EFFECT OF PROGESTERONE AND PROSTAGLANDIN ANALLOGUE-BASED SYNCHRONIZATION PROGRAMS ON THE FOLLICULAR DYNAMICS AND CONCEPTION RATE AT TWO DIFFERENT BREEDING SEASONS IN SUBTROPICAL EWES

T.M. EL-SHERRY, D.R. DERAR, M. HAYDER H. HAMDON and E. SAIFELNASR

Abstract:

The present study aimed to investigate the effect of using progesterone- and prostaglandin analogue-based synchronization programs on follicular dynamics and conception rate in subtropical ewes during winter and spring breeding seasons. A total of 80 ewes were assigned into 4 equal groups; Sponge-Spring (SS), Sponge- Winter (SW), PGF2α-Spring (PS) and PGF2α-Winter (PW). In PGF2α-based protocols, 2 injections of natural PGF2α with 10 days apart were used. In progesterone-based protocol, one intravaginal progestagen impregnated sponge inserted for 14 days. The estrus behavior was detected every 4 hrs after the second injection of PGF2α or the withdrawal of sponge (Day 0) until the estrus signs were no longer detected using teaser rams. Mating with fertile rams was scheduled every 12 hours during heat. Ultrasonography examinations were started at day 0 and every 12 hrs for 5 days. The results showed that season significantly affected the duration of estrus (P < 0.05) which was longer in winter than spring (SW; 29.6 ± 3.0, PW; 27.1 ± 1.8 Vs. SS; 21.7 ± 2.0 PS; 16.3 ± 3.0 hrs), while the onset of estrus started at the same times in all groups. On the other hand, the treatment manipulated the patterns of follicular growth. In sponge groups, the pattern was classified according to the number of ovulatory follicles (single or multiple) while in PGF2α groups the classification was according to the origin of follicular wave (before or after second PGF2α treatment). We found that 22% of dominant follicles were ovulated within 12 hours after injection of PGF2α. The study revealed that season and treatment affected the conception rate and litter size. The spring season significantly decreased the conception rate (P

Keywords:

Ewe, PGF2α, sponge, synchronization, ultrasonography.

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