A NEW WAY OF EVALUATING SEXUAL BEHAVIOR IN RAMS

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Story in Brief

The sexual behavior of two low and three high libido scored rams was evaluated during the natural breeding season. Each ram was penned with 11 to 12 estrous synchronized ewes for a period of four days. Number of mounts and frequency of mounts were recorded via the HeatWatch System. The results of this study indicate proficient mating differences in the behavior of sexually mature rams.

(Key Words: Rams, Sexual Behavior, Libido, Mating Behavior)

Introduction

Evaluating sexual activity in the ram is an important aspect of reproduction in the sheep industry. Past studies have used libido and serving capacity tests to evaluate the reproductive performance of the ram. Libido tests evaluate the sexual aggressiveness (mounts/amount of time), while serving capacity tests evaluate the sexual performance (ejaculations/ram/amount of time). A study by Perkins et.al. (1992) found that the mating performance of rams can be predicted by using libido and serving capacity tests.

The purpose of this study was to monitor the ram□s mating activity using the HeatWatch system. This allowed for recording the total number of mounts per ram, total number of mounts per ewe and total number of ewes mounted during the test period.

Materials and Methods

Thirteen rams were libido tested as prescribed by a similar procedure used by Price et.al. (1992). Each ram was introduced to five synchronized estrous ewes, and number of mounts and ejaculations during a 15 minute period were recorded. Rams were scored as "High" libido (HL) rams (n=3) if at least 5 ejaculations or 7 mounts were achieved, while rams that had less than 2 mounts or 0 ejaculations were considered "Low" libido (LL) rams (n=2).

After libido score was established, each ram was placed in a pen with 11 to 12 estrous synchronized ewes for 4 days. Synchronization was achieved by implanting the ewes with norgestomet implants for 12 days. Implants were removed in half of the ewes in each pen on the initial day of synchronized estrous and the remainder of the ewes in the pens on the following day.

Mounting was recorded with a HeatWatch System (DDX Inc., Boulder, CO) transducer and patch adhered to the rump of each ewe. A main computer program recorded the identity of the ewe and time at which each mount took place. Total mounts per ram, number of ewes mounted and number of mounts per ewe were analyzed.

Forty-five days following the last day of breeding, ewes were monitored for pregnancy via ultrasound by using an Aloka 210 with a 5.0 MHz transducer (linear array, Carometrics Medical Systems, Inc., Wallingford, CT). Pregnant and open ewes were noted and fertility rates were calculated for each of the rams.

Results

Ram comparisons are presented in Table 1. Two rams, one LL (#55) and one HL (#59), were removed from the trial for comparisons. Mounting behavior data was inaccurate for these rams as ultrasound pregnancy figures indicated more ewes pregnant than were mounted. However, the other three rams mating behavior was distinct from one another and resulted in applicable comparisons. The other LL ram (#51) mounted only three times, mounting a total of three ewes and resulted in no confirmed pregnancies. One HL ram (#57) mounted a total of 50 times, covering 9 ewes and resulted in 7 pregnant ewes. A second HL ram (#61) mounted a total of 12 times covering 3 ewes resulting in 2 pregnancies.

Discussion

Results from this trial indicate variation in the mating behavior of rams. Three types of rams can be distinctly identified: 1) a ram (#57) that is highly aggressive and efficient (several mounts and ewes mounted resulting in 7 pregnancies), 2) a ram (#61) that is highly aggressive but inefficient (several mounts on one ewe resulting in 2 pregnancies), and 3) a ram (#51) that is not aggressive nor efficient (few mounts and ewes mounted resulting in no pregnancies).

The use of the HeatWatch system in this study gave researchers the ability to evaluate an individual ram□s sexual behavior over a 24 hour per day period. With this technology frequency of mounts and movement from ewe to ewe can be evaluated.

Some minor problems were detected with the HeatWatch system as some of the pregnancy rates did not correspond with the ewes mounted in this trial. It was observed that longer fleece could hinder the transducer□s effectiveness. When using this tool, the researchers of this trial recommend four weeks of fleece growth or less to properly utilize the HeatWatch system.

A producers ability to evaluate and select for highly aggressive and efficient breeding rams could prove to be a very cost effective tool in sheep reproduction. Scoring the mating behavior in breeding rams needs to be researched further to make it a useful tool in ram selection.

Literature Cited

Perkins, A. et. al. 1992. J. Anim. Sci. 70: 2722-2725.

Price, E. O. et. al. 1992. J. Anim. Sci. 70: 3376-3380.

Acknowledgment

Table 1. Mounting data of high and low libido mature rams.

Ram ID	Libido score	MPR[a]	MPE[b]	NEM[c]	UPG[d]
51	low	3	1.0	3	0
55[e]	low	6	1.5	4	7
57	high	50	5.6	9	7
59[e]	high	9	9.0	1	6
61	high	12	4.0	3	2

[a]Mounts per ram during trial

[b]Mounts per ewe during trial

[c]Number of ewes mounted

[d]Pregnancy to ultrasound

[e] Rams not analyzed in study.

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