

## The effects of PGF2 $\alpha$ and CIDR on ovarian antral follicular development and plasma IGF-1 concentration in goats.

### ABSTRACT

The aim of this study was to determine the effects of oestrus synchronization with PGF2 $\alpha$ , and CIDR on the ovarian antral follicle population and plasma IGF-1 concentration in goats. Daily transrectal ultrasonographic examination was conducted in 24 regularly cycling goats that were divided equally into 3 groups and oestrus synchronized with PGF2 $\alpha$ , (group A), CIDR (group B) and unsynchronized group (C). The mean number of follicles and IGF-1 concentration was significantly higher in the synchronized and subsequent natural oestrous cycles of group A and B when compared to group C. The total number of 3mm diameter follicles were significantly higher in groups A and B compared with the control group C while the follicles that were 6mm and larger were not significantly different ( $p > 0.05$ ). There was a significant low positive correlation ( $r = 0.14$ ,  $N = 234$ ) between IGF-1 concentration and the number of 3mm follicles and between plasma IGF-I concentration and number of follicles ( $r = 0.13$ ,  $N = 234$ ). In conclusion, oestrus synchronization with PGF2 $\alpha$ , or CIDR was associated with increased plasma IGF-1 concentration and number of follicles compared with naturally cycling goats.

**Keyword:** Oestrus synchronization; Ultrasonography; CIDR; PGF2alpha; Follicular development; IGF-1; Goats.