

Sterility in Two-tooth Breeding-ewes.—A study of the reproduction performance in two-tooth ewes over two seasons indicates that barren animals may be considered to fall into two classes:—

- (1) Ewes continuing to show recurrent œstrus cycles throughout the tupping season; the majority of these appear to exhibit normal heats and normal ovulations, and in the first year 40 per cent. did eventually become pregnant when run with rams until July. In the second year some ewes with recurrent heats had blockages of the fallopian tubes, but the greater number had no abnormality. Presumably the fault in these animals lies in fertilization or implantation of the ovum, and the general impression is one of sub-fertility rather than actual sterility.
- (2) Ewes which cease to come on heat as though successfully settled but later prove barren, or have resumed estrus cycles after the normal tupping season. It is suggested that barrenness of this type may be due to loss of the foetus during the early months of pregnancy, though reliable evidence for this has not been obtained.

In 1947, 58 per cent. of the ewes failing to lamb were of the first type and 36 per cent. of the second type; the remainder (2 animals) failed to show heat at all. Records for the following year for those ewes carried over showed that the proportion of ewes lambing as four-tooths was equally high in the two classes.

The records indicate that the proportion of dry ewes may vary widely from one season to another both among two-tooth and older ewes, and it is proposed to continue observations on a more general basis involving ewes of all ages rather than concentrating on two-tooths only.

Fecundity in Ewes.—In an experiment designed to test the inheritance of fecundity three flocks of ewes were selected on the basis of the previous incidence of twinning. The first year's results are summarized in the following table:

	High-fertility Flock.	Low-fertility Flock.	Unselected Control Flock.
	Per Cent.	Per Cent.	Per Cent.
Ewes conceiving to first mating ..	81	76	67
Lambs born	125	98	107
Lambs alive one month ..	100	84	90
Dry ewes	4	11	8

Deaths in New-born Lambs.—At Ruakura, 231 ewes were kept under continuous observation during lambing. The following observations were made:—

- (1) The interval between uneasiness and lambing varied as follows: + 3 hours, 15 per cent.; 2-3 hours, 15 per cent.; 1-2 hours, 30 per cent.; and -1 hour, 40 per cent.
- (2) Older ewes tended to give less warning of approach of lambing than younger ewes.
- (3) Bursting of the water-bag occurred within half an hour of delivery in the majority of cases.
- (4) Labour before delivery required less than half an hour in 30 per cent. of ewes and less than one hour in over 70 per cent.