

[Effect of early and late exposure to estrual ewes on ram sexual performance classifications](#)

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Abstract

This study was conducted to determine whether exposure of ram lambs to estrual ewes during their first autumn and again as adults just before serving capacity tests (SCT) affected the outcome of the sexual performance tests. Treatments were either early exposure of Polypay ram lambs (i.e., 7–8-mo-old rams with ewes for 17 d [$n = 30$] or no early exposure [$n = 30$]), and late exposure (i.e., 16–19-mo-old rams with estrual ewes for 3 d) or no exposure to estrual ewes in a 2×2 factorial arrangement. Three serving capacity tests were conducted immediately after the early exposure period for individual ram lambs that were exposed to ewes early. Three sham sexual performance tests (i.e., four ram lambs placed in test pens for 30-min without ewes) were conducted with ram lambs that were not exposed to ewes early. All rams were evaluated during nine 30-min serving capacity tests over a 2-mo period at 16–19 mo of age to determine sexual performance. Prior to serving capacity tests, one half of the rams from each early exposure treatment were exposed to estrual-induced ewes for 3 d. Specific sexual behaviors (e.g., sniffs, flehmens, foreleg kicks, vocalizations, mount attempts, mounts, and ejaculations) were recorded during serving capacity tests. Number of sniffs, flehmens, foreleg kicks, vocalizations, and mount attempts were summed without estimating the value of importance and analyzed as courtship behaviors. Sexual performance data were analyzed with Mixed model procedures for repeated measures. During serving capacity tests, the early exposed rams exhibited more courtships (40.3 ± 8.0 versus 23.4 ± 4.6 ; $P < 0.05$; LSM \pm estimated SE), mounts (11.3 ± 1.0 versus 7.7 ± 0.9 ; $P < 0.01$), and ejaculations (3.3 ± 0.2 or 2.4 ± 0.2 ; $P < 0.01$) than rams not exposed to ewes as ram lambs, respectively. We conclude that early exposure of 7–8-mo-old ram lambs to estrual ewes improves sexual performance in serving capacity tests at 16–19 mo of age in most rams whereas, late exposure to estrual ewes for 3 d prior to serving capacity tests did not improve sexual performance scores.

Influence of social interaction between rams on their serving capacity

Applied Animal Ethology, Volume 11, Issue 3, January 1984, Pages 283-289

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Abstract

The experiment was designed to test the hypothesis that social interaction between rams influenced their serving capacity and modified their preference for ewes.

The serving capacity and the preference for particular ewes was recorded on the first and seventh day of joining in 8 rams mated either individually or in pairs to 12 oestrous ewes. The serving capacity (mean number ejaculates/hour) was 50% lower in both dominant and submissive rams when working together compared with single-sire matings. However, when working together, 33% of the available ewes were served by the submissive ram and 12.5% were served by the dominant ram so that, in total, more ewes were served (total mean number \pm SE of ewes served/ram when mated either individually or as a PAIR = 4.50 ± 0.89 and 5.50 ± 0.57 , respectively). This resulted from a modification in ewe preference by the submissive ram.

In the absence of competition, the same ewes were observed to be preferred by most rams. This ewe "attractiveness" was found not to be a permanent characteristic, as the preferred ewes at one oestrus were not necessarily those most preferred at a subsequent oestrus.

Effect of ewe restraint on the libido and serving capacity of rams

Applied Animal Behaviour Science, Volume 35, Issue 4, February 1993, Pages 339-345

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Abstract

The following study examines the effect of ewe restraint when assessing the libido and serving capacity of rams. Twenty-five domestic rams were exposed to both unrestrained and restrained estrous ewes under circumstances in which copulations were permitted and prevented. Ewe restraint did not affect the rate of ejaculation or measures of precopulatory behavior when copulation was permitted. When rams were exposed to ewes whose perineal area had been covered to prevent copulations (libido tests), bouts of leg-kicking and anogenital sniffing were not affected by female restraint but mounting occurred more frequently when ewes were unrestrained. The latter measures of libido correlated with ejaculation rates (serving capacity) observed in tests permitting copulation and, in four out of six cases, were slightly higher when covered females were restrained. Rams were particularly aggressive (butts and vigorous pawing) toward ewes that were covered and restrained. It was concluded that the advantages of ewe restraint are not great enough to justify its use when assessing the libido and mating potential of rams with estrous ewes.

The influence of breeding intensity on above- and below-average sexual performance rams in single- and multiple-sire breeding environments

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Abstract

Two studies were conducted to evaluate the relationship between serving capacity scores and breeding performance of rams. The first study was conducted to determine whether rams with above or below mean serving capacity scores could perform equally in greater and lesser breeding intensity, single-sire mating schemes. The second study was conducted to determine whether rams with above and below mean serving capacity scores could perform equally well when only one or two ewes were in estrus daily in a multiple-sire breeding scheme (two rams/pen). Rams ($n = 68$) were ranked according to average number of ejaculations recorded in serving capacity tests. Sixteen rams with the greatest scores (above-average) and 16 rams with least scores (below-average) were identified for breeding. Half of above-average and half of below-average rams were used in the two studies. For study 1, each ram was individually introduced to 23 estrus-synchronized ewes for 9 d to simulate high breeding intensity. Rams were given a 5-d rest before they were individually introduced to 23–24 naturally cyclic ewes for 17 d (low breeding intensity). For study 2, 16 rams were paired across ram types, and each pair competed for 20 ewes for 18 d (8 pens). For study 1, ewe fertility (ewes lambing/ewes present at lambing) and number of lambs born were greater ($P < 0.001$) for above-average (0.67 ± 0.03 and 27.6 ± 1.2 , respectively) than for below-average rams (0.39 ± 0.07 and 15.3 ± 2.7) with greater breeding intensity. Ewe fertility and lambs born did not differ for above-average (0.91 ± 0.03 and 37.8 ± 1.9 , respectively) and below-average rams (0.86 ± 0.03 and 39.0 ± 1.9) with less breeding intensity. For study 2, number of ewes lambing (99 ± 8.0 compared with 72 ± 13.6 ; $P = 0.12$) and number of lambs sired (149 ± 18.5 compared with 101 ± 22.8 ; $P = 0.14$) did not differ between above- and below-average rams, respectively, in direct competition. Sexual classifications based on serving capacity tests are related to breeding performance of rams in certain breeding environments. When breeding intensity is greater, above-average rams impregnate more ewes and sire more lambs than below-average rams. When only a small number of ewes are in estrus daily, below-average rams for serving capacity scores perform as well as above-average rams in multiple-sire and single-sire breeding environments. We suggest that above-average rams should be used to reduce number of rams required when breeding intensity is greater.

Keywords: Ewes lambing; Lambs born; Breeding intensity; Rams; Sexual behavior