs (Pulpy Kidney).—Reports indicate that in the Otago District the losses of lambs were rather above the average. An interesting development in connection with pulpy kidney disease of lambs has to be recorded. Trials were undertaken in Central Otago during the year, in which pregnant ewes were vaccinated with a formalinized enterotoxæmia vaccine, with the idea of a transference of immunity to the lamb through the medium of the ewe's colostrum, or first milk. The vaccine was prepared at the Wallaceville Laboratory; two doses of vaccine were given to the ewes, the first at approximately six weeks before lambing, and the second a week or ten days before lambing. In the trials a number of unvaccinated ewes were left as controls. Briefly the