

using the sets at all. This disease calls for the full co-operation of every one if a reasonable measure of control is to be obtained, and, as the disease primarily concerns the stockowner, every effort should be made to assist. As a cause of herd depletion and culling and thereby increasing the cost of replacements and maintenance, the disease is of prime importance.

The research work into the disease is being directed along several lines, and with the co-operation of the farming community and the Herd-testing Association it is hoped that further valuable information will be obtained.

*Contagious Abortion.*—This disease is still prevalent on many dairy-farms, but owing to various factors the disease does not cause extreme losses. Many owners are not aware of the extent of infection in their herds, and if a small number of animals lose their calves the owners think they are dealing with a non-contagious form of the disease. This is all to the good, as in the absence of an eradication scheme, which does not appear to be very practicable under present grazing conditions, the regular occurrence of a few cases of the disease on a farm tends to keep infection alive, thus lessening the incidence of actual abortions. It is only when a blood test is applied to a herd that the real extent of the infection in the herd is revealed. Probably one of the most serious features of the disease is its bearing on subsequent breeding in the herd. There can be no doubt that a higher breeding efficiency would be obtained in abortion-free herds. On the other hand, when a storm of the disease occurs in a herd there is a serious dislocation of production in the loss of calves, loss of milk, and subsequent breeding difficulties.

The adoption of hygienic measures to prevent gross contamination of pastures will do much to prevent violent acute outbreaks of abortion. The principle of having self-maintained and self-contained herds has much to commend it in the control of this disease. Trafficking in breeding-stock, unless such stock is guaranteed free from the disease, must be looked upon as a potential source of spread of infection.

*Temporary Sterility.*—Investigations into the problem of delayed conception in dairy herds are being continued by the research officers. In the Waikato district this work is centred at the Ruakura Farm, where attention is being directed into various aspects of the problem. Particular attention is being paid to the male and female reproductive organs of animals in herds where the disease is serious, and it is hoped that the preliminary work on artificial insemination will prove useful in bringing forward new information. Such work must be continued over a period of years, as there is evidence that the condition is more serious in some seasons than in others. Field reports go to show that a herd affected one season may be free the following season, and *vice versa*. There is also some evidence to show that the general feeding of the herd during one season has a distinct bearing on the breeding efficiency of the herd the following season. More farms are affected after a very dry summer season or after a severe winter, when the cows are subjected to a period of feed scarcity. Owners of high-producing herds should feed accordingly, and should see to it that the dairy herd does not suffer from a mineral deficiency during drought or winter periods of green feed scarcity.

*Grass Staggers in Cows (Grass Tetany).*—This disease was again rather prevalent in the Waikato last spring. This was not unexpected, as owing to the severe outbreak of facial eczema in this district a few months previously many farmers had used up their winter supplies of hay and ensilage in an endeavour to combat the eczema. Consequently a supply of supplementary feed was not available to carry the cows over the critical period of a few weeks after calving. In addition, many cows were in very poor condition at the time of calving, and some losses were attributed to grass staggers when in reality the cows died from debility and difficulties in calving, owing to their weakened and emaciated condition.

It was, however, fortunate that a rather cold spring prevented a sudden flush of growth, otherwise the mortality from true grass staggers, in the absence of hay, would have been much more serious.

Although the treatment of affected animals has given some measure of success, permanent results can only be expected to follow rational lines of supplementary feeding of stock so as to prevent the mineral unbalance which appears to be the acute factor in the disease. Whether hay or ensilage will do this, or whether mineral supplements require to be added to the diet, and the nature of such mineral supplements, is being investigated. Further experimental work is being carried out from season to season as opportunity offers. Here, again, seasonal conditions influence results and delay the formation of definite conclusions.

*Milk-fever.*—The incidence of this disease would appear to have been lower in all districts affected with a feed shortage. Late-calving cows are more susceptible, owing to the spring feed and the better nutrition. An increased number of cases occurred in the Wairarapa district, where winter feed conditions were good and where practically no eczema had been reported during the previous autumn months. Hay-feeding up to the time of calving, and for a few weeks afterwards, would appear to be necessary and of value in the prevention of both milk-fever and grass staggers. A sudden flush of grass-feeding in the early spring is dangerous in regard to both diseases.

*Trichomoniasis.*—This protozoan parasite of the genital tract of dairy cows is rather difficult to demonstrate even in animals where it is suspected as being a cause of breeding-troubles. There is reason to believe, in view of investigations in other countries, that the parasite is not likely to prove a menace under our conditions of dairying. At the same time, too much reliance on overseas reports might place a false interpretation on the position, and it is therefore necessary that further investigation on infected farms be carried out. The breeding history on these farms should form a useful guide as to the necessity of further inquiry.

*Parasitic Disease in Young Cattle.*—Owing to the dry season, parasitic gastro-enteritis of calves does not appear to have been so serious as in previous years. Judicious drenching combined with a reasonable standard of feeding is being recognized as the main line of prevention. Probably the most popular drench is the nicotine-bluestone mixture in appropriate dosage.