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SYNCHRONIZATION OF OVULATION (FTET) IN TURCANA SHEEP AS EMBRYO RECIPIENTS

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Abstract

Due to the fact that the farm wants to crossbreed sheep with meat breeds, it was opted for the fastest solution to bring genetic progress, namely embryo transfer, using sheep from the Turcan breed as embryo recipients and those from the Suffolk breed as embryo donors, so that finally the batch of receivers after parturition will produce a production of Suffolk lambs. Following the selection of recipients considering the standard criteria that include: general health, functional integrity of the genital tract and cyclic activity of the ovaries, two groups were formed for the induction and synchronization of estrus. The first batch consisted of 20 sheep and the second batch of 20. The first batch was subjected to a P4-PG-PMSG protocol and the second batch to the P4-PG-GnRH protocol. The two protocols consisted of the insertion of intravaginal sponges with flugestone acetate in a concentration of 20mg, to induce the progesterone phase, for 13 days, day 0 of the protocols being represented by the day when the progesterone sponges were applied. In continuation of the protocol, Prostaglandinf2α was used on day 12 in a double dose, in the morning and in the evening at a distance of 12 hours in a dose of 0.6 ml/administration/animal. On day 13, the progesterone sponges were removed and PMSG (Folligon) was administered in the case of the first batch at a dose of 600 IU/animal, and in the second batch GnRH (Receptal) was administered at a dose of 12 μg/animal (3ml/animal) followed by a dose of 600 IU HCG (Chorulon) 24 hours after GnRH administration. Ovulation was accurately assessed at the time of embryo transfer through laparotomy, due to the highlighting of the ovaries and their macroscopic analysis in the operative field, after identifying the CL on the ovary, their appearance and the number of CL on the ovary. However, the assessment of the rate of entry into heat was assessed 24 hours after the end of the protocol by biostimulating the receptors with the help of detector rams, thus the ewes that entered in estrus at 12 – 24 hours, 24 – 48 of hours or over 48 hours after completing the protocol. The results obtained in the case of the first batch having the highest rate of entering in estrus between 24 - 48 hours being 40%, followed by a rate of 30% between 12 - 24 hours, the lowest rate being 20% that entered in estrus after 48 hours, the second batch with GnRH had the highest rate of entry into estrus of 60% in the first 12-24 hours and the rate at 24-48 hours, respectively those that entered heat after 48 hours was 20%. Compared between the two groups, there were differences in the timing of ovulation assessment, as in the case of the first group with PMSG, a 60% ovulation rate was assessed with well-developed CL, 10% presented CL but these were unsuitable for embryo transfer, 10% presented ovarian cysts, and 10% did not ovulate, in the case of the second batch an ovulation rate of 60% was assessed and the rate of 40% represented the animals that did not ovulate, the difference between the two batches being the fact that it is observed in the case of the first batch rate of 10% with ovarian cysts, which indicates that the PMSG-based pharmaceutical is causing ovarian cysts. In conclusion, the therapeutic protocol used in the off-season for the induction of estrus and ovulation in Turcan sheep, in this study, resulted in the detection of estrus in 90% of the ewes subjected to the protocol, and the ovulation rate was 80% (60% with CL well developed and 20% were with poorly developed CL), regarding the first batch, and regarding the second batch 100% of ewes in oestrus were detected, but 60% of them ovulated with CL well developed. These results can be largely attributed to the reproduction seasonality of the sheep.

Key words: Țurcana, Embryotransfer, Receptors, Synchronization, Ovulation.