Extensive research work into mastitis has been planned by the Department to be carried out by officers attached to the Wallaceville Laboratory, the investigation to embrace all aspects of the disease, and the conditions which might in any way appear to predispose to its occurrence. In this work full co-operation will take place with the officers of the herd-testing association, and it is anticipated that with the wide use of the brom thymol blue test during the coming season, added to the intensive inquiry which will be carried out, information will accrue which will lead to a material reduction in the losses occasioned to the dairying industry through mastitis in cows.

Contagious Abortion.—The prevalence of this disease during the year was recorded from dairying districts in more or less its usual incidence. In few instances, however, did any abortion "storms" occur on farms, the number of cows aborting on individual farms being, generally speaking, low. It is accepted that a certain degree of herd immunity now exists which tends to resist any extensive wave of actual abortion.

As pointed out in previous years, the control of abortion disease rests largely in the adoption of hygienic measures in herd-management, by maintaining replacements from heifers bred in the herd, and isolation of purchased animals at calving-time. The blood-test for the disease which is carried out free at the Department's Laboratory affords a useful indication of the extent of infection in th herd.

The result of abortion-infection in a herd cannot be regarded but as most serious, its effects on breeding often involving severe losses through sterility. In many countries various schemes of abortion-eradication have been undertaken. An attempt at control along the lines of establishing abortion-free herds in a definite area would appear to be well worth the serious attention of dairy-farmers.

Temporary Sterility.—Investigations into the problem of delayed conception in dairy herds were continued throughout the year, special attention being given to the bull as a factor in the condition. In this connection much detailed work in examination of bull's semen has been conducted by Mr. Blake in the Waikato. An experiment designed to test the effect of dietetic influence on the breeding potency of the bull, more especially regarding protein-feeding, is being carried out at Ruakura Farm, a number of young bulls being used in the experiment, which will involve a period of several seasons. As pointed out in previous years, the study of temporary sterility includes not only the bull as a factor, but also the cow in relation to the trouble. More extended investigation into the problem has been planned to be carried out in the Waikato, the staff being strengthened by the appointment at Hamilton of Mr. A. L. Thompson, who during an absence from the Dominion of eighteen months spent some time in Denmark, where he was engaged in the study of research methods into abortion and sterility of cows.

Grass Staggers in Cows (Grass Tetany).—As in previous years, the incidence of this disease, which affects dairy cows at varying intervals after calving, was mostly confined to the Waikato district. On the assumption that the condition is associated with a magnesium-deficiency in the blood, the feeding of dolomite in ensilage has been tried, and the results obtained were encouraging. In the treatment of sub-acute cases of the disease the use of magnesium sulphate hypodermically was employed with a good deal of success. As the disease would appear to be the result of an unbalance of mineral metabolism, attention is being directed to an adjustment of feed conditions during the winter and spring periods, with a view to prevention of the trouble.

Milk-fever.—The incidence of this disease was high, particularly in the Waikato, where a type not readily responding to the usual methods of treatment was very prevalent. Commenting on milk-fever, Mr. Marshall, Hamilton, remarks:—

"A common cause leading to milk-fever is the placing of cows in flush green spring feed to 'clean them out' for two to three weeks before calving. The influence of the young spring flush on the mineral metabolism is not clearly understood, but appears to be upsetting."

Trichomoniasis.—The existence of the protozoan parasite trichomonas in the genital tract of dairy cows was shown in three herds in the Waikato district, by Mr. Blake, Hamilton. Reports from Continental countries and the United States of America, where the condition exists, indicate the parasite to be responsible for early abortion and sterility, the bull being regarded as the chief means of transmission from cow to cow. Cases have also been reported from England, and here also the presence of the parasite is reported as producing metritis and abortion in cows.

The significance of this parasitic infection of the genital tract of cows and bulls cannot be overlooked, and a very careful watch has been exercised in all districts to ascertain the extent to which the condition is present. In its detection microscopic examination is made of uterine discharges from cows. The detection of the condition is, however, extremely difficult, particularly in the case of the bull.

The position regarding this parasitic infection is being carefully watched, all field officers having been instructed to immediately report any suspicious cases for investigation. Measures to prevent spread of the infection from known affected farms have been adopted, and the question of regulatory control must receive serious consideration.

Parasitic Disease in Young Cattle.—This trouble has not been so prevalent this year, the dry season favouring a reduced incidence of the disease. Reports indicate good results in calves dosed with the bluestone-nicotine-sulphate drench, but medicinal treatment of any kind is not entirely satisfactory unless supplemented by extra nourishing feed.