A STUDY OF SOME FACTORS AFFECTING REPRODUCTION IN ONE- AND TWO-YEAR-OLD EWES

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ABSTRACT

Experiment I

Reproductive performance was investigated in 176 one-year-old Romney and Border Leicester x Romney (F1) ewes following joinings with entire or vasectomized rams in 1977. Two-year-old performance of these ewes was investigated in 1978. First service conception rate was 74.6% in 1977 and the regression on liveweight gain over joining was negative ($P < 0.01$). Overall, 81.4% of marked ewe lambs conceived with 80.3% of the lambs born surviving to weaning. Delaying weaning from 8 to 11 weeks of age resulted in small improvements in lamb growth but penalized ewe growth. Suckled ewe lambs were lighter at the two-year-old mating but weaned more lambs per ewe joined due to a large improvement in lamb survival. Fleece production was temporarily reduced. Commercial applications of early joining are discussed.

Experiment II

One hundred and nine 7 - 8 month old Romney ewe lambs and 108 adult Romney ewes were included in an ova transfer study to investigate age of ewe effects on ovum viability. Each of 48 ewe lambs received two 8 - 16 cell ova, one from a ewe lamb (homologous transfers) and one from an adult ewe. The source of ova were identifiable by birth coat colour markings of the lambs born. Ovum recovery and fertilization rates were high and similar in both ages of ewe. However, only 25% of ewe lamb ova were represented by lambs at term compared to 52.1% of adult ewe ova ($P < 0.01$). Possible causes of this difference are discussed.

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PREFACE

The investigation was conducted at 'Ripley Rise', a leasehold property of Massey University located west of the University's No. 4 Dairy Unit, and the Fertility Centre, part of the Department of Sheep Husbandry, Massey University. The experimental work was carried out from April 1977 to November 1978 and represents original research by the author under the supervision of Dr M.F. McDonald, Reader, Sheep Husbandry Department, Massey University.

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