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Summary only

THE EFFECT OF MATING PRESSURE ON
CHARACTERISTICS OF THE EJACULATE IN RAMS
AND ON REPRODUCTIVE PERFORMANCE IN EWES

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GROUPS of 3 rams were run with 150 ewes (1:50), 300 ewes (1:100) and 450 ewes (1:150), respectively, and 3 rams unmated were used for semen collection. Rams were 2½ and 3½ years old and all ewes were 2½ years or older. Semen collections were made prior to the start of mating and 9, 17, 26 and 34 days after the start of mating.

TABLE 1: PERCENTAGES OF EWES MATED IN FIRST 17-DAY CYCLE AND "RETURNS" TO SERVICE

Ram/Ewe Ratio	Ewes Mated	Ewes Mated by			"Returns" to Service
		1 Ram	2 Rams	3 Rams	
1:50	94	15	38	47	14
1:100	95	29	50	21	16
1:150	95	34	50	16	16

Table 1 shows data for ewes mated in the first 17-day cycle.

The variation in the number of ewes mated by each ram within groups was low, indicating that there was little effective competition between rams.

In all groups a high proportion of ewes were mated by more than one ram; this was most marked at a ram:ewe ratio of 1:50. Eighty-four per cent of ewes mated by 2 or 3 rams in the first cycle lambed to service at that time. Of those ewes mated by one ram only 77% lambed to that service. Lambing performance was markedly similar in all groups.

The main conclusions from examinations of the semen samples were:

- (1) A dramatic decline in the volume and density of the ejaculate at the first two collections during the mating period with a resultant decline in the total number of spermatozoa. This reached a minimum of from

5.7 to 28.1×10^7 spermatozoa per ejaculate in the 3 groups.

- (2) Following the end of the first cycle the total numbers of spermatozoa per ejaculate rose gradually. This rise was more evident in the 1:50 and 1:100 groups.

Although there was a dramatic decline in total spermatozoa per ejaculate, conception rates were unaffected. The fact that many ewes were mated by more than one ram and also that each ram will often mate each ewe more than once means that the total number of spermatozoa deposited in the anterior vagina has been more than adequate for normal fertility. It would seem that conventional ram/ewe ratios used under intensive farming conditions are unnecessarily high.