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SUPEROVULATION AND EMBRYO RECOVERY BY TRANSCERVICAL TECHNIQUE IN TOGGENBURG GOATS DURING SEASONAL ANESTRUS

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Superovulation is a less predictable event in the production of embryos. Its success is dependent upon the stage of follicular development in the ovary at the start of the administration of FSH. The aim of this study was to evaluate two estrus synchronization protocols based on superovulation programs in Toggenburg goats during seasonal anestrus. Twenty-eight goats were randomly assigned in 2x2 experimental groups, consisting in two protocols of estrus synchronization with 6 (G6) or 17 (G17) days of intravaginal device permanence (CIDR[®], Pfizer Animal Health, São Paulo, Brazil) and two sources of FSH including 133mg (A; Folltropim[®], Bioniche, Canada) or 250UI (B; Pluset[®], Hertape Calier) both diluted into 20mL saline solution and administered in six decreasing doses (5-5-3-3-2-2 mL) 12 h apart. G6 goats received 37.5µg d-cloprostenol (Prolise[®], Tecnopec Ltda, São Paulo, Brazil) at device insertion. The same dose was also given to animals 12h before the first dose of FSH in G17 goats and simultaneously to the fifth FSH dose in G6 animals. All animals were natural mated at 12h interval and received three doses of 1.5 mL flunixin-meglumine (Banamine[®], Shering Plough, São Paulo, Brazil) 84h after the onset of estrus. Embryos were collected 6 to 7 days after the onset of estrus by nonsurgical transcervical technique. Estrous response was observed in 100% (7/7) G6-A, 71.4% (5/7) G6-B, 57.2% (4/7) G17-A, and 100% (7/7) G17-B goats. Embryo collection was done in all goats (82.1% - 23/28) that showed estrus. The total number of structures, viable embryos, un-fertilized oocytes and degenerated structures were 5.7±5.79, 3.7±3.8, 1.7±2.4 and 0.3±0.5 for G6-A; 6.5±4.6, 0.5±1.0, 5.2±5.1 and 0.7±1.5 for G6-B, 3.2±3.0, 1.0±1.1, 0.0±0.0 and 2.2±3.3 for G17-A; and 4.2±6.2, 1.0±2.0, 0.0±0.0 and 3.2±6.5 for G17-B animals, respectively. Both protocols need to be adjusted to superovulate Toggenburg goats. The choice of the protocol must consider other parameters such as the FSH dose and the ovarian follicular status at the beginning of the FSH treatment.

Keyword: Follicular dynamics, ovulation, superovulation and goats.

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