Effects of hCG on progesterone concentrations and fidelity in cyclic, lactating Alpine goats

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Abstract

The objective of this study was to evaluate the effect of hCG administration on plasma progesterone concentrations in lactating Alpine goats during the natural breeding season. After detection of estrus, 124 does were randomly assigned to one of two treatments (T1 and T2). In T1 (n = 60) and T2 (n = 64), the animals received 1 ml of saline solution or 250 IU of hCG i.m., respectively, 5 days after the first detection of estrus and breeding. Plasma progesterone concentration (ng/mL) was determined from blood sampled (T1 = 12 and T2 = 13) on Days 0 (day of estrus), 5, 7, 13, 17, 21, 28 and 45 after breeding. Two control goats with short cycles and two nymphomaniac goats (one per treatment) were detected. Plasma progesterone concentration (mean ± SEM) for T1 and T2 females differed on Days 13, 17 (P < 0.005) and 21 (P < 0.075), being respectively 3.8 ± 0.2 and 6.6 ± 0.7 at Day 13; 3.6 ± 0.1 and 6.5 ± 0.7 at Day 17; 4.3 ± 0.4 and 6.4 ± 0.9 at Day 21. Pregnancy rates on Days 35 and 70 did not differ (P > 0.05) between T1 (78.3%) and T2 (84.4%) does. The hCG administration 5 days after breeding increased plasma progesterone concentrations on Days 13 to 21 but did not increase pregnancy rate.

Keywords: hCG, progesterone, fertility, goat.