

Corpora lutea diameter, plasma progesterone concentration and follicular development in PGF2 α and CIDR estrus synchronized goats.

ABSTRACT

The current study compares the number and diameter of the corpora lutea (CL), plasma progesterone concentrations and follicular development in PGF2 α and CIDR synchronized estrus cycle, their subsequent estrus cycles, and in unsynchronized, naturally cycling Boer x Feral crossbred goats. The PGF2 α group was synchronized with a double intramuscular injection of 125 μ g cloprostenol 11 days apart, the progesterone group was synchronized with CIDR left in place for 17 days, while the third group was not synchronized and served as control. All the estrus synchronized goats ovulated and formed normal CL while 25% in the subsequent estrus cycle and 50% of the naturally cycling goats did not ovulate and hence might be a cause of reduced fertility in the goats. The diameter of the CL, and the plasma progesterone concentration between the PGF2 α synchronized (11.9 \pm 0.5 mm; 3.51 \pm 0.19 ng/ml) and their subsequent estrus cycle (12.0 \pm 0.4 mm; 3.22 \pm 0.71 ng/ml), as well as between CIDR synchronized (12.3 \pm 0.4 mm; 5.98 \pm 1.11 ng/ml) and subsequent estrus cycle (12.5 \pm 0.8 mm; 4.25 \pm 1.37 ng/ml) were not significantly different ($P > 0.05$) but were higher than in the unsynchronized goats (9.3 \pm 3.8 mm; 2.99 \pm 1.64 ng/ml). The day of emergence and duration of follicular waves, as well as the maximum diameter attained by the largest follicle in the follicular waves was unaffected irrespective of whether PGF2 α or CIDR was used for estrus synchronization. This indicated that the morphology and function of the CL did not influence these aspects of follicular development in non-seasonally polyestrous Boer crossbred goats in the humid tropics.

Keyword: CIDR; Corpus luteum; Follicles; Goats; PGF2 α ; Ultrasonography.