Effect of corpus luteum and location on pregnancy rate following embryo transfer in alpacas (*Vicugna pacos*)

Y. Picha, a,b J. Sumar, a P. Arellano, a V. Montenegro, a P. Londoño, a C. Rodriguez, a D. Sanchez, a R. Torres, a A. Tibary b

SUMAC TARPUY Embryo Transfer Laboratory, Ayaviri, Puno, Perú; bComparative Theriogenology, Veterinary Clinical Sciences, College of Veterinary Medicine, Washington State University, Pullman, WA

In camelids, the corpus luteum (CL) is the sole source of progesterone during pregnancy and its presence is required throughout gestation.1 Several factors play an important role in the success of an embryo transfer (ET) including the quality of the CL. We hypothesized that the CL size of the recipient at the time of the ET could play an important role in the establishment and maintenance of the pregnancy.

Embryos were collected non-surgically on day 7.4 post-breeding and transferred to synchronized females from a pool of recipients induced to ovulate by buserelin (8.4 µg, IM, Conceptal®, Intervet, Lima, Peru) to match ovulation time with the corresponding donor. Recipients were examined on the day of the transfer and the CL location and size were determined by ultrasonography. Embryos (n=651) were transferred non-surgically into the left uterine horn regardless of the location of the CL. Pregnancy diagnosis was performed eight days after transfer and the effect of the location and the size of the CL on the pregnancy rates were analyzed by ANOVA.

The CL was located on the left ovary and right ovary, respectively, in 57.6% and 42.4% of the recipients. The pregnancy rate was significantly different (P<0.001) between recipients with the CL on the left ovary (20.3%) compared to those with the CL on the right ovary (12.4%). None of the recipients with a CL diameter of 9 mm or less became pregnant. The pregnancy rate was also very low in females with a CL > 19 mm however the number of animals in this category was too low to provide a statistical analysis.

In conclusion, our results show that the location of the CL in recipients is a very important parameter to take into account when transferring embryos. Recipients should have a CL of between 10 and 19 mm in diameter. More research is needed to compare the transfer of the embryo to the uterine horn ipsilateral to the CL bearing ovary.

**Keywords:** Camelid, embryo, pregnancy, maternal recognition

**Reference**