Use of cloprostenol to synchronize estrus after induction by light program in anestrous dairy goats

Uso de cloprostenol para sincronização do estro após indução por meio de programa de luz em caprinos leiteiros na estação de anestro estacional

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In Brazilian Southeast, dairy goats are expected to demonstrate natural estrus from the end of summer to the beginning of winter. A strategy to overcome this condition is to induce estrus by light program, which consists in 16 h of light and 8 h of darkness per day, during 60 days (30th of June to 29th of August). On average, after 60 days (end of October), goats efficiently show estrus but not in a synchronous form. This study aimed to test the possibility to synchronize estrus with cloprostenol in dairy goats submitted to light program, after estrous detection. Ten dairy goats (5 nulliparous and 5 pluriparous) received two 37.5 μg d-cloprostenol injections at 11.5 days apart (Prolise®; ARSA S.R.L., Buenos Aires, Argentina) by latero-vulvar route. Body condition score ranged from 2.75 to 3.75 (1 to 5 variation). Estrus was detected twice daily after the second cloprostenol dose for five days and artificial insemination (AI) was performed at 18 (first estrous identification at the end of afternoon) to 24 h (first estrous identification at the beginning of the morning) after estrous onset. Mucus type was observed at the time of AI. Transrectal ultrassography was carried out at 60 days after AI. Data registered after the second cloprostenol administration are described in descriptive form. A total of 80% (4 nulliparous and 4 pluriparous) of estrous response was obtained and only these goats were inseminated. Interval to estrus was 42.0 ± 6.4 h (36 to 48 h range). AI performed in standing position resulted in 100% of uterine semen deposition with cervical mucus varying from striated to striated-caseous. Conception rate was 50% (2 nulliparous and 2 pluriparous). This is possibly the first report of estrous synchronization with cloprostenol doses after estrous induction by light program. Light program is considered the less invasive and less artificial form to induce estrus in anestrous goats in the non-breeding season while PGF2α is also less artificial and low-cost form to synchronize estrus efficiently in cyclic goats. Both estrous control techniques do not require milk discharge. The sequential association of these two tools can provide synchronous estrus during the non-breeding season, allowing AI to be performed in timed like scheme similar to the breeding season in dairy goats.

Keywords: estrous synchronization, light program, pregnancy rate, dairy goat.
***Palavras-chave**: sincronização de estro, programa de luz, taxa de gestação, caprino leiteiro.*

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