



A148 Folliculogenesis, Oogenesis and Superovulation

Restricted intake and lipid inclusion: effects on ovarian follicular development in Santa Inês ewe lambs

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The reproductive efficiency is directly related to the nutritional management. The diet lipid inclusion, especially with enhanced sources of omega 6 and omega 3 fatty acids, is positively associated to the ovarian follicular development of ruminants. The objective of this study was to evaluate the effects of toasted soybean grain addition on restricted or ad libitum feeding on ovarian follicular development of Santa Inês ewe lambs. Thirty-five ewe lambs with initial body weight 21.5 ± 0.27 kg and age of 91.6 ± 1.36 were blocked according to initial body weight and allocated to the following treatments: ad libitum intake of a diet without lipid inclusion (ALI-WLI, 3.5% Ether Extract – EE, n = 9); restrict intake of the WLI diet (RI-WLI, n = 9); ad libitum intake of a lipid inclusion diet represented by toasted and cracked soybean grain (ALI-LID, 9.8% EE, n = 8); and restrict intake of the LID diet (RI-LID, n = 9). Diets that were offered to the animals from RI-WLI and RI-LID was limited to 80% of the intake of the animals from the respective ad libitum treatments. The ovarian activity was evaluated in all animals by ultrasonographic exams (ALOKA, SSD 500, 7.5 MHz), on alternate days during 10 days at the ages of three, four and six months, while a single evaluation was performed at the ages of five and seven months. Follicles with diameter ≥ 3 mm were measured in real time. The diameter of the follicles was calculated as the average of the two greatest antral cavity diameters. The diameter of the largest follicle was analyzed throughout time using MIXED (SAS®). The number of class $\geq 3-5$ mm and >5 mm follicles was also analyzed throughout time by general linear mixed models, considering Poisson distribution and log function, using GLIMIX (SAS®) procedure. The diameter of the largest follicle, the number of $\geq 3-5$ mm and >5 mm follicles did not differ among treatments ($P > 0.05$). The number of $\geq 3-5$ mm follicles increased with age, reached its maximum of 2.49 follicles at the age of 168 days and then decreased ($\hat{y} = 0.00027x^2 + 0.09148x - 6.83727$, $P < 0.05$). The number of follicles >5 mm presented marked increase after 150 days ($\hat{y} = -0.00037x^2 + 0.1639x - 18.0185$, $P < 0.05$). The follicle diameter increased linearly according to the age of the animals ($\hat{y} = 15.68177 + 0.1599x$, $P > 0.05$). Probably with the increased LH pulse frequency approaching puberty provided the follicular development, which grew in size until reaching class >5 mm follicles. In conclusion, the diameter of the largest follicle and the number of >5 mm follicles were not influenced by the restricted intake diet nor the lipid inclusion; however, they increased in a direct relationship with the age of the animals.

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