



A116 FTAI, FTET and AI

Influence of duration of treatment with medroxyprogesterone acetate sponge on reproductive parameters of Santa Inês ewes subjected to estrus synchronization

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Keywords: artificial insemination, estrus synchronization, sheep.

The aim of this study was to evaluate the effect of three different treatment periods with medroxyprogesterone acetate (MAP) sponge on reproductive parameters of Santa Inês ewes subjected to estrus synchronization. Thirty two ewes were divided into three groups. In D0, animals received intravaginal sponges containing 60mg of MAP (Progespon®, MSD Animal health, Brazil), what were kept for 6 (G1, n = 11), 9 (G2, n = 11) or 12 (G3, n = 10) days. All the ewes received 75 µg of D-Cloprostenol IM (Prolise®, Tecnopec, São Paulo, Brazil) and 300 IU of eCG IM (Novormon®, MSD Animal Health, São Paulo, Brazil) 24 hours before the sponge removal. Transrectal ovarian ultrasonography was performed for monitoring follicular dynamics and to determine ovulation time, procedure done once a day until sponge removal and twice a day afterwards. After sponge removal, all ewes were subjected to a teaser male twice daily, for three days, until detection of estrus. The qualitative variable was assessed by Fisher's exact test. The results for quantitative variables of the animals presenting estrous behavior were tested for normality by Lilliefors test, and then subjected to ANOVA and Tukey's tests. The variables also were tested concerning correlations among them (Pearson correlation - SAEG). In regards to estrus behavior, G1 had 72.7% (8/11), in G2 72.7% (8/11), and in G3 80% (8/10) ($P > 0.05$). The protocols affected the interval (h) from sponge removal to onset of estrus (IROE) and interval from sponge removal to ovulation (IRO) (respectively, G1: 46.0 ± 8.9^a and 71.9 ± 10.6^a ; G2: 31.0 ± 7.7^b and 58.7 ± 8.7^b ; G3: $34.6 \pm 15.3^{a,b}$ and $64.0 \pm 9.5^{a,b}$; $P < 0.05$). In terms of duration of estrus (DE), interval from sponge removal to end of estrus (IREE) and interval from onset of estrus to ovulation (IOEO), there were no differences among protocols (respectively, G1: 39.0 ± 14.0 / 85.0 ± 12.7 / 25.9 ± 6.1 ; G2: 42.0 ± 12.8 / 73.0 ± 14.2 / 27.7 ± 1.1 ; G3: 41.1 ± 21.7 / 75.8 ± 16.1 / 29.4 ± 11.3 ; $P > 0.05$). Positive correlations were found between the variables DE/IREE, DE/IOEO, IROE/IRO and IREE/IRO ($P < 0.05$; respectively, 0.67; 0.53; 0.82; 0.49), and negative correlations were detected between the variables DE/IROE and IROE/IOEO ($P < 0.05$; respectively, -0.47 and -0.49). Although the three protocols were equally effective in synchronizing estrus, there was a greater individual variation in the 12 days protocol. In addition, the 6 days protocol showed greater IROE and IRO than the 9 days protocol, which should be taken into account in reproductive management practices when these treatments are employed.