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Fall Lambing Performance of Purebred Columbia and Hampshire Ewes



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Summary

September-October lambing performance for 1991 through 1997 is reported for purebred Hampshire and Columbia ewes managed at the SDSU Sheep Unit on a once a year lambing system. The percentage of ewes lambing of those exposed has shown improvement from selection in these two purebred populations although performance still lags below that of contemporaries in a spring lambing program. Continued selection for fall lambing and prolificacy is planned in these populations.

Key Words: Ewes, Fall Lambing, Breeds

Introduction

Seasonality of lamb production continues to be a major hurdle to the meat industry. The lack of a year round supply of fresh lambs impacts the slaughter/processing industry as well as the retail market. The lack of a continuous supply of fresh lamb products in the meat counter results in less consumer demand and therefore less space allocated to lamb products which in turn results in lower product sales. In many areas lamb simply is not available in retail outlets or at best only on a seasonal basis making sustained consumption levels difficult. Seasonal production results in many lambs that are held back and/or over finished before going to market in a effort to keep the allied industries operating on a continuous basis.

This study was initiated to evaluate the performance of purebred Columbia and Hampshire ewes selected for a September-October once a year lambing system in a effort to provide a more continuous supply of lambs to the market.

Experimental Procedure

Starting in 1989 purebred Hampshire and Columbia ewes from the spring lambing flock were exposed under various scenarios for fall lambing. Those ewes that conceived for fall lambing were moved permanently to the fall lambing flock. They remained in the fall flock unless they were culled for missing two consecutive lambings, other normal culling criteria or death. A more detailed description of the early phases of this study is included in the 1995 Sheep Day Reports (SHEEP 95-1). Subsequent to 1993 only fall born ewe lambs have been retained as replacements. Rams used as sires have been primarily fall born. Every effort was made to select for multiple births when replacement numbers allowed.

Breeding management included 2 weeks of exposure to teaser rams starting April 1 followed by exposure to intact semen tested rams for 35 days. Ewes were started on a flushing ration of 1/2 to 3/4 pound corn for a minimum of 4 weeks starting when the teaser rams were introduced. Information is provided on a similar set of spring lambing ewes that were managed in a comparable fashion that served as controls for this study. Nutritional requirements were met using a variety of feeds including silage, pasture, hay and concentrates based on current availability and price.

Results and Discussion

Lambing results are shown in Table 1 for mature ewes from fall of 1991 through spring of 1997. In general, the percentage of ewes exposed for fall lambing that have lambed has shown improvement over time in both the Hampshire and Columbia flocks. Lambs born per ewe lambing has been less responsive to selection. This may be due

in part to not having sufficient numbers of multiple birth lambs available for replacements. A number of singles were retained as replacements thereby reducing selection pressure for multiple births. Fall lambing performance (percent lambing and lambs per ewe lambing) continues to lag behind spring results. A higher percentage of the spring lambing group lambled and dropped from .3 to .5 more

lambs per ewe lambing than fall lambing ewes with the exception of spring 1996 Columbias. Only 48.2% of these ewes lambled as a result of a ram going lame and not being detected promptly. A Columbia sire also went lame in the spring 1997 group which no doubt contributed to the lower than expected percent lambing (68.6) for that group.

Table 1. Lambing performance of purebred ewes - fall vs spring

Breed of ewe ^a /year	Sept-Oct			Feb-Mar		
	No. exposed	Percent lambing	Lambs born per ewe lambing	No. exposed	Percent lambing	Lambs born per ewe lambing
Hampshire						
1991-92	22	0.0	0.0	85	92.9	1.90
1992-93	24	29.2	1.71	53	81.1	1.79
1993-94	45	40.0	1.44	51	92.2	1.74
1994-95	66	57.6	1.29	62	85.5	1.77
1995-96	64	73.4	1.55	65	93.8	1.86
1996-97	62	67.7	1.38	56	89.3	1.88
Columbia						
1991-92	43	37.2	1.00	57	84.2	1.70
1992-93	45	13.3	1.33	63	82.5	1.60
1993-94	25	44.0	1.09	38	84.2	1.69
1994-95	43	76.7	1.09	48	87.5	1.64
1995-96	50	60.0	1.47	56	48.2	1.81
1996-97	36	80.6	1.17	70	68.6	1.71

^aEwes 24 months of age or older at lambing time.

Lambing performance of ewe lambs is shown in Table 2. The low percentage of ewe lambs lambing of those exposed for 1993 and 1994 illustrates the difficulty in getting ewes to lamb for their first time in the fall even though they were born in the fall. Based on success with crossbred ewe lambs, all the lambs were exposed to an extended light regime for the 1995 and 1996 fall lambings. The light treatment consisted of 18 h light:6 h dark from December 1 through February 10 of each respective year prior to the April-May ram exposure. In 1995 54.5% and 23.8% of the Columbia and Hampshire ewe lambs lambled. However, in 1996 none of Hampshire and only one (5.3%) of the Columbias lambled. However, 66%

of the crossbred ewe lambs of similar age lambled in 1996. Ewe lambs are reported to be shy breeders and when exposed with mature ewes may go unmated. In 1996 the ewe lambs were exposed with the mature ewes due to a shortage of breeding pens, while in 1995 the purebred ewe lambs were exposed with a group of crossbred lambs of the same age. A high percentage of the crossbred ewe lambs was cycling which may have stimulated estrous activity in the purebred lambs in 1995. Based on these results as well as other reports, it is advisable to breed ewe lambs as a separate group if at all possible to maximize conception.

Table 2. September lambing performance of ewe lambs

Breed of ewe	Year	No. exposed	No. lambing	Percent lambing	Lambs born per ewe lambing
Columbia ^a	1993	4	0	–	–
	1994	17	0	–	–
	1995 ^b	11	6	54.5	1.00
	1996 ^{bc}	19	1	5.3	1.00
Hampshire ^a	1993	20	7	35.0	1.00
	1994	16	1	6.3	1.00
	1995 ^b	21	5	23.8	1.40
	1996 ^{bc}	17	0	0	0.00

^aFall born; September-October.

^bLight treated, 18 h light:6 h dark December 1 to February 10.

^cExposed with mature ewe group.