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LAMB PRODUCTION OF TARGHEE RANGE EWES MATED TO SUFFOLK VS. TARGHEE RAMS

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Summary

Production data on a flock of straightbred Targhee ewes mated to Targhee or Suffolk rams were collected during the years of 1971 through 1975. The mean lambing percent was 93.35. The average number of lambs born per ewe exposed to rams and per ewe which lambed were 1.44 and 1.54, respectively. The average number of lambs weaned per ewe exposed and per ewe which lambed were 1.13 and 1.20, respectively. Crossbreeding resulted in no difference in the number of lambs born per ewe exposed or lambing. However, Targhee ewes bred to Suffolk rams weaned approximately 10% more lambs at 90 days of age. Crossbred lambs were heavier than straightbred lambs by .97 lb. at birth, 4.7 lb. at weaning (90 days of age), 9.9 lb. at the July weighing and 9.0 lb. at the August weighing. Ewes rearing crossbred lambs weaned (at 90 days of age) 620 lb. more lamb per 100 ewes. Ewes weaning twins produced 43.8 lb. more lamb than ewes rearing a single lamb. Growth rate of male lambs appeared linear through at least 150 days of age.

Introduction

Traditionally, range sheep production has utilized only white-faced breeds of sheep. The use of black-faced, terminal cross sire breeds offers the possibility of increased production measured in pounds of lamb. This report presents the results of an analysis of data collected at the Antelope Range Field Station, Buffalo, South Dakota, comparing production of Targhee ewes mated to Targhee or Suffolk rams. These data were collected during the course of an experiment designed to study ewe lamb development.

Experimental Procedure

Production data on a flock of straightbred Targhee ewes were collected during the years 1971 through 1975. Two hundred sixty-one yearling ewes were purchased in 1970. The ewes were randomly allotted into two groups with one group bred to Suffolk and the other group to Targhee rams. The groups were rotated every year. Ewes were bred to lamb as 2-year-olds with no replacements added. A 34-day breeding season was utilized starting approximately September 22 each year. Equal numbers of each breed of ram were used each year with an initial ram per ewe ratio of 1:43. This ratio

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decreased with succeeding years. Ewe management was similar to a traditional range-shed lambing operation. The ewes were fed 1 lb. of alfalfa hay per head per day during the winter months while on range. On days of snow cover, prairie hay was also fed at 3 to 4 lb. per head per day. Two to 3 weeks before lambing through 60 days postlambing, ewes were fed .50 lb. barley or .67 lb. oats per head per day. The type of grain fed depended on its availability. At lambing, starting about mid-February, lambs were individually identified and birth date, type of birth, sex and birth weight recorded. Weaning weights were recorded at weaning time, approximately June 1 each year. A portion of the male lambs remained with the ewes on native range through June and July, with the last weight taken in early August. Ewes were shorn prior to lambing and fleece weights recorded. Records were kept on death and disposal reasons of ewes and lambs. One hundred thirty-one ewes still remained in the flock at termination of the study in 1975.

Results and Discussion

The average percent of ewes lambing of those exposed to rams was 93.35 (table 1). No significant difference in the percent lambing was found for year (year is confounded with age of ewe) or breed of sire to which ewes were mated. Means for the number of lambs born per ewe exposed and per ewe lambed are shown in table 2. Ewes exposed to rams averaged 1.44 lambs and ewes which lambed averaged 1.54 lambs born per ewe. No significant difference was found in number of lambs born per ewe lambed or exposed for either breed of sire or age of dam (confounded with year). However, lambs born per ewe exposed did increase from 1.24 for 2-year-old ewes up to 1.54 for 6-year-old ewes. A similar increase was noted on the basis of ewes lambing (1.34 to 1.68) for ages 2 through 6. Significant differences were found in the number of lambs weaned per ewe exposed or lambed for both age of ewe and breed of sire. Differences noted as age of year may in fact be more reflective of year of production. Ewes mated to Suffolk rams weaned about 10% more lambs than ewes mated to Targhee rams.

Ewe weight at breeding accounted for 5% of the variation in the number of lambs born per ewe lambed. Heavier ewes at mating time produced more lambs at birth. An increase of .12 lamb was found for each 10-lb. increase in ewe weight at breeding time.

Mean birth weight ranged from 10.34 lb. for lambs born to 2-year-old ewes to 11.26 lb. for lambs born to 5-year-olds (table 3). Crossbred lambs averaged .97 lb. heavier at birth than straightbred lambs. Singles were 2.29 lb. heavier than multiple birth lambs. Male lambs outweighed female lambs by .90 lb. at birth.

