

Under the conditions outlined no untoward happening has followed vaccination, nor has any harmful result followed the handling of ewes in this manner comparatively close up to lambing.

Another method has been described in Australia, where vaccination has been done inside the thigh or alternatively inside the arm; either seems unnecessarily laborious, as the sheep have to be handled individually and held up in a sitting position on the rump—an undesirable procedure in the case of ewes advanced in pregnancy.

#### CONCLUSION.

The results of the trials carried out in the 1936 season lend further support to the possibility of reducing the mortality in lambs from pulpy kidney by vaccination of the pregnant ewe. The percentage loss in the vaccinated group in 1935 was 0.24 per cent., as against 0.306 per cent. in 1936.

The percentage loss in the control group in 1935 was 7.02 per cent., as against 3.36 per cent. in 1936.

There is a slight increase in the vaccinated group of only 0.066 per cent.; the variation in the response of different individuals to vaccination may possibly account for this. The losses in the control group are considerably down; this is in keeping with the general position in the district. Losses from pulpy kidney were rather widespread during the susceptible period, but the aggregate losses were as a rule appreciably below the average. This seasonal variation in incidence is a well-recorded factor.

In as many cases as possible the diagnosis in regard to the death of the lamb has been verified, but admittedly in the field a fractional margin of error has to be allowed in this respect, as it is obviously impossible to verify the cause of death in every instance.

It appears that the dose of the vaccine prepared by the Commonwealth Serum Laboratories could be increased with advantage at each vaccination.

Colostrum and blood samples have been taken from vaccinated and control ewes. Blood samples have been taken from lambs of each group at varying intervals. These were forwarded to Wallaceville Laboratory for immunization tests. The results of this work will be published at a later date.

#### ACKNOWLEDGMENTS.

The vaccine used in the departmental experiments was prepared at the Veterinary Laboratory, Wallaceville, under Dr. Hopkirk. The vaccination work was largely done by A. L. Thompson, M.R.C.V.S., H. Doyle, M.R.C.V.S., and J. Danskin, M.R.C.V.S.

Field arrangements were made and observations kept by Messrs. J. Fleming, A. Douglas, and H. Rountree, Inspectors of Stock at Ranfurly, Lumsden, and Otautau.

Thanks are again due to those farmers in Otago and Southland who willingly co-operated with us.

---

#### REFERENCES.

- DAYUS, C. V.: "Vaccination of Ewes against Pulpy Kidney (Infectious Enterotoxæmia) in Lambs." *N.Z. Journ. of Agric.*, Vol. 52, No. 5, p. 289.
- OXER, D. T.: "The Transmission of Antitoxic Immunity from the Ewe vaccinated against Enterotoxæmia to the Lamb." *Australian Veterinary Journal*, April, 1936, page 54.
- WARDLE, R. N.: "Vaccination of Sheep." *Journal of Agriculture*, Victoria, October, 1936, page 537.