

THE BREEDING SEASON AND OVULATION RATE OF DLS EWES AS DETERMINED BY LAPAROSCOPY

Ovaries of 19 DLS ($\frac{1}{2}$ Dorset $\frac{1}{4}$ Leicester $\frac{1}{4}$ Suffolk) ewes were examined by laparoscopy at 16- to 18-day intervals to determine the length of the breeding season. Nine ewes (47%) had corpora lutea (CL) and/or corpora albicantia (CA) between 22 Apr. and 26 May 1983. The average date of the first estrus accompanied by mounting was 28 Aug. \pm 10 d in 1983 and 20 Sept. \pm 15 d in 1984. The interval between first and last observed CL and first and last mounting averaged 251 ± 28 , and 222 ± 32 d, respectively. The average dates in 1984 when mounting ceased and CL and CA were last observed were 11 Apr. \pm 26 d, 26 Apr. \pm 27 d and 9 May \pm 30 d, respectively. The anestrus period averaged 133 ± 28 d. The average ovulation rate at the last two cycles of a season and the first two cycles of the following breeding season were 1.6 ± 0.53 and 1.7 ± 0.65 for the 1983 and 1.1 ± 0.31 and 1.4 ± 0.71 for the 1984 seasons, respectively.

Key words: Breeding season, ovulation rate, laparoscopy, DLS sheep

[Détermination par laparoscopie de la saison de reproduction et du taux d'évolution de brebis DLS.]

Titre abrégé: Saison de reproduction et taux d'évolution de brebis DLS.

Les ovaires de dix-neuf brebis DLS ($\frac{1}{2}$ Dorset, $\frac{1}{4}$ Leicester, $\frac{1}{4}$ Suffolk) ont été observés par laparoscopie à intervalles de 16 à 18 j pour déterminer la longueur de la saison de reproduction. Neuf des brebis (47%) avaient des corps jaunes (Cj) et/ou des corps albicans (Ca) entre le 22 avril et le 26 mai 1983. La date moyenne du premier oestrus accompagné de chevauchement était le 28 août plus ou moins 10 jours en 1983 et le 20 septembre plus ou moins 15 jours en 1984. Les intervalles entre le premier et le dernier corps jaune et entre le premier et le dernier chevauchement étaient respectivement de $251 \text{ j} \pm 28$ et $222 \text{ j} \pm 32$. En 1984, les dates moyennes de la fin du chevauchement et de la dernière observation des Cj et des Ca étaient, respectivement, le 11 avril \pm 27 j, le 26 avril \pm 27 j, et le 9 mai \pm 30 j. L'anoestrus a duré 133 jours \pm 28 j. Les taux moyens d'ovulation dans les deux derniers cycles de la saison et dans les deux premiers de la saison suivante étaient, respectivement, de $1,6 \pm 0,53$ et $1,7 \pm 0,65$ en 1983 et de $1,1 \pm 0,31$ et $1,4 \pm 0,71$ en 1984.

Mots clés: Saison de reproduction, taux d'évolution, laparoscopie, mouton DLS (Dorset-Leicester-Suffolk)

DLS is a synthetic population originating from a gene pool of the Dorset Leicester and Suffolk breeds (Fahmy et al. 1980). This population has been selected for extended breeding season and previous studies on earlier generations showed that a certain proportion of ewes of that population tended to exhibit sexual or ovarian activities during the traditionally anestrus period (Dufour et al. 1982; Fahmy 1982, M. H. Fahmy, unpublished data). Knowl-

edge of the exact beginning, end and the length of the breeding season at successive intervals during the development of the DLS is essential to determine the effectiveness of the selection applied to this population.

The techniques used in the earlier studies with the DLS were daily introduction of vasectomized rams, plasma hormonal assays or serial killing and examination of the ovaries. An accurate, relatively easier and cheaper method of following the ovarian activity of the ewe is to examine changes