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Causes of low lambing percentages

Department of Agriculture, Western Australia

CAUSES OF LOW LAMBING PERCENTAGES

"Problem" properties needed for investigation

West Australian Merino flocks average about 70 per cent. lambs marked each year. Reasons for this low percentage are that as many as 30 per cent. of ewes do not lamb, twinning rates are low and from 10 to 25 per cent. of lambs born die.

Among the research projects by the Department of Agriculture's Sheep and Wool Branch have been a number directed at the various stages of reproduction in the ewe. These have given some important leads on the causes of low lambing percentages:

MATING: Some Merino ewes are not served during a six to eight week joining period. As many as 5 per cent. may not mate under good conditions and this percentage increases when ewes are joined early in the breeding season (November-December), when less than 2 per cent, rams are used, or when young (2-tooth) rams are used.

OVULATION RATES: At each heat period Merino ewes produce one or two eggs, occasionaly three. The average number of eggs released at each heat period in Department of Agriculture experiments has ranged from one per ewe at the start of the breeding season, 1.2 to 1.6 per ewe in February to March and, on one occasion at least 1.8 per ewe in late April—early May.

This means that if all eggs were fertilised and developed into live lambs, lambing percentages of from 100 to 180 per cent. would have been obtained.

FERTILISATION RATES: Failure of fertilisation is a common cause of low fertility. In clover disease-affected flocks it has been found that movement of sperm through the ewe's reproductive tract is retarded and the proportion of eggs fertilised has fallen below 50 per cent. Even without clover disease 20 to 30 per cent. of eggs were commonly not fertilised.

DEVELOPMENT OF THE EMBRYO: The proportion of eggs which develop into normal lambs has been investigated in a number of experiments. Usually about 90 per cent. of fertilised eggs survive. In "clover disease" ewes the figure is reduced —in one experiment it appeared that less than half survived. There are indications that high temperatures may account for for some of the variability recorded in embryo survival; this will be investigated in the coming season.

LAMB SURVIVAL: In Merino flocks, 10 to 25 per cent. of lambs born usually die. About a quarter of these die during or very soon after birth and most of the others because they do not obtain milk.

Does this apply to your flock?

The above findings have come mainly from research stations but also from some commercial flocks. Results of farm surveys support most of the observations.

The intensive studies on the separate stages of reproduction, and the detailed records of research stations and co-operating farmers, suggest that in average commercial flocks—

- From 2 to 10 per cent. of ewes do not mate.
- Only 100 to 120 eggs are released per 100 ewes that mate. A reasonable figure to aim for is 160.
- 20 to 30 per cent. of the eggs released are not fertilised; failure of fertilisation is higher in clover disease flocks.
- From 10 to 40 per cent. of fertilised eggs fail to develop successfully.
- 10 to 25 per cent. of lambs die before marking.

Detailed investigations planned by the Department of Agriculture for the next few years will concentrate on collecting information of the type outlined above from farms with severe lambing problems in clover areas.

If you have a property in the vicinity of the Boddington, Williams, Darkan, Kojonup, Dinninup districts and have marked less than 60 per cent. lambs in the past several years, please contact

The Officer-in-Charge,
Sheep and Wool Branch,
Department of Agriculture,
Jarrah Road, South Perth 6151,

if you would like to co-operate in this project.