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The Effect of Management System and Breed of Ewe on Lambing Performance

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Summary

Lambing performance for the 1979 and 1980 lambing seasons is reported for Finn x Targhee, Suffolk x Targhee and Targhee ewes. All ewes were managed as a single group at the Brookings Sheep Research Unit for their first lambing at approximately 12 months of age. Following weaning of the first lamb crop (approximately June 1) one-half of the ewes from each breed group were taken to the Antelope Range Field Station, Buffalo, South Dakota, for collection of subsequent production data. Preliminary results indicate the Finn x Targhee to be the most productive followed by the Suffolk x Targhee under both production systems.

Introduction

Economic pressure continues to stress the importance of efficient production systems in order to be profitable. Crossbreeding with Finnsheep, noted for multiple births, provides the potential to increase lambing rates of domestic breeds. However, little data are available comparing the total productivity of such a system under conditions typical of South Dakota's sheep industry. This study was initiated to compare lifetime productivity of Targhee, Finn x Targhee and Suffolk x Targhee ewes under management systems typical to a farm flock (semi-confinement) versus a range operation. This report covers lambing results for the 1979 and 1980 lambing seasons.

Experimental Procedure

Targhee and Suffolk x Targhee ewe lambs born at the Antelope Range Field Station and Finn x Targhee ewe lambs born at the South Dakota State University Sheep Unit in the spring of 1976, 1977 and 1978 were utilized in this experiment. Lambs born at Brookings (Finn x Targhee) were exposed to creep feed and alfalfa hay from shortly after birth until weaning. Ewe lambs born at Buffalo (Targhee and Suffolk x Targhee) were raised on native range without supplemental feeding prior to weaning. All groups were weaned at about 10 weeks of age (approximately June 1), at which time the Targhee and Suffolk x Targhee ewe lambs were transported to Brookings and started on feed. After adjusting to feed, the Targhee and Suffolk x Targhee lambs were comingled with the Finn x Targhee lambs in a single lot with a self-fed ration of 60% cracked corn and 40% chopped alfafa hay. All lambs were sheared in mid- to late June. The ewe lambs were self-fed the 60/40 ration until 2 weeks prior to breeding when they were switched to 1.5 lb. cracked corn per head per day plus ground alfalfa hay in self-feeders. In addition, they had access to

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pasture during the day. Following a 5-week breeding season (starting September 30), the ewes were confined to the drylot and fed 2 lb. per head per day of the 60/40 ration plus ground alfalfa hay free-choice in self-feeders until 8 weeks prior to lambing. At this time, they were fed chopped hay plus cracked corn at recommended levels through late gestation and lactation. Following weaning (approximately June 1) of the first lamb crop, one-half of the ewes from each breed group were returned to the Antelope Range Field Station for collection of subsequent lifetime production data. Subsequent breeding and management procedures have been similar to a traditional spring lambing system for a farm flock and for a range shed lambing system for the respective locations. Suffolk sires have been used in both systems as the terminal sire breed for lamb production from these ewes. Management at the Brookings unit includes flushing of ewes and creep feeding of all lambs. Neither practice is used at the Antelope Range Station.

Results

1979 Lambing

Lambing performance for 1979 is shown in table 1. At 12 months of age the percentage of ewes exposed that lambed was similar for Targhee and Suffolk x Targhee ewes, 66.1 and 68.1, respectively. A higher percentage of the Finn x Targhee ewes (77%) lambed than that of the other two breed groups. Also, the number of lambs born per ewe lambing was considerably higher for Finn cross ewes than for Suffolk x Targhee or straight Targhee ewes, 1.57, 1.06 and 1.00, respectively.

At 24 months of age the same pattern was observed. A higher percentage of Finn x Targhee ewes lambed than the other two breed groups with the Suffolk x Targhee and straight Targhee ewes having a similar percentage lambing. The percentage of all groups lambing in the range system was lower than for the farm flock system of management. The ranking (highest to lowest) based on lambs born per ewe lambing was similar (Finn x Targhee, Suffolk x Targhee and Targhee) under both management systems. The lambing rate was lower for all groups under the range system.

At 36 months of age the percentage that lambed favored the Suffolk x Targhee ewes in both systems. Lambing rate was best for the Finn x Targhee group and similar for the Suffolk x Targhee and Targhee groups.

1980 Lambing

Results of lambing performance for 1980 are shown in table 2. Ewes were 2, 3 or 4 years of age at lambing in 1980. The percentage of ewes exposed that lambed was similar for both management systems with the exception of the Finn x Targhee ewes under range conditions. Approximately 5% fewer Finn x Targhee ewes lambed in the range system than Finn x Targhee ewes in the farm system or Suffolk x Targhee ewes in the range flock and farm systems. Within management system, Targhee ewes had a slight advantage in the percentage lambing over both of the crossbred groups. Breed ranking based on lambs born per ewe exposed or lambing favored Finn x Targhee followed by Suffolk x Targhee over Targhee ewes under both systems of management. Lambs born per ewe lambing were higher under the farm flock than the range system for Suffolk x Targhee and Targhee ewes but not for Finn x Targhee ewes. Total weight of lambs weaned will be determined to evaluate productivity of these ewe breeds under these management systems.

Table 1. Effect of Breed of Ewe and Management System on Lamb Production - 1979

Age of ewe (months)	Management system	Breed of ewe		
		Finn x Targhee	Suffolk x Targhee	Targhee
36	Brookings - Farm flock			
	Number exposed	25	28	17
	Percent lambing	68.0	75.0	64.7
	Number lambs/ewe exposed	1.56	1.29	1.24
	Number lambs/ewe lambing	2.29	1.71	1.91
	Buffalo - Range flock			
	Number exposed	16	25	17
	Percent lambing	87.5	100	94.1
	Number lambs/ewe exposed	1.94	1.40	1.42
	Number lambs/ewe lambing	2.21	1.40	1.50
24	Brookings - Farm flock			
	Number exposed	36	24	30
	Percent lambing	91.7	87.5	83.3
	Number lambs/ewe exposed	2.03	1.37	1.07
	Number lambs/ewe lambed	2.21	1.57	1.28
	Buffalo - Range flock			
	Number exposed	31	23	25
	Percent lambing	87.1	69.6	72.0
	Number lambs/ewe exposed	1.74	.87	.84
	Number lambs/ewe lambed	2.00	1.25	1.17
12	Brookings - Farm flock			
	Number exposed	30	69	56
	Percent lambing	77.0	68.1	66.1
	Number lambs/ewe exposed	1.20	.72	.66
	Number lambs/ewe lambing	1.57	1.06	1.00

Table 2. Effect of Breed of Ewe and Management System on Lamb Production - 1980

Management system	Breed of ewe		
	Finn x Targhee	Suffolk x Targhee	Targhee
Brookings - Farm flock			
Number exposed	66	62	65
Percent lambing	89.4	88.7	92.3
Number lambs/ewe exposed	1.79	1.39	1.38
Number lambs/ewe lambing	2.00	1.56	1.50
Buffalo - Range flock			
Number exposed	44	63	58
Percent lambing	84.1	88.9	93.1
Number lambs/ewe exposed	1.80	1.21	1.29
Number lambs/ewe lambing	2.14	1.36	1.17

Discussion

It is important to remember that conclusions should not be drawn on one or two years' results when looking at total productivity. Also, the pounds of lambs weaned have not been determined to date. However, preliminary examination of the data collected indicate that the Finn x Targhee ewe produces the most lambs under both management systems. Longevity under the two management systems will be an important trait to remember, although it is too early to determine at this point.