

The incidence of estrus was higher ( $P < 0.05$ ) in native pasture than confinement (53.0 vs. 47.0%)

KEY WORDS: Reproduction/Marota, Moxoto, SRD, native pasture and confinement.

258 PROGESTERONE AND LH PROFILES DURING THE ESTROUS CYCLE AND SEASONAL ANESTRUS IN SPANISH GOATS IN THE UNITED STATES.

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This study was conducted at the Agricultural Experiment Station, Utah. Four does and one vasectomized adult buck were used. The goats were kept confined and fed alfalfa pellets. During anestrus, 5 ml of jugular blood was collected at 15 minute intervals during a 10 hour period on June 3, 10, 17 and 24. The blood was placed on ice, allowed to clot, and the serum separated by centrifugation at 3000 rpm, for 15 minutes and stored at  $-10^{\circ}\text{C}$ . During the breeding season, the does were synchronized using intravaginal sponges containing 45 mg of FGA, for 21 days. At the second post synchronized estrous period, blood samples were obtained at 15 minute intervals during a ten hour period on days 3, 7, 11, and 15 and daily during a six hour period from day 17 to day 3 of the next estrous cycle. The blood was placed on ice, centrifuged within a period of two hours and the serum was stored at  $-10^{\circ}\text{C}$ . The progesterone and LH were determined by RIA. During anestrus, the mean  $\pm$  SEM progesterone concentration was  $0.1 \pm 0.005$  ng/ml. Mean blood serum LH concentrations of  $0.4 \pm 0.03$ ,  $4.0 \pm 1.47$  and  $3.4 \pm 1.49$  ng/ml were found for basal, LH pulse peaks and amplitude of pulse peaks, respectively. A LH pulse peak occurred at approximately 3.75 hour intervals. During the breeding season, the mean estrous cycle length was  $21.0 \pm 0.37$  days. The luteal phase had a duration of  $16.0 \pm 0.37$  days (15 to 17 day range) and the luteolysis appeared to be completed by day -1. During the luteal phase the mean progesterone concentration was  $7.5 \pm 0.57$  ng/ml. A pulse peak of LH took place at approximately 2.27 hour intervals. Mean LH concentration of  $0.3 \pm 0.02$ ,  $6.0 \pm 0.73$  and  $5.7 \pm 0.87$  ng/ml were observed for basal, LH pulse peaks and amplitude of LH pulse peaks, respectively. On day 0 (estrus), the mean progesterone concentration was  $0.2 \pm 0.01$  ng/ml. On or around the same period, a pulse peak of LH occurred at approximately 1.0 hour intervals. Mean concentrations of LH basal, pulse peaks and amplitude of pulse peaks were  $1.4 \pm 0.15$ ,  $10.4 \pm 1.05$  and  $8.7 \pm 1.04$  ng/ml;  $6.1 \pm 0.71$ ,  $28.0 \pm 4.99$  and  $18.4 \pm 3.78$  ng/ml;  $5.6 \pm 0.93$ ,  $27.1 \pm 8.53$  and  $11.5 \pm 3.25$  ng/ml;  $0.8 \pm 0.11$ ,  $11.0 \pm 4.03$  and  $10.2 \pm 4.04$  ng/ml;  $1.2 \pm 0.13$ ,  $7.9 \pm 1.01$  and  $6.8 \pm 0.98$  ng/ml, on day -1, 0, +1, +2 and +3, respectively.

KEY WORDS: Reproduction, physiology, hormone.

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