

## **Prostaglandin synchronization allows increasing silent estrous in ewes reared at high altitude**

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Sheep breeding is an important farm activity at the Andean highlands. However, the sheep productivity is low due to the hard environmental conditions and to absence of animal improvement. Estrous synchronization is essential in reproductive programs allowing to animal improvement. Cloprostenol (synthetic PGF<sub>2α</sub> analogous) has shown to be efficient for estrous synchronization in cycling sheep at low altitude (LA). The aim of the present work was to compare the synchronizing effect of cloprostenol in both native and naïve ewes at high altitude (HA). Twenty mature cycling ewes were used: HA natives (group “HH”, n=10) and LA natives recently brought to HA (group “LH”, n=10). The ewes were maintained at an altitude of 3600 m and treated with two doses of cloprostenol 125 µg, 10 days apart. Four chest painted vasectomized rams were joined with the ewes for estrous detection. Ovaries were daily observed by ultrasound for follicular or corpus luteum dynamics, using a 7.5 MHz probe. The studied variables were: rate of ewes in estrous after treatment, time course between treatment and start of the estrous and length of the cycle. Data were analyzed by chi-square and T test when corresponded, comparing the effect of animal origin (HA v/s LA). Few animals evidenced estrous behavior (HH=5/10; LH=2/10, P=0.16), although all of the HH and 8/10 LH ewes showed follicular growth and ovulation. The time course between treatment and start of the estrous were 72.0±16.9 h and 24.0±0 h for HH and LH ewes, respectively (P=0.013). No difference was observed for the length of the estrous cycle (HH=16.0±2.0 days, LH=16.6±0.5 days; P=0.53). It is concluded that cloprostenol is not recommended for estrous synchronization in ewes at HA, due to interference with estrous behavior expression, then increasing silent estrous.

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