

Observations on Milk Production of Crossbred Ewes During Three Different Seasons

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Story in Brief

Accelerated lambing results in out-of-season lambing. Ewes and lambs involved in accelerated lambing are subject to factors which differ from typical in-season lambing. To obtain data to help determine how ewe's milk producing ability might be affected by accelerated lambing, ewes that were 1/4F, 1/4D, 1/2R; 1/4F, 1/2D, 1/4R and 1/2D, 1/2R were selected from the flocks that had lambed during the fall, winter and late spring. Milk production resulting from these lambings was determined at approximately day 40 and day 70 of lactation.

The experiment involved 125 ewe lactations, using 42, 41 and 42 ewes for the fall, winter and late spring lambings, respectively. Only ewes rearing either single or twin progeny were used.

Seasonal differences for ewe's milk production were found at 40 and 70 days of lactation. Ewes lambing in February had a higher milk production (3.21 lb/24 hr at day 40 of lactation) than ewes lambing in October or June (2.17 and 2.58 lb). Lactation at 70 days for fall lambing ewes was 2.37 lb, with winter and late spring lambing ewes averaging about 1.35 lb.

Milk production for Finn crossbreds was anticipated to be different from the 1/2D, 1/2R. The greatest breed difference was observed for ewes rearing twins. The part Finn ewes which reared twins produced 3.18 lb of milk at about day 40 compared to 2.26 lb for the 1/2D, 1/2R ewes.

Introduction

Profits made in livestock production depend on efficiency. In the sheep industry producers are now considering accelerated lambing (increasing the number of lambings per year) and crossbreeding as methods of increasing the number of lambs

Table 1. Number of ewes of three breeding groups observed rearing single or twin progeny as a result of fall, winter and late spring lambings.

Season of lambing	1/4F, 1/4D, 1/2R		1/4F, 1/2D, 1/4R		1/2D, 1/2R	
	Single	Twin	Single	Twin	Single	Twin
Fall	5	9	7	7	7	7
Winter	3	12	3	9	5	9
Late Spring	7	7	7	7	7	7
Total	15	28	17	23	19	23

marketed per ewe per year. It is important to determine how well ewes can adapt to these situations. The intent of this experiment was to observe ewe's milk producing ability and determine whether it is influenced by season or breeding of ewes which were various crossbred combinations of Finnish Landrace, Dorset and Rambouillet.

Experimental Procedure

The study involved the lactation curves of ewes that lambed during the three seasons of lambing in the 8-month interval accelerated lambing study under way at the Southwestern Livestock and Forage Research Station near El Reno, Oklahoma. Ewes lambing during the fall (October and November), winter (February and March) and late spring (June and July) were utilized to estimate their daily milk production at about 40 and 70 days of lactation.

The ewes involved in the study were three crossbred combinations: 1/4 Finn, 1/4 Dorset, 1/2 Rambouillet (1/4F, 1/4D, 1/2R), 1/4 Finn, 1/2 Dorset, 1/4 Rambouillet (1/4F, 1/2D, 1/4R) and 1/2 Dorset, 1/2 Rambouillet (1/2D, 1/2R). These ewes were about 4 or 5 years of age and thus considered mature.

To obtain ewes for the milk production study, the peak lambing period for each season was noted and ewes, all of which had lambed within a few days of each other, were selected. Ewes were selected that were rearing either singles or twins. The number of ewes rearing single and twin progeny was kept as nearly the same as possible within the breeds and seasons. Table 1 shows the number of ewes of each breed rearing single or twin progeny for each of the three seasons. Unfortunately there were only 3 ewes available in some breed, rearing and season groups.

The fall lambing occurred in the interval between mid-October and mid-November. The approximate day 40 and day 70 of lactation occurring December 9th and January 6th, respectively. Late February and early March lambing was referred to as winter lambing. On April 4th and May 3rd, data was collected for 40 and 70 days of lactation. The late spring lambing could be considered early summer lambing and occurred primarily in June. Day 40 of lactation was on July 29th and day 70 was on August 26th.

The milk production of the ewes was estimated by determining the milk consumed by their lambs in 24 hours during three nursing periods. The differences between before and after nursing weights for the three periods were added to give the estimated production per day for each ewe. To assure that all ewes would be starting with minimum milk in their udders, lambs were separated from the ewes a day before beginning trials and allowed to nurse at set times. This also aided in conditioning the lambs to the situation. Ewes and lambs were separated for seven and one-half hours (during this time ewes were allowed to graze), and then turned together for 30 minutes allowing lambs to nurse. To minimize lambs nursing the wrong ewes, lambs and ewes were divided by breed resulting in smaller groups. Lambs were deprived of grain and water to help assure suckling.

During the first trial, blankets which covered the whole underside of the ewe were used unsuccessfully for the first two milkings on December 9th. Some lambs appeared to be inhibited and there was trouble encountered in keeping the udder covered on all of the ewes. It is believed that the 40 day estimate for fall lambing is severely underestimated for these reasons.

