

Contagious Ecthyma.—A considerable amount of vaccine was prepared and issued. Results of vaccination were very good, although in one instance an outbreak occurred following vaccination. The symptoms were, however, very mild. The failure of the vaccine was attributed to the fact that it was somewhat old. Quite a good "take" had resulted from vaccination.

Salmonella Suipestifer.—At the request of Mr. D. Marshall a formalized vaccine was prepared for use on certain farms where heavy losses from this cause are experienced. Vaccination was carried out on six farms, and at the end of the year Mr. Marshall considered that the results appeared promising.

CATTLE.

Trichomoniasis.—A number of specimens of vaginal discharge and uterine pus were examined for trichomonads, but, with the exception of a few known positive cases supplied by Mr. Blake for observation, no positive diagnosis was returned. There appears to be no evidence that the condition is spreading.

Staining of trichomonads was found to be difficult and their culture was usually complicated by the presence of contaminating bacteria.

SHEEP.

Entero-toxæmia.—Contrary to usual experiences, a number of lambs are reported to have been lost from entero-toxæmia after weaning. In several cases the presence of *Cl. ovitoxicus* toxin in bowel filtrates has been demonstrated.

Following field observations that lambs on rape seemed especially prone to entero-toxæmia, an attempt was made at Wallaceville to increase the susceptibility of sheep to this condition by drenching them with steam distillates of rape prepared by the Chemistry Laboratory. The effort was unsuccessful, as also were similar attempts using various sugar solutions. In no cases were we able to cause entero-toxæmia in such sheep by drenching with cultures of *Cl. ovitoxicus*.

Photosensitivity.—Material has been examined particularly with a view to determining when and why the liver-damage occurs. Specially selected livers are being examined histologically, and an attempt is being made to reproduce the condition by inoculation and feeding of sheep with bile rich with phylloerythrin.

Blackleg in Sheep.—On two occasions *Cl. chauvoei* has been isolated from cases of blackleg in sheep. The causal agent was determined only by guinea-pig inoculation. Both cases were from the one farm, and losses were not extensive.

Enzootic Icterus.—Organs from sheep affected with enzootic icterus have been examined for copper content, and these have in several cases proved to be very high in copper, as much as 3,280 parts per million, which is at least ten times the normal value for sheep's liver. Attention has been given to the Australian theory that *Cl. Welchii* may be responsible for this condition, and in two cases fairly heavy cultures of this type of organism were obtained from the ileum. We were, however, unable to demonstrate the presence of toxin in filtrates from this part of the bowel.

Mr. Buddle is starting an experiment to investigate the possible role of copper and *Cl. Welchii* infection in enzootic icterus.

Lambs' Livers for Export.—A complaint that lambs' livers for export had deteriorated in cold storage was investigated. The livers were soft and showed extensive deposits of tyrosine crystals. It appeared that proteolytic autodigestion had occurred, and it was decided that this was probably due to a combination of circumstances, including the practice of packing the livers in tins while still hot, and storing in the cold room in large stacks in which the air-circulation was not uniform. Support to this latter suggestion was offered by the fact that affected tins appeared to be confined to the centre part of the stack.

Titration of Lambs' Sera for Pulpy-kidney Antitoxin.—A number of sera from lambs whose mothers had received the routine ante-natal injections of formalized entero-toxæmia vaccine were titrated for antitoxic content. Owing to the limited numbers of mice available it was not possible to examine a very extensive range of sera, but it was amply demonstrated that sera taken from lambs during the first three weeks contained a fairly high concentration of antibody. While it is realized that the significance of such values is purely relative, some idea may be gained from the fact that 1 c.c. of serum was capable of protecting against up to sixteen mouse lethal doses of a toxin whose average lethal dose was 0.06 mgms. Some difficulty was experienced in titrating sera of low antitoxin content. If a test dose of toxin of any magnitude was to be used the maximum amount of serum that could be injected had to be employed. This, of course, strictly limited the number of inoculations that could be made from one batch of serum, as large amounts of blood could not be taken from very young lambs.

PIGS.

Swine Erysipelas.—Three cases of chronic swine erysipelas have been reported. Two of these showed large vegetations of the atrio-ventricular valves, and *Erysipelothrix rhusiopathiae* was cultured from both these cases. In the third case, of which the heart was not seen, the skin showed extensive urticaria typical of the disease. Two further pigs' hearts were received showing marked endocarditis. Erysipelas was not found in these cases, which were probably streptococcal in origin.