A158 Folliculogenesis, Oogenesis and Superovulation

Follicular population on the estimation of the superovulatory response in Santa Ines sheep

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Keywords: FSH, ewe, Santa Ines.

The aim was to verify the correlation between follicular population count, superovulatory response and the recovery of viable structures in the in vivo production of sheep embryos. Twenty-five nulliparous Santa Inês ewes (11.9 ± 1.1 months old, body score of 2.8 ± 0.3) were superovulated using the Day 0 protocol concept. For previous wave synchonization, intravaginal progestagen sponges (Progespon®, Zoetis, Campinas-SP, Brazil) were kept for 6 days and on Day 5, 300 IU eCG(Novormon®, Schering Plough, São Paulo, Brazil) and 0.24mg cloprostenol (Estron®, Tecnopec, São Paulo, Brazil) were given. Thirty-six hours after sponge removal, 25 µg licerelin was administered.The superovulation started 80 hours after sponge removal by the use of 200 mg of FSH/ per ewe (Folltropin-V ®, Bioniche Animal Health, Ontario, Canada) in six declining doses, every 12 hours (50/50, 30/30, 20/20 mg). At the first FSH dose, a new sponge (Progespon®, Zoetis, Campinas-SP, Brazil) was inserted and removed at the time of the fifth dose. At the last FSH dose, 0.24 mg of cloprostenol (Estron®, Agener Union, São Paulo, Brazil) and, 24 hours later, 25 µg of lecirelin (Gestran Plus®, Tecnopec, São Paulo-SP, Brazil) were administered. Ewes were mated every twelve hours from the last FSH dose to the end of estrus. An ultrasound equipment (Sonoscape S6®, SonoScape, Shenzhen, China) coupled to a 7,5 MHz linear transducer, by transrectal via was used for the quantification of the follicular population (PF) in two moments: at the beginning of the estrus synchronization (PFESTRUSBASE) and at the time of the first FSH dose (PFFSH-1). Embryo collections were carried out by surgical method, six to seven days after mating, and the viable structures (VS) quantified. The number of CLs (NCLs) was determined by laparoscopy previously to the embryo recovery. The PFESTRUSBASE and PFFSH-1 variables were compared with the NCLs and EV through the Pearson's correlation coefficient and Simple Linear Regression Analysis. For all tests, $P < 0.05$ was considered as statistically significant. An average of 7.5 ± 4.8 CLs and 4.0 ± 3.5 viable structures were obtained per donor. Significant correlations, medians and low, were found between: PFESTRUSBASE and NCLs ($r = 0.45$; $r2 = 0.17$; $P < 0.05$); PFFSH-1 and NCLs ($r = 0.41$; $r2 = 0.13$; $P < 0.05$); PFESTRUSBASE and VS ($r = 0.55$; $r2 = 0.27$; $P < 0.05$) and PFFSH-1 and VS ($r = 0.41$; $r2 = 0.13$; $P < 0.05$). In conclusion, there is a median correlation between follicular population observed by ultrasonography and viable recovered structures after superovulation protocol. Therefore, this tool is not indicated as a screening tool, alone, in the selection of Santa Inês sheep embryo donors.