

Photosensitization.—As already stated, one of the most serious outbreaks of photosensitization affected the herds and flocks in the months of April, May, and June, 1938. Although previous outbreaks had been mainly confined to sheep, this outbreak seriously affected dairy herds in many parts of the North Island, particularly the Waikato district.

The disease was not unexpected, owing to the nature of the season and the sudden autumnal flush of green feed following the advent of rain. It was not, however, anticipated that cattle, particularly dairy cows, would be affected to the extent that they were.

The dairy herds were so acutely affected in certain areas that the owners were faced with a major problem of treatment and feeding in order to save the affected animals. As it was, the serious shortage of milk, the serious amount of udder trouble, the loss and dislocation of dairy production, and the loss of animals were acutely felt. At the height of the disease much of the feed saved for winter use had to be used in an endeavour to overcome the trouble and this resulted in a serious scarcity in later months. In the Waikato district entire herds were affected with the disease; in other districts the animals were less seriously affected, and in some herds only a small percentage of animals were affected. Where owners had had some previous experience of the disease and where prompt measures were taken on the appearance of symptoms, very good results were obtained from the measures recommended. In the Wellington Province many owners had some experience of the previous outbreak in 1935 and were in a position to adopt promptly the measures recommended by departmental officers through the press, through contact, and through lectures.

A thorough investigation into the disease was decided upon by the Government, funds were provided for research purposes, and an organization was set up to prosecute research into the many phases of the disease. This organization comprises workers in all fields likely to be of assistance in elucidating the true picture of the disease. The work will cover a long term, and include much fundamental research, covering the chemical analysis of soils and pastures and the biochemical and pathological examination of specimens. Much experimental work will require to be carried out in such an investigation. This work is proceeding.

SHEEP.

The comparatively dry season was a favourable one for fat-lamb production, and better results were obtained than in the early part of the previous season. The works returns show a small decrease in the killing of lambs and an increase in the killing of mutton. A decrease in lamb killing was to be expected in the North Island works following the severe outbreak of photosensitization in sheep the previous autumn.

Photosensitization.—As already referred to in the section dealing with cattle diseases, in the months of April, May, and June, 1938, there was a very severe outbreak of this disease affecting the sheep flocks and dairy herds in many parts of the North Island. The disease was most acutely felt by farmers in the Waikato District, and this applied to both sheep-farmers and dairy-farmers.

Many sheep died or were killed in the later stages of the disease. Many recovered, but owing to various causes were not of much value for breeding-purposes. Owing to the outbreak it was generally anticipated that a lower lambing percentage would be experienced in the spring. The lambing percentage was low, and varied greatly from farm to farm. Many surviving ewes continued to die for some time after the disease had disappeared, showing the very serious nature of the internal lesions produced when the disease was at its height. Although the Waikato District had the disease in a most acute form, other districts in the North Island did not escape. In the Gisborne, Hawke's Bay, Manawatu, and in the Wanganui-Taranaki districts some flocks were very seriously affected. The Wairarapa District practically escaped without loss.

It is pleasing to record that, owing to the strict method of check inspection at the export works, no complaints were received from overseas in regard to the carcasses passed for export. Owing to yellowness of varying degree in many carcasses, either directly or indirectly due to the disease, a very careful examination of each line of sheep had to be carried out.

Fortunately, the period up to the 31st March, 1939, has remained comparatively free from the disease, although minor outbreaks in sheep have been under investigation by the research officers. Further work remains to be done, and this is being steadily pursued with a view to elucidating many baffling aspects of the underlying causes.

Lamb-mortality Survey in Canterbury.—Much useful work has been carried out during the year by Messrs. Knott and Ewer, Veterinarians, who have been investigating the cause of losses in lambs, hoggets, and sheep in the Canterbury District. For a number of years the losses in this essentially sheep-raising area have been marked, and it is hoped that the survey which has been undertaken will enable a programme of advice to be outlined which will do much to prevent and reduce losses. The information obtained and the personal contact established between the officers and the farmers by visits, lectures, demonstrations, and radio broadcasts is an indication of the extent of the diseases of sheep in this area.

Although the parasitic problem appears to cloud all other issues as a prime factor in the cause of losses, many other diseases have been known to exist in the area. Such items as enterotoxæmia (pulpy kidney), foot-rot, contagious ecthyma, contagious ophthalmia, ante-partum paralysis of ewes, milk-fever of ewes, and mastitis have themselves either accounted for losses or indirectly have lowered the animal's resistance to parasitic attack.

The parasitological investigation has included the collection of much data from lambs dying in the field and from lambs sent forward for slaughter at the works.