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77 USE OF SEMINAL PLASMA TO IMPROVE REPRODUCTIVE PERFORMANCE IN ALPACAS (VICUGNA PACOS) FOLLOWING NATURAL MOUNTING

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Alpacas are classified as induced ovulators, and an external stimulus is required for the occurrence of ovulation. The seminal plasma (SP) of camelids contains a protein identified as ß nerve growth factor with the capacity to induce ovulation and corpus luteum formation. Alpacas have a poor reproductive efficiency and high embryo mortality rate. A study was designed to evaluate the use of SP to improve reproductive performance post natural mating (Exp. 1) and with different mounting time (MT; Exp. 2). Experiment 1: Nonpregnant alpacas (n = 117) exhibiting a dominant follicle = 7 mm, detected by transrectal ultrasonography, were bred by natural mating and then assigned randomly to 1 of 3 treatments: T1 (n = 40), 1 mL of SP IM; T2 (n = 39), 1 mL of GnRH analogue (0.0042 mg of buserelin acetate), IM; and T3 (n = 38), control. Experiment 2: Nonpregnant alpacas (n = 180) exhibiting a follicle = 7 mm were assigned randomly to the following treatments: T1 (n = 30): MT 5 min; T2 (n = 30): MT 5 min + 1 mL of SP; T3 (n = 30): MT 10 min; T4 (n = 30): MT 10 min + 1 mL of SP; T5 (n = 30): MT > 15 min; T6 (n = 30): MT > 15 min + 1 mL of SP. The same male was used for mating females in T1 and T2, T3 and T4, and T5 and T6, respectively. Animals were evaluated by ultrasound with an Aloka SSD 500 (Aloka, Tokyo, Japan) and 5.0-MHz linear transducer on Day 25 for pregnancy diagnosis. In Exp. 1 the conception rate was 67.5, 51.3, and 55.3% for T1, T2, and T3, respectively (P > 0.05). In Exp. 2 the conception rate was 46.2, 67.9, 57.1, 73.3, 61.8, and 72.7% for T1, T2, T3, T4, T5, and T6 (P < 0.05) and was significantly different between T1 *v.* T2 and T3 *v.* T4. The results suggest that the use of SP could be one method to improve reproductive performance in alpacas.

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