REPRODUCTIVE PERFORMANCE OF ROMANOV X TARGHEE AND FINN X TARGHEE EWES IN AN ACCELERATED LAMBING SYSTEM

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Crossbred ewes were produced by mating Romanov or Finn rams (borrowed from USMARC, Clay Center, NE) to Targhee ewes. Ewes were born in 1988, 1989, 1990, and 1991 and lambed for the first time at one year of age in February. After their second lambing in February, ewes were submitted to the accelerated lambing system starting on May 15. The accelerated system allowed three lambing in two years with four fixed mating periods during the year. Ewes that did not conceive at one mating period were exposed at the next possible period. Mating periods were: May 15 - June 19, Aug. 15 - Sept. 19, Oct. 26 - Dec. 1 and March 15 - April 19. Ewes conceiving at every opportunity would have a lambing interval of 243 days. Ewes were not subjected to hormonal or light treatments, but vasectomized rams were introduced with the ewes for 15 days prior to each of the mating seasons with the exception of the May, August, and October matings in 1994. Ewes were exposed to Dorset rams at the March and May matings and to Hampshire rams at the August and October matings. Ewes were culled only on the basis of disease, unthriftiness or poor milk production. No ewes were culled for poor reproductive performance.

Lambing performance of Romanov x Targhee (RT) and Finn x Targhee (FT) ewes is presented in Table 1. RT ewes had a significantly shorter lambing interval than FT ewes (294 d and 323 d, respectively), produced more lambs per year (3.22 and 2.62) and produced more weight of lamb at 60 days than FT ewes (60 kg and 52 kg). Only 3.5% of RT ewes and 1.5% of FT ewes were able to sustain a lambing interval of 243 days. However, 36% of RT ewes were able to have 1.35 or more lambings per year, whereas only 15.4% of FT ewes were able to have that many lambings. Season of lambing had a significant effect on the number of lambs born with the late summer and fall lambings having the lowest litter size.

When RT and FT ewes lambed in Aug. - Sept., approximately 80% lambed again in March with an average lambing interval of 222 days. When lambing in October, 65% of RT ewes and 80% of FT ewes lambed at the next possible lambing in August. However, when lambing in March, practically none of the RT and FT ewes lambed at the next possible lambing in October (Table 2).

During the five years of the study, 19.6% of lambs born from RT ewes and 12.8% of lambs born from FT ewes were born out of season (Aug.-Sept. and Oct.-Nov.) (Table 3).

Table 1. Reproductive Performance of RT and FT Ewes in an Accelerated Lambing System

	Breeding of ewe	
	RT	FT
Number of intervals	284	174
Avg. lambing interval, d	294±4[b]	323±5[a]
Lambs born/year/ewe, no.	3.22±.08[a]	2.62±.09[b]
Lambs weaned/year/ewe, no.	2.77±.08[a]	2.25±.09[b]
60 d. wt./year/ewe, kg	60±1.7[a]	52±2.0[b]

[ab]$P < .01$

Distribution of average lambing interval among ewes within genotype, %:

240-270 d	35.7	15.4
271-300 d	16.7	10.8
301-330 d	15.5	15.5
331-360 d	27.4	49.2
361+ d	4.8	9.2

Litter size by season of lambing:

Jan. - Feb.	2.70±.05	2.39±.06
Mar. - Apr.	3.06±.11	2.46±.16
Aug. - Sept.	2.14±.11	2.00±.17
Oct. - Nov.	1.97±.14	1.80±.21

Table 2. Number and Percentage of Ewes Lambing in Each Season that Lambed In the Next Possible Season.

Breed	Lambing in:	Next possible lambing:	% lambed	Lactating when mated	Lambing interval	PossibleAverage lambing interval
-	October	August				
RT	17	11	64.7%	no	268-344	299±11
FT	5	4	80.0%			
	January	August				
RT	104	44	42.3%	yes	187-252	214±13
FT	83	14	16.8%			
	March	October				
RT	39	1	2.5%	yes	173-234	
FT	13	0	0.0%			
	August	March				
RT	58	48	82.8%	yes	186-253	222±9
FT	19	15	78.9%			

Table 3. Percentage of lambings and percentage of lambs born in each season.

	RT		FT	
Season	Lambings, %	Lambs born, %	Lambings, %	Lambs born, %
Jan. - Feb.	61.4	63.8	74.4	76.6
Mar. - Apr.	14.1	16.6	10.0	10.6
Aug. - Sept.	15.5	12.8	9.2	7.9
Oct. - Nov.	9.0	6.8	6.3	4.9