22 INFLUENCE OF SEASONALITY ON OVULATORY FOLLICULAR WAVE DYNAMIC IN LONG PROTOCOLS IN SANTA INÊS SHEEP IN THE TROPICS

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Abstract

This study was designed to investigate the influence of seasonality on ovulatory follicular wave dynamics in long protocols, with or without P4 device replacement, in Santa Inês sheep. Seventy adult ewes were submitted to 2 synchronization protocols in 3 seasons (factorial 2 × 3; non-breeding: G-1CIDR, n = 12 and G-2CIDR, n = 11; transition: G-1CIDR, n = 12 and G-2CIDR, n = 12; breeding: G-1CIDR, n = 11 and G-2CIDR, n = 12). On D0 (randomised day of oestrus cycle), the oestrus was synchronized with a P4 device (CIDR™; Pfizer, New Zealand) for 14 days. However, in G-2CIDR, the CIDR was replaced by a new one on D7. At D0 and 14, 2.5 mg of dinoprost (Lutalyse™, Pfizer, New Zealand), IM, were administered, and on D14, all ewes received 300 IU of eCG (Novormon™, Syntex, Argentina). Ultrasonographic exam was performed daily between D0 and D14 and, every 8 h until D19. Data were analysed by GLIMMIX using SAS (SAS Institute Inc., Cary, NC, USA). There was no interaction between groups and seasons, being presented the main effects for the variables. There were effects of treatment on the day of emergence of an ovulatory wave (G-1CIDR: 8.28 ± 0.54 and G-2CIDR: 9.23 ± 0.44; P = 0.04), maximum diameter of first ovulatory follicle (G-1CIDR: 8.09 ± 0.22 v. G-2CIDR: 7.62 ± 0.19 mm; P = 0.02) and duration of follicular growth (G-1CIDR: 192.00 ± 11.27 v. G-2CIDR: 175.70 ± 9.92 h; P = 0.07). However, there were no effect of treatment on day of ovulation (G-1CIDR: 17.11 ± 0.11 v. G-2CIDR: 17.20 ± 0.10; P = 0.43), ovulatory diameter (G-1CIDR: 7.45 ± 0.21 v. G-2CIDR: 7.34 ± 0.19 mm; P = 0.59), and follicular growth rate (G-1CIDR: 0.69 ± 0.04 v. G-2CIDR: 0.71 ± 0.03 mm day–1; P = 0.65). Effects of season were observed on day of emergence (non-breeding: 7.07 ± 0.641a v. transition: 9.09 ± 0.61b v. breeding: 9.89 ± 0.48b; P < 0.0001), maximum diameter of first ovulatory follicle (non-breeding: 8.28 ± 0.24a v. transition: 7.71 ± 0.26b v. breeding: 7.54 ± 0.21b mm; P = 0.01), ovulatory diameter (non-breeding: 7.70 ± 0.23a v. transition: 7.59 ± 0.26a v. breeding: 6.88 ± 0.21b mm; P = 0.006) and duration of follicular growth (non-breeding: 216.11 ± 12.38a v. transition: 177.38 ± 13.67b v. breeding: 162.57 ± 11.28b h; P = 0.0004). Season had no effect on day of ovulation (non-breeding: 17.15 ± 0.12 v. transition: 17.05 ± 0.14 v. breeding: 17.28 ± 0.11; P = 0.40), and follicular growth rate (non-breeding: 0.66 ± 0.04 v. transition: 0.67 ± 0.05 v. breeding: 0.77 ± 0.04 mm day–1; P = 0.11). Therefore, both protocols showed efficiency in synchronization regardless of the season. Furthermore, protocols and seasons promoted effect on the day of emergence of ovulatory wave, thus influencing the other variables.

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