

ENHANCE OF THE ESTRUS AND OVULATION SYCHRONISM IN EWES USING PROTOCOLS WITH PROGESTERONE

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Estrous synchronization in combination with artificial insemination is an important biotechnology that enables greater and more efficient use of cryopreserved germplasm. However, when using this technology fertility rates after fixed-time artificial insemination (FTAI) still exist because of variation in the actual time of ovulation. Synchronization of the time of ovulation can be influenced by numerous factors such as ewe breed, age, parity, as well as the dosage and type of hormones utilized. Therefore, the purpose of this work was to evaluate the effect of different doses and time of administration of equine chorionic gonadotropin hormone (eCG) on the synchronization of estrus and ovulation. The estrous cycle of 40 Santa Inês ewes were synchronized using intravaginal EAZI-BREED CIDR® devices containing 0.33 g of progesterone for 12 days. Ewes were then administered 300 IU or 400 IU of eCG (Novormon®, i.m) either 24 hours (h) before or at the time of CIDR withdrawal resulting in a 2x2 factorial design: 24h300IU; 24h400IU; 300IU; and 400 IU groups. Estrus was detected by use of a vasectomized at 4 h intervals following CIDR removal. Trans-rectal ultrasonography began 16 h after estrus detection in each ewe and was performed every 6 h until ovulation was detected by the disappearance of the dominant follicle. For the statistical analysis the differences in the range of ovulation times were compared using the F test and the R Core Team statistical program 2013. The average time of estrus and ovulation was 35.25 and 61.70 h, respectively. The 24h400IU group showed greater variation (60 h) in the initial time of detected estrus behavior ($P < 0.05$) compared with the 24h300IU (25 h), 300IU (20 h) and the 400IU (25 h) groups. Also, the 24h400IU (60 h) group showed greater variation in the initial time of ovulation ($P < 0.05$) compared with the 24h300IU (25 h) and 300IU (25 h) groups whereas the 400IU (40 h) group was not significantly different from any group. These results suggest that the 300 IU eCG protocol was effective at synchronizing the estrus and ovulation of Santa Inês ewes however, new protocols should be evaluated to decrease the variation in time to ovulation following CIDR removal in order to increase the fertility rates when using frozen/thawed semen and FTAI.

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