Crossbred lambs averaged 4.7 lb. heavier than straightbred lambs (table 3) at weaning at approximately 90 days of age. Male lambs were 2.6 lb. heavier than female lambs at weaning. Lambs raised as singles outweighed lambs raised as twins by 12.0 lb. at weaning. Per ewe exposed, ewes rearing crossbred lambs weaned 4.1 more lb. of lamb than ewes rearing straightbreds (table 3).

For those ewes that raised a lamb or lambs, ewes mated to Suffolk rams produced 6.2 lb. more lamb than ewes with straightbred Targhee lambs. Those ewes weaning twins produced 43.8 lb. more lamb than ewes weaning singles.

Mean weights for those lambs (male only) still with their dams on native range in July and August are shown in table 4. When weighed in July, crossbred lambs were 9.9 lb. heavier than straightbred lambs and singles were 13.8 lb. heavier than twins. Similar trends were noted for August weights. This study found that a relatively steady rate of gain occurred under range conditions in the male lambs through at least 150 days postpartum.

Mean annual fleece weight was 9.0 lb. Although 2-year-old ewes had the lightest average fleece weight, the effect of ewe age is confounded with year and management factors.

Table 1. Percentage of Exposed Ewes Lambing

Parameter	Percent
Year	
1971	92.70
1972	91.27
1973	95.28
1974	95.72
1975	91.78
Breed of sire	
Targhee	93.85
Suffolk	92.85
Average	93.35

Table 2. Least Squares Means for Number of Lambs Born and Weaned Per Ewe Exposed and Lambed

	No. lambs born per ewe		No. lambs weaned per ewe	
Parameter	Exposed	Lambed	Exposed	Lambed
Age of dam				
2	1.24	1.34	.93[a]	1.00[a]
3	1.36	1.48	1.13[b]	1.24[b]
4	1.52	1.59	1.42[c]	1.49[c]
5	1.52	1.59	1.25[b]	1.31[b]
6	1.54	1.68	.89[a]	.97[a]
Breed of sire				
Targhee	1.44	1.53	1.08[a]	1.15[a]
Suffolk	1.44	1.54	1.17[b]	1.25[b]

[a,b,c] Means within subclasses bearing different superscripts are significantly ($P<.05$) different.

Table 3. Least Squares Means for Lamb Birth Weight, Weaning Weight and Weight of Lamb Weaned Per Ewe

Parameter		Birth wt. (lb.)	Weaning wt. (lb.)	Wt. of lamb weaned per ewe: Exposed (lb.)	Wt. of lamb weaned per ewe: Weaning lambs (lb.)
Age of Dam (Year)					
2	1971	10.34[a]	49.3[a]	47.3[a]	71.0[a]
3	1972	11.13[b]	69.3[c]	66.8	100.0[d]
4	1973	11.07[b]	56.3[b]	56.1	84.2[b]
5	1974	11.26[b]	72.5[d]	69.8	104.7[e]
6	1975	11.09[b]	57.7[b]	58.2	87.4[c]
Breed of sire					
Targhee		10.49[a]	58.7[a]	57.6	86.4[a]
Suffolk		11.46[b]	63.4[b]	61.7	92.6[b]
Type of rearing					
Single		12.12[a]	67.0[a]	--	67.4[a]
Multiple		9.83[b]	55.0[b]	--	111.2[b]
Sex of lamb					
Male		11.44[a]	62.3[a]	--	--
Female		10.54[b]	59.7[b]	--	--

[a,b,c,d,e] Means within subclasses bearing a different superscript are significantly ($P<.05$) different.

Table 4. Least Squares Means for July and August Weights of Male Lambs

Parameter	July weight (lb.)	August weight (lb.)
Year		
1971	74.5[a]	93.8[ab]
1972	84.6[b]	96.9[b]
1973	87.5[b]	103.9[c]
1974	103.2[c]	106.1[c]
1975	77.9[a]	89.5[a]
Breed of sire		
Targhee	80.6[a]	93.5[a]
Suffolk	90.5[b]	102.5[b]
Type of rearing		
Single	92.5[a]	104.9[a]
Multiple	78.7[b]	91.2[b]
Mean	85.6	98.0

[a,b,c] Means within subclasses bearing a different superscript are significantly ($P<.05$) different.