



A147 Folliculogenesis, Oogenesis and Superovulation

Restricted intake and lipid inclusion in Santa Inês ewe lambs diet: age, weight and progesterone concentration at first ovulation

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The age at first ovulation is influenced by several factors, and nutrition has an essential role on it. Lipids provide essential fatty acids that are positively associated to reproductive aspects. The aims of this study were to evaluate the effects of lipid inclusion and restricted intake on age and weight at the first ovulation and the serum progesterone (P4) concentration at the sixth day after first ovulation. Thirty-five Santa Inês ewe lambs with initial body weight (BW) of 21.5 ± 0.3 kg and age of 91.6 ± 1.4 days were used. Animals were blocked according to initial BW and distributed to one of four treatments: animals receiving diet without lipid inclusion (3.5% ether extract – EE), ad libitum intake (WLI-ALI, control group, n = 9); diet without lipid inclusion and restricted intake (WLI-RI, n = 9); lipid inclusion diet, represented by toasted and broken soybean (9.8% EE), ad libitum intake (LIP-ALI, n = 8); and lipid inclusion diet and restricted intake (LIP-RI, n = 9). Ewe lambs subjected to restricted intake had 84% of the diet offered to those in ad libitum treatments. The individual daily dry matter intake (DMI) and EE intake (EEI) were measured and the animals were weekly weighted until 35 kg BW. For P4 analysis, blood samples were collected once a week after the animals reached 25 kg BW and twice a week after 30 kg until 35 kg BW. Ovulation was estimated to occur on the sixth day before $P4 \geq 1$ ng/mL. DMI, EEI, average daily weight gain until first ovulation (DWG), weight and age at first ovulation, serum P4 concentration and days in experiment until first ovulation were analyzed by GLM PROC of the SAS software (version 9.3). Ovulation occurred in 60% (21/35) of the ewe lambs (5; 5; 6; 5 from WLI-ALI; WLI-RI; LIP-ALI; and LIP-RI, respectively). DMI of ewe lambs from WLI-ALI group was greater ($P < 0.01$) than the other groups and the intake of ewe lambs from LIP-RI group was lower ($P < 0.01$) than those from WLI-RI and LIP-ALI (802.9 ± 12.9 , 678.0 ± 15.8 , 726.5 ± 22.9 , 661.3 ± 21.2 g/day) groups. EEI differed among groups ($P < 0.01$), and the highest was observed in LIP-ALI and the lowest in WLI-RI. Weight (30.0 ± 0.8 ; 29.3 ± 1.3 ; 30.5 ± 1.3 ; 28.5 ± 1.6 g/day) and age at first ovulation (153.2 ± 5.9 ; 170.0 ± 9.5 ; 165.2 ± 10.5 ; 170.6 ± 15.5 days), DWG (132.2 ± 21.1 ; 94.4 ± 6.4 ; 128.2 ± 12.6 ; 93.4 ± 12.3 g/day), serum P4 (3.1 ± 0.6 ; 2.0 ± 0.6 ; 2.1 ± 0.5 ; 2.7 ± 0.6 ng/mL) and days in experiment until first ovulation (60.6 ± 5.8 ; 81.0 ± 8.9 ; 62.8 ± 9.8 ; 69.8 ± 14.6 days) did not differ ($P > 0.05$) among WLI-ALI, WLI-RI, LIP-ALI, and LIP-RI treatments, respectively. The first ovulation in Santa Inês ewe lambs occurs at 30 kg BW. The restricted intake imposed in this study did not delay the age at first ovulation. The greater lipid intake did not favor reproductive parameters. Serum P4 did not increase with the soybean inclusion in the diet.

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