Seasonal variations of sexual activity of Ouled-Djellal rams in southeast Algeria

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Abstract

The aim of the present study was to evaluate the seasonal variation of sexual activity among rams of Ouled-Djellal breed in southeast Algeria. The experiment was carried out using six rams aged between 2 and 4 years. Animals were kept in a building during the breeding season (autumn) and no-breeding season (spring) (2013) and fed with a constant ration of wheat and hay with free access to water.
Sexual activity was evaluated by testicular size, sperm production and serum testosterone levels. The means (± SD) obtained for the different parameters studied were respectively during the autumn and spring: live weight 88.0 ± 7.4 kg and 94.7 ± 9.6 kg, testicular weight 838.9 ± 215.3g and 916.7 ± 173.2 g , 32.1 ± 3.4, scrotal circumference 34.1 ± 2.4 cm and 10.7 ± 1.2 cm , scrotal larger 10.7 ± 1.2 cm and 11.1± 1.0 cm, sperm volume 1.0 ± 0.3 ml and 0.9 ± 0.3, massal motility 2.9 ± 1.4 and 2.1 ± 1.6, sperm concentration 2.7 x 10^9 ± 1.4 x 10^9 spz/ml and 2.8 x 10^9 ± 1.8 x 10^9spz/ml, total sperm number 2.6 x 10^9 ± 1.8 x 10^9 spz et 2.8 x 10^9 ± 2.3 x 10^9 spz, pH 6.9 ± 0.2 and 6.7 ± 0.4, percentage of dead spermatozoa 36.4 ± 22.6 p. 100 and 50.4 ± 19.9 p. 100, percentage of abnormal spermatozoa 11.3 ± 10 p. 100 and 13.1 ± 9.1 p. 100. Serum testosterone concentration was similar in both seasons 3.0± 2.2 ng/ml vs 5.1 ± 4.1 ng/ml.
In conclusion, rams of Ouled-Djellal breed in southeast Algeria don't have seasonal variations of sexual activity in relation to annual photoperiod variation ($P>0.05$). However, the existence of differences among rams ($P<0.05$) in semen quality and quantity makes it necessary to perform a semen evaluation on individual basis in order to select the best males before they are used for breeding.

Key words: Production, Season, Ram, Ouled-Djellal, Algeria.