

*Superovulation***191 The effect of high and low doses of follicle-stimulating hormone on embryo collection in Romanov sheep***B. Carwell^A, D. Carwell^A, J. Hubbard^B, and D. Stuerman^B*^AB & D Genetics, Cherry Valley, AR, USA;^BShannon Creek Lamb, Olsburg, KS, USA

The use of embryo transfer in small ruminants has served as a way of increasing superior female genetics. This technique, although not new, has been adopted by an increasing number of breeders over the past few years. The Romanov sheep breed is considered a natural litter-bearing breed compared with other small ruminant species, which generally have only 1 or 2 offspring during a natural parturition. This experiment was designed to evaluate the effect of FSH dosage on embryo production and collection in Romanov sheep. Sheep donors ($n = 12$), with an average age of 2 ± 1.4 years and an average body weight of 43 ± 6.7 kg, were randomly assigned to either a high (175 mg) or low (140 mg) dosage treatment of FSH during the breeding season. Hormone injections were given in a decreasing dosage twice daily over a period of 5 days. Donors were naturally cycling before being subjected to a CIDR-G protocol for a period of 15 days, with hormone injections beginning on Day 11. Donors were mated with rams ($n = 2$) of known fertility for a total of 3 hand matings. After the third hand mating, the ram was turned into the breeding pen with the ewes. Embryos were collected 7 days after breeding and evaluated for transfer. A one-way ANOVA was utilised to analyse statistical differences between groups with significance set at (0.05). Results are given as mean \pm s.e.m. Only embryos of quality grades 1 and 2 were transferred during this study. No differences were detected between the 2 groups for total embryos collected between both high (7.6 ± 6) and low (6.6 ± 5) FSH groups. Furthermore, no differences were detected between both high and low FSH groups for the number of embryos transferred (5.6 ± 5 and 6.3 ± 4 , respectively). The results of this study suggest that a lower total dosage (140 mg) of FSH can be used in superovulation programs of Romanov ewes without affecting the total number of embryos collected and transferred. However, further investigation should be performed with various levels of FSH to determine the most accurate dosage for Romanov sheep.

192 The use of human chorionic gonadotropin seven days after synchronized estrus for the increase of luteal tissue in Morada Nova ewes*G. B. Vergani^A, J. T. Trevizan^A, V. S. A. Pereira^B, J. F. Fonseca^C, A. R. Garcia^B, S. N. Esteves^B, and M. E. F. Oliveira^A*^AFCAV/Unesp, Jaboticabal, São Paulo, Brazil;^BEmbrapa Pecuária Sudeste, São Carlos, São Paulo, Brazil;^CEmbrapa Caprinos e Ovinos, Sobral, Ceará, Brazil

The study was performed to evaluate whether the use of hCG 7 days after synchronized oestrus in Morada Nova ewes would increase the number and size of corpora lutea. Multiparous Morada Nova ewes ($n = 115$, mean weight of 36.6 kg, body condition score 3.13 on 1 to 5 scale) were used. Oestrus was synchronized by using an intravaginal sponge impregnated with medroxyprogesterone acetate (60 mg, Progespon®, Zoetis, Parsippany, NJ, USA) for 6 days and eCG (200 IU, IM Novormon®, Zoetis) plus PGF_{2α} analogue (37.5 µg, D-cloprostenol, IM, Vetglan®, Hertape Calier, Spain), both administered 24 h before the sponge removal. Seven days after the synchronized oestrus, hCG (300 IU, IM, Vetecor®, Hertape Calier; $n = 57$) or normal saline (control group, 1 mL, IM, 0.9% NaCl, Eurofarma Laboratory SA, Sao Paulo, Brazil; $n = 58$) was injected. B-mode ultrasound examinations of the ovaries were performed using the equipment MyLab Vet 30 Gold (Esoate, Genoa, Italy) on Day 7 (corresponding to the day of hCG or physiological solution administrations), and 6 days later (Day 13). The number of corpora lutea present and the size of luteal tissue (sum of diameter and area) were determined. Data were analysed by ANOVA with Tukey's *post hoc* test (mean \pm s.e.m.) using SAS software (SAS Institute Inc., Cary, NC, USA). On Day 7, the number of corpora lutea was similar ($P > 0.05$) between the hCG and control groups (1.58 ± 0.09 v. 1.57 ± 0.08 , respectively); however, the number was higher on Day 13 ($P < 0.05$) in the hCG group (2.65 ± 0.13) than in the control group (1.69 ± 0.07). Similarly, there was no difference ($P > 0.05$) between groups in diameter (16.9 ± 0.82 v. 16.0 ± 0.71 mm) and area (1.61 ± 0.07 v. 1.45 ± 0.06 cm²) for hCG and control groups, respectively, on Day 7. Differences were observed on Day 13, such that the hCG ewes had luteal tissue of larger ($P < 0.0001$) diameters (27.13 ± 1.25 v. 18.44 ± 0.85 mm) and area (2.81 ± 0.13 v. 1.71 ± 0.08 cm²) than ewes of the control group. In conclusion, 300 IU of hCG injected 7 days after synchronized oestrus is effective to increase the number of corpora lutea and in the size of luteal tissue. Despite indications of a favourable effect on luteal dynamics, the effects on progesterone production and conception rate need to be examined.

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