The fall and winter lambing ewes were grazing wheat pasture at the time of the milk production studies. In all cases, ewes were very adequately fed so that their milk production should not have been adversely affected by pasture or feed conditions.

Results

The results of this experiment are presented in two major divisions. The first division concerns differences for ewe's milk production arising from the ewes being

lambled at different times during the year. The second division involves differences due to breed combinations of the ewes. Ewes naturally rear single and twin progeny; therefore, classification by type of rearing was also included.

Season Results

Differences due to season were found by averaging data for each season over breeding groups for ewes rearing singles and twins at about 40 and 70 days of lactation (Table 2). The two lactations were averaged together to give an estimate of total productivity of a ewe. The average milk production for fall and winter lambing ewes was similar, about 2.28 lb. The late spring lambing ewes produced only 1.96 lb.

When considering milk production at about 40 days of lactation, the highest average milk production occurred as the results of February lambing (3.21 lb). The milk production of late spring lambing ewes was expected to be high due to visual observation of ewes' udders but was only 2.58 lb. The fall lambing ewes' production was 2.17 lb but this was probably underestimated due to problems encountered during the trial. (Previous observations of the lactation curve of ewes show a steady decrease in milk production after the second week - not the increase from 40 to 70 days found in the data in this study.)

Differences in milk production due to season also occurred at approximately day 70 of lactation. Fall lambing ewes produced 2.37 lb, with milk production dropping to about 1.35 lb for winter and late spring lambing ewes. The higher production from fall lambing ewes was unexpected since the udders of winter lambing ewes have appeared more distended at weaning than those of ewes weaning fall born lambs.

Breed Results

Interest in using Finnish Landrace in crossbreeding programs is due primarily to the ewes outstanding ability to produce multiple offspring. It was of interest to determine if Finnsheep when used in a crossbreeding program would improve ewes ability to rear multiple progeny.

Data were averaged over seasons by rearing and day of lactation for breed comparisons (Table 3). Overall the ewes could be ranked 1/4F, 1/4D, 1/2R; 1/4F, 1/2D, 1/4R and 1/2D, 1/2R with the milk production being 2.26, 2.15 and 2.09 lb, respectively.

Large breed differences for milk production were primarily seen at day 40 of lactation for ewes rearing twin lambs. The 1/4F, 1/4D, 1/2R and 1/4F, 1/2D, 1/4R ewes outperformed the 1/2D, 1/2R ewes with production at 40 days being 3.40, 2.95 and 2.26

Table 2. Total milk consumption by single and twin progeny of fall, winter and late spring lambing ewes at approximately 40 and 70 days of lactation (lb/24 hr).

	Fall		Winter		Late Spring	
	40*	70	40	70	40	70
Single	1.98	2.11	3.03	1.29	2.28	1.29
Twin	2.35	2.63	3.39	1.41	2.87	1.38
Average	2.17	2.37	3.21	1.35	2.58	1.34
Overall average	2.27		2.28		1.96	

* It is felt these values are underestimated due to problems encountered during the first milk production trial.

lb/24 hr, respectively. This suggests that the part Finn ewes are better able to rear twin lambs when managed as in this experiment. The differences between breeds for ewes rearing single lambs were small at 40 days of lactation.

At 70 days of lactation ewes of all breeds had similar milk production. Milk consumption for lambs which have been creep fed is low enough at 70 days so that no major setback for the lambs results when they are weaned at 70 days.

Table 3. Total milk consumption by single and twin progeny of ewes at approximately 40 and 70 days of lactation (lb/24 hr).

	1/4F, 1/4D, 1/2R		1/4F, 1/2D, 1/4R		1/2D, 1/2R	
	40	70	40	70	40	70
Single	2.38	1.44	2.35	1.58	2.56	1.67
Twin	3.40	1.81	2.95	1.74	2.26	1.86
Average	2.89	1.63	2.65	1.66	2.41	1.77
Overall average	2.26		2.16		2.09	

Summer Lambing Performance of Crossbred Ewes of Finnsheep, Dorset and Rambouillet Breeding when Mated in January to Purebred or Crossbred Rams

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Story in Brief

Reproductive performance of five, six and seven-year-old crossbred ewes representing six combinations of Finnsheep (F), Dorset (D), Rambouillet (R) and White Face Western (WFW) breeding were evaluated when lambing in the summer (June, 1978). The six breed combinations represented were 3/8F, 5/8WFW; 1/4F, 1/2D, 1/4R; 1/4F, 1/4D, 1/2R; 1/4F, 3/4R; 1/2D, 1/2R and 1/4D, 3/4R. Breeding effectiveness of purebred and crossbred rams of Hampshire and Suffolk breeding was also compared when mated to these ewes.

Results of the summer lambing were quite favorable with the entire flock averaging 1.62 lambs born per ewe exposed. Ewes of 3/8-Finnsheep breeding showed a lambing rate of 2.26 compared to 1.87 for ewes of 1/4-Finnsheep breeding and 1.65 for ewes of only Dorset-Rambouillet breeding. At least 85.7 percent fertility was recorded for each of the crossbred ewes.

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