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The Effect of GnRH or hCG on Ovarian Function and Embryo Development in Lohi Sheep at Suterau Panjab, Pakistan

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Lohi is a famous breed of sheep in Pakistan with a small litter size. The present study was initiated to determine the effects of GnRH or hCG on ovarian function and embryo development to improve litter size. Twenty-one ewes were put to ram at synchronized oestrus by two injections of PGF2α, given at 11 days apart. These animals were divided into three groups (7/group) through random stratification by body weight. These were given either saline (Group I) or GnRH (Group II) or hCG (Group III) on day 12 post-mating. The blood samples were collected from 1 h before and 0, 3, 4, 6, 8, 24, 48 and 72 h after treatment for progesterone and estradiol assays and were slaughtered on day 25 of pregnancy. Reproductive tracts were recovered, corpora lutea isolated, counted and weighed. Embryos were also recovered, weighed and measured for crown-rump length, amniotic sac length and width and numbers of cumulus forming placental were counted. Both GnRH and hCG increased plasma progesterone and estradiol concentrations (p < 0.05) but hCG was stronger (luteotrop) and compared with GnRH. Treatment with GnRH and hCG not only improved conceptus growth but also increased number of cumules significantly. GnRH proved to be superior in comparison to GnRH in Lohi ewes. In conclusion, the results of this study demonstrate that treatment with GnRH or hCG may be luteoestrous and embryotrophic and thereby could improve embryo survival.

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Sexual Response of Nulliparous and Multiparous Goats Submitted to the Male Effect

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The sexual response of nulliparous and multiparous goats was compared when submitted to the male effect using bucks rendered sexually active by a phyllostriotic treatment of 2.5 months of long days (16 h of light/day) from November 1st. On April 14th, the multiparous (n = 21) and nulliparous (n = 20) groups were exposed to two sexually active buck groups. Oestrus was observed twice daily during 15 days. Ovulation rate was determined by ultrasound 3 and 18 days after teasing. Fertility was also determined by ultrasound, 36 days after the last detected oestrous. The proportion of females displaying oestrus at least once did not differ between the two groups (nulliparous: 100%, multiparous: 95%, p > 0.05). Also, the proportion of females ovulating at least once was the same in the two groups (80%, p = 0.1). However, the ovulation rate 18 days after introduction of the bucks was higher in multiparous than in nulliparous females (0.2 ± 0.2 and 1.3 ± 0.1, p < 0.001). Also, fertility was higher in multiparous (21/21) than in nulliparous does (14/19; p < 0.05). The prolificacy did not differ between groups. We conclude that the initial physiological and behavioral responses of goats to teasing did not differ between nuliparous and multiparous goats. Nonetheless, the performance of multiparous does in terms of births produced was much higher than nulliparous does.