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# 317 EFFECT OF TIME OF ONSET OF FOLLICLE-STIMULATING HORMONE TREATMENT ON SUPEROVULATORY RESPONSE AND EMBRYO YIELD OF SANTA INES EWES DURING BREEDING SEASON

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## Abstract

This study was designed to investigate if the time of onset of FSH treatment [near the emergence of first or last follicular wave on progesterone (P4) protocol] influenced the superovulatory response and embryo yield in Santa Ines ewes during breeding season. Days of emergence of the follicular waves were defined in a previous study that evaluated the follicular dynamic in oestrus synchronization treatments (Oliveira *et al.* 2011 Acta Sci. Vet. **40**). We observed emergence of the first and last follicular wave on 5.69 ± 0.42 and 11.25 ± 0.39 days of protocol, respectively. Twenty Santa Ines ewes were submitted to 2 superovulatory protocols according to the time that FSH treatments were initiated (G-first wave, *n* = 10; G-last wave, *n* = 10). On Day 0, all ewes received a P4 device (CIDR®; Pfizer Animal Health, New York, NY, USA) and injection of 37.5 μg of D-cloprostenol, IM. The FSH treatments started on Day 6 and Day 11 of protocol for G-first and G-last, respectively. The superovulatory regimen consisted of 8 IM injections of pFSH administrated twice daily (40, 40, 30, 30, 20, 20, 10, and 10 mg of pFSH). The P4 device was removed on Day 8 and Day 13 for G-first and G-last, respectively. At these times, all ewes received another injection of 37.5 μg of D-cloprostenol and a dose of 200 IU of eCG. During 4 days after the P4 device removal, ewes were mated by a fertile ram. Embryo collections were accomplished 7 days after CIDR withdrawal. The ovaries were evaluated by ultrasonography (3 times daily, during the mating period) and laparotomy (concomitantly with embryo collection). The superovulatory response was observed by classified by score: 0 = 4 or fewer corpora lutea (CL); 1 = between 5 and 10 CL; and 2 = 11 or more CL. Data were analysed by GLIMMIX using SAS software (SAS Institute Inc., Cary, NC, USA). All donors from G-first had superovulatory [illegible] fied as score 2, 20% as score 1, and [illegible] or ovulation rate (G-first: 97.9 ± 1.4% *v.* G-last: 88.5 ± 4.4%) and number of ovulations (G-first: 17.0 ± 2.3 *v.* G-last: 12.5 ± 2.6). The numbers of luteinized unovulated follicles were 0.7 ± 0.5 for G-first and 1.2 ± 0.4 for G-last ($P > 0.05$). There was no difference between G-first and G-last ($P > 0.05$) in the rate of ova/embryos recovered (54.9 ± 5.7% *v.* 49.3 ± 8.5%), mean number of ova/embryos recovered (9.0 ± 1.4 *v.* 6.3 ± 1.1), number of viable embryos (3.8 ± 1.5 *v.* 3.4 ± 0.8), or viability rate (40.3 ± 10.8 *v.* 53.4 ± 12.1). In conclusion, the FSH treatment started near the emergence of the first follicular wave of progesterone protocol in Santa Ines ewes during the breeding season resulted in a higher superovulatory response than that started near the last follicular wave; however, no improvements in embryo yield were observed.

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