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Accelerated lambing performance of mature Hampshire cross ewes

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Summary

Lambing performance for a group of Hampshire cross ewes on an accelerated lambing trial is reported. Ewes had an opportunity to lamb three times in a 16-month period. On the average, 79% of the ewes lambed at each opportunity with a average lambing rate of 1.62 lambs per ewe lambing. On an annualized basis, this group of ewes produced 1.95 lambs per ewe exposed.

Key Words: Ewes, Accelerated lambing, Lamb production

Introduction

Increasing the frequency of lambing to less than a 12-month interval offers the potential of increased total productivity on an annual basis. In addition, it spreads the marketing opportunities and provides a wider distribution of labor and facility usage. A major industry benefit is it would supply a more constant source of new crop lamb to the market place. This study was conducted to evaluate the potential of decreased lambing intervals.

Experimental Procedure

One hundred six mature Hampshire crossbred ewes (1 to 4 years of age) were included in this trial. Procedures for the December 1990 lambing were detailed in the 1991 Sheep Day report (SHEEP 91-2:4). In brief, one-half of these ewes received 3.5 mg of melatonin in their feed starting June 1, 1990. Fence-line contact with rams was started June 1 and fertile rams were placed with the ewes starting July 1. The treatment and breeding was terminated August 24, 1990.

Following weaning (March 8, 1991), ewes were maintained on a restricted dietary regimen for 2 weeks. Eighty-seven ewes remained after culling. A flushing and teasing program began March 28. Intact fertile rams were placed with them for 35 days starting April 11, 1991. Following pregnancy testing in June, these ewes were moved to the Antelope Range Station, Buffalo, SD, for the remainder of the study. Lambs were weaned from these ewes November 8, 1991, and they (87 head) were exposed for 35 days starting November 15 with the main flock at the station.

Results and Discussion

Results of three lambings occurring within 16 months from December 1990 through April 1992 are shown in Table 1. As discussed in a previous report (SHEEP 91-2:4), melatonin treatment increased the percentage lambing and the number of lambs per ewe lambing in December 1990. However, the percentage (68%) of control ewes lambing encouraged us to pursue additional work without exogenous hormones. Without any additional exogenous hormonal stimulation, 79% of the ewes lambed in September of 1991 with a lambing rate of 1.50 lambs per ewe lambing. Even with a short postpartum period (September-November), 90%

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of these ewes conceived and lambed in April of 1992. Due to other research demands, these ewes were sold in May of 1992. Using only ewes bred without hormone treatment (controls only in December 1990), these ewes produced 4.87 lambs per ewe lambing or 3.89 per ewe exposed in a 16-month period. June 30, 1992, would have completed a 24-month period from initial exposure (July 1, 1990). Therefore, calculated on an annual basis, this group of ewes produced 1.95 lambs per year per ewe exposed. Obviously, breeding performance for July 1992 was not determined since the ewes were sold. Whether or not these ewes would have maintained this level of performance would be conjecture. These results, however, do indicate that given the proper genetics, management, and environment, satisfactory levels of performance can be achieved without exogenous hormonal manipulation in an accelerated lambing system.

Table 1. Lambing performance of Hampshire cross ewes

	Lambing date			
	December 1990[a]			
	Control	Treated	September 1991	April 1992
No. exposed	53	53	87	87
Percentage lambing	67.9	92.5	79.3	89.7
Lambs born per ewe lambing	1.47	1.84	1.50	1.90
Lambs born per ewe exposed	1.00	1.70	1.19	1.70

[a] Melatonin study.