



INDUCTION OF SYNCHRONIZED ESTRUS IN SANTA INÊS SHEEP

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Exploration of sheep production systems in tropical conditions tends to expand as meat demand of sheep arises. In this scenario, Brazilian population of sheep is supposed to reach at about 100 millions animals in the next fifteen years. Actually, Brazil has a great variety of native breeds of sheep, in which Santa Inês breed occupies one of the principal roles. However, the Santa Inês was developed along of five centuries in the northwest region and now animals are exported to other regions, where environmental and production systems are different. Despite Santa Inês ewe can cycle continuously during the year, if adequate nutrition is provided, in some situations synchronized estrus should be induced. Estrus is commonly and efficiently induced by use of the male effect or natural breeding (GORDON, 1997) but a more precise technique is needed if artificial insemination was employed. In this case, hormonal induction of estrus can efficiently reported in hair sheep (GORDON, 1997) but lacks information in Santa Inês breed. The objective of this study was to investigate the efficiency of induction of estrus in Santa Inês sheep.

Material and Methods

Ten ewes were randomly assigned to two treatments (T 1 and T 2). In both treatments, ewes received intravaginal sponges containing 60 mg medroxy-progesterone acetate (Estroforte®, Umuarama-PR, Brasil) for six days and subvulvar administration of 22.5 µg of d-cloprostenol (Prolise®, Tecnopec, Brasil) 24 hours before sponge removal. In T1 (n=5) and T2 (n=5), animals received intramuscular administration of 200 IU of equine chorionic gonadotropin (eCG, Novormon®, Syntex, Argentina) and 250 IU human chorionic gonadotropin (hCG, Vetecor®, São Paulo, Laboratórios Calier do Brasil), respectively. After sponge removal, ewes were monitored twice daily (07:00 a.m. and 19:00 p.m.) with a fertile ram. Start and end of estrus were recorded as the first and last time that females stayed immobile for mounting. Animals were bred at the start of estrus and at each 12 hours interval until the end of estrus. Pregnancy was checked by ultrasonography 63 days after breeding. Estrus induction, pregnancy rate, interval from sponge removal to onset of estrus (IE) and duration of estrus (DE) were recorded in descriptive data.

Results and Discussion

Percentage of animals in estrus was 60 and 80% for T1 and T2, respectively. Interval from sponge removal to the onset of estrus (IE) and duration of estrus were respectively 40.0±12.0 h and 12.0±0.0 h for T1 and 49.0±18.0 h and 21.0±17.3 h for T2. HUSEIN *et al.* (1998) reported IE of 30 h in ewes treated with sponges for 12 days and 500 IU eCG at the sponge removal. This relatively shorter IE was probably due to greater eCG dose, which decrease IE in goats (REGUEIRO *et al.*, 1999). Four females started estrus during the night and three during the day. Additionally, four females finished estrus during the night and three during the day. FONSECA *et al.* (2004) reported that estrus started and finished predominantly during the night in goats. In Santa Inês ewes this phenomenon needs more study. Pregnancy rate was 100% (3/3) and 50% (2/4) for eCG treated and hCG treated ewes, respectively. HUSEIN *et al.* (1998) reported 70% pregnancy rate in ewes artificially inseminated after 12 d sponge treatment and 500 IU eCG.

Conclusion

Both protocols were efficient to induce synchronized estrus in sheep. Increasing the number of animals per treatment can give a more elucidative analysis of the reproductive parameters involved.

References

- FONSECA, J.F.; BRUSCHI, J.H.; SANTOS, I.C.C.; VIANA, J.H.M.; MAGALHÃES, A.C.M. Induction of estrus in non-lactating dairy goats with different estrous synchrony protocols. *Anim. Reprod. Sci.* (in press), 2004.
 GORDON, I. *Controlled reproduction in sheep and goats*. Cambridge, UK: University Press, p.86-115, 1997.
 HUSEIN, M.Q.; BAILEY, M.T.; ABABNEH, M.M.; ROMANA, J.E.; CRABO, B.G.; WHEATON, J.E. Effect of eCG on the pregnancy rate of ewes transcervically inseminated with frozen-thawed semen outside the breeding season. *Theriogenology*, v.49, p.997-1005, 1998.
 REGUEIRO, M.; PÉREZ CLARIGET, R.; GANZÁBAL, A.; ABA, M.; FOSBERG, M. Effect of medroxyprogesterone acetate and eCG treatment on the reproductive performance of dairy goats. *Small Rumin. Res.*, v.33, p.223-230, 1999.

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