The Reproductive Performance of Young Dorset X, Suffolk X, and 3/8 Finnsheep X Rambouillet Crossbred Ewes Mated in August and September

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Story in Brief

Three groups of crossbred ewes resulting from a combination of Dorset (D), Suffolk (S) and Finnsheep (F) with Rambouillet (R) were compared for their suitability for breeding in August and September at 7 and 19 months of age.

The percentage of ewes lambing during the first lambing season was 63% of the ½S, ½R; 52% of the ⅜ Finnsheep group and 41% of the ½D, ½R. This would indicate the ½S, ½R and the ⅜ Finnsheep group are earlier maturing sexually than the ½D, ½R. All the ewes lambed during the second season.

During the first two lambing seasons of their life, the ⅜ Finnsheep had the highest reproductive rate when measured by lambs per ewe available. This superior performance of 0.22 and 0.09 lambs per ewe available over the ½D, ½R and ½S, ½R, respectively, resulted from the early sexual maturity and the greatest number of lambs born per ewe exposed of the ⅜ Finnsheep group. This would indicate that the ⅜ Finnsheep are probably not adversely affected by weather as existed during August and September of 1973 and 1974.

Introduction

The number of lambs raised per ewe in a flock is of great economical importance and is dependent on the number of lambs born. Management and genetic make-up contribute to lamb production. In this report three groups of crossbred ewes with a Dorset-Rambouillet cross being used as a control, were compared for reproductive maturity of the ewe lambs, and suitability for breeding during August.

Experimental Procedure

At the Fort Reno Livestock Experiment Station, El Reno, Oklahoma, Rambouillet (R) ewes were mated in August, 1972 with Suffolk

(S), Dorset (D), and ¾ Finnsheep (F), ¼ Navajo (N) or ¼ Targhee (T) rams. All the ewe lambs produced from the mating were retained, of which 20 were ¼S, ½R; 26 were ⅜F, ⅛N, ½R or ⅜F, ⅛T, ½R; and 22 were ½D, ½R. (The ⅜F, ⅛N, ½R and the ⅜F, ⅛T, ½R ewes were considered as one group of crossbred ewes). The number of ewes has decreased slightly, due to deaths.

These ewes were assigned randomly to breeding groups each season with proportionate numbers from each of the three crossbreeds in each group. For comparisons of reproductive maturity, the ewes were mated first at 7 months of age, lambing between January 20th and March 3rd, 1974. In August, 1974 the ewes were mated a second time, lambing between January 3rd and February 8th, 1975.

The ewes were run together as one flock except when they were divided for breeding. They were weighed before breeding and lambing, but only the before-breeding weights of August, 1973 are included to indicate ewe size previous to first breeding.

Results and Discussion

Table 1 shows the reproductive performance of the crossbred ewes for the spring of 1974 and the spring of 1975. The percentage of ewes lambing as one-year olds in the spring of 1974 were 63% for the ½S, ½R; 56% for the ⅜F, ⅛ (N or T), ½R; and 41% for the ½D, ½R, respectively (table 1). This would indicate that the ½D, ½R ewes are later maturing sexually than the other two crosbreeds. It was interesting to note that the late maturing characteristic of the ½D, ½R has been observed before at Fort Reno. It was also surprising that the ½S, ½R were as early maturing as ⅜F, ⅛ (N or T), ½R in this experiment.

Heat tolerance and body weight before breeding could be factors influencing a successful conception. Mean weights are recorded in

Table 1. Reproductive Performance of Crossbred Ewes and Mean Weight of Ewe before Breeding at About 7 Months of Age.

Ewe Breed	No. Ewes Avail.	Lambing No.	Lambing %	Lambs Born (No.)	Lambs Per Ewe Lambing	Lambs Per Ewe Avail.	Mean Wt. August, 1973, lbs.
Spring, 1974							
½S, ½R	19	12	63	13	1.08	0.68	91
⅜F, ⅛ (N or T), ½R	25	14	56	18	1.29	0.72	88
½D, ½R	22	9	41	9	1.00	0.41	87
Spring, 1975							
½S, ½R	19	19	100	30	1.58	1.58	
⅜F, ⅛ (N or T), ½R	25	25	100	43	1.72	1.72	
½D, ½R	22	22	100	35	1.59	1.59	

Table 1. The ½S, ½R with the highest percentage of ewes lambing also had the highest mean body weight at 91 pounds, but there may be no causal relationship between body weight and the percent of ewes conceiving. The ⅜F, ⅛ (N or T), ½R and ½D, ½R had mean body weights of 88 and 87 pounds, respectively (Table 2).

During the spring of 1975 all the ewes lambed, indicating no apparent difference in the willingness of the groups to breed under the conditions existing. When all ewes lamb the number of lambs born per ewe lambing becomes the factor determining differences in lambs born per ewe exposed.

The ⅜F, ⅛ (N or T), ½R had the highest number of lambs born per ewe lambing during each of the two seasons (Table 1). The total number of lambs born per ewe lambing is found in Table 2. The ½S, ½R and ½D, ½R were similar for this trait having 1.39 and 1.41 lambs per ewe, respectively, with the ⅜F, ⅛ (N or T), ½R being noticeably higher at 1.56 lambs per ewe lambing.

Lambs per ewe available is a useful measurement for determining which crossbreed has the highest reproductive rate. During the first two lambing seasons of their lives, which resulted from breeding periods following the heat of summer, the ⅜F, ⅛ (N or T), ½R had 1.22; the ½S, ½R and 1.13 and the ½D, ½R had 1.00 lambs per ewe available (Table 2). That is, 0.22 lambs per ewe or 22 lambs per hundred head of ewes maintained difference between the ⅜F, ⅛ (N or T), ½R and the ½D, ½R. This difference can be accounted for by a lower number of lambs per ewe lambing and the delayed sexual maturity of the ½D, ½R (Table 3). The number of lambs born per ewe lambing was responsible for the 0.09 lambs per ewe available difference between the ⅜F, ⅛ (N or T), ½R and the ½S, ½R.

These data, limited through they are, indicate that ewes that are as much as ⅜ Finnsheep breeding are probably not adversely affected by weather such as existed during August and September of 1973 and 1974.

Table 2. Total Reproductive Performance.

Ewe Breed	No. Avail.	Ewe Lambing No.	Ewe Lambing %	Lambs Born-No.	Lambs Per Ewe Lambing	Lambs Per Ewe Avail.
½S, ½R	38	31	82	43	1.39	1.13
⅜F, ⅛ (N or T), ½R	50	39	78	61	1.59	1.22
½D, ½R	44	31	70	44	1.41	1.00