

# Reproduction in Domestic Animals

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Official Organ of  
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European Veterinary Society of Small Animal Reproduction  
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# Reproduction in Domestic Animals

Official Organ of European Society for Domestic Animal Reproduction, European Veterinary Society of Small Animal Reproduction and Spanish Society of Animal Reproduction

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## P240

**Estrus synchronization during transition period, timed artificial insemination (TAI) and the effect of GnRH administration at the TAI on fertility in lactating goats**

MK Sarıbay, F Karaca, G Dogruer and C Ates

Faculty of Veterinary Medicine, MKU, Hatay, Turkey

The study was carried out to determine the efficacy of synchronization of estrus with vaginal sponges for 6 (Short Term, ST) or 12 (Long Term, LT) days, TAI 48 h after sponge withdrawal in combination with GnRH administration at TAI on the fertility of lactating goats during the transition period. Research was conducted on 104 goats (2–5 years old). The goats received vaginal sponges containing 30 mg fluorogestone acetate. Additionally, 400 IU PMSG and 0.075 mg cloprostenol were administered at the time of sponge withdrawal. The goats were randomly assigned to ST (n = 52) and LT (n = 52) treatment with vaginal sponges. Two teaser bucks were introduced for estrus detection. Goats were inseminated intracervically with cooled semen ( $1 \times 10^8$  motile cells/ml) 48 h after sponge withdrawal. Both ST and LT groups were divided into two groups as ST1 (n = 24) and ST2 (n = 24), LT1 (n = 22), LT2 (n = 23). ST1 and LT1 groups were left as control, ST2 and LT2 groups received 5 µg busserelin acetate at TAI. The mean interval from sponge removal and the onset of estrus and estrus rates for ST and LT groups were  $36.0 \pm 1.7$  and  $38.8 \pm 1.1$  h and 79.1% and 86.6%, respectively ( $p > 0.05$ ). Pregnancy and twinning rates of the ST1, ST2, LT1 and LT2 groups were 37.5%, 41.6%, 40.9%, 47.8% and 22%, 30%, 11%, 18%, respectively. It was concluded that the TAI could be established by ST and LT sponges applications. Although the pregnancy and twinning rates of the GnRH groups were numerically higher than the others, the difference among the groups was statistically insignificant ( $p > 0.05$ ).

## P241

**The antioxidative effects of cysteamine, hyaluronan and fetuin on post-thaw semen parameters of Brown-Swiss bulls**S Sariozkan<sup>1</sup>, PB Tuncer<sup>2</sup>, MN Bucak<sup>2</sup>, S Buyukleblebici<sup>2</sup> and H Kinet<sup>2</sup><sup>1</sup>Erciyes University, Safiye Cikrikcioglu Vocational College, Kayseri, Turkey; <sup>2</sup>Lalahan Livestock Central Research Institute, Ankara, Turkey

The aim of this study was to compare the effectiveness of different antioxidants (cysteamine, hyaluronan and fetuin) to freeze bull semen. Ejaculates from Brown-Swiss (n = 36) were diluted in seven aliquots with Tris-based extender containing cysteamine (2.5, 7.5 mM), hyaluronan (0.5, 1 mg/ml) and fetuin (5, 10 mg/ml), and an extender containing no antioxidants (control) respectively. Thereafter they were frozen and thawed following a standard protocol. The effectiveness of freezing extenders was assessed according to post-thaw sperm motility (evaluated by means of CASA), acrosomal and total abnormalities (evaluated by means of Hancock solution under phase-contrast microscopy) and plasma membrane integrity (evaluated by means of HOST). The use of a Tris based extender supplemented with 2.5 mM cysteamine ( $55.3 \pm 2.2\%$ ) and 10 mg/ml fetuin ( $52.6 \pm 2.9\%$ ) led to an increase in postthaw motility and significant decreases in acrosomal ( $4.9 \pm 0.3\%$  and  $4.3 \pm 0.4\%$  respectively) and total abnormalities ( $13.0 \pm 0.7\%$  and  $11.7 \pm 0.6\%$  respectively) in comparison to other groups ( $p < 0.001$ ). The postthaw progressive motility was significantly better for

semen parts diluted in hyaluronan 1 mg/ml and cysteamine 2.5, 7.5 mM compared to other groups. For average path velocity ( $100.2 \pm 6.5$  µm/s), curvilinear velocity ( $160.7 \pm 15.4$  µm/s) and amplitude of lateral head displacement ( $6.3 \pm 0.5$  µm), the highest values were obtained from hyaluronan 1 mg/ml ( $p < 0.05$ ). Except 5 mM fetuin, all treatments significantly increased the HOST ( $56.4 \pm 1.4\%$ ) results as compared to the control group ( $p < 0.001$ ). Supplementation with these antioxidants prior to the cryopreservation process protected sperm motility against the cryodamage. Furthermore, future research should focus on the molecular mechanisms of the antioxidative effects of the antioxidants cysteamine, hyaluronan and fetuin during cryopreservation.

## P242

**Effects of semen extender enriched with vitamin E in chilled canine epididymal spermatozoa**P Savi<sup>1</sup>, L Padilha<sup>1</sup>, T Motheo<sup>1</sup>, G Mostachio<sup>1</sup>, J Borges<sup>1</sup>, M Martins<sup>2</sup> and W Vicente<sup>1</sup><sup>1</sup>College of Veterinary Medicine and Agriculture Sciences, São Paulo State University (UNESP – Jaboticabal), São Paulo, Brazil; <sup>2</sup>Londrina State University (UEL), Celso, Paraná, Brazil

The aim of the present study was to investigate the protective effects of vitamin E in canine epididymal spermatozoa after 40 h of chilling. Eight experimental units, each consisting of a pool of epididymal spermatozoa from three healthy dogs (total of 24 animals) were analyzed. After orchietomy, recovered epididymal spermatozoa were pooled and separated in four samples, two were incubated with Tris egg yolk extender (control-CE), while the others were submitted to a Tris egg yolk extender enriched with 0.25 mM/ml of vitamin E (antioxidant-AE). One sample of each extender was immediately evaluated (fresh) while the other was evaluated 40 h after chilling in a cool storage container (Botutainer®). Total motility, vigor, hyposmotic and thermal resistance tests and free radicals quantification were performed in all samples. The results were analyzed by Tukey test, with significance level 5%. In fresh samples, the control group presented motility, vigor and hyposmotic test values of 78, 4, and 71%, respectively. Thus, the enrichment with vitamin E did not affect sperm parameters ( $p > 0.05$ ). In chilled samples enriched with vitamin E, motility (21%), vigor (16%) and hyposmotic test (17%) increased significantly ( $p < 0.05$ ), compared to the control group that presented values of 43% of motility, 2.8 of vigor, and 51% in the hyposmotic test. In conclusion, the extender containing 0.25 mM/ml of vitamin E improved physical characteristics of canine epididymal spermatozoa after 40 h of chilling.

## P243

**Influence of isolated bacteria from the bovine uterus on endometrial epithelial cells**K Schaar<sup>1</sup>, M Bittel<sup>1</sup>, N Scheibe<sup>2</sup>, C Reppel<sup>2</sup>, M Jung<sup>2</sup>, R Einspanier<sup>1</sup> and C Gabler<sup>1</sup><sup>1</sup>Institute of Veterinary Biochemistry, Freie Universität Berlin, Berlin, Germany; <sup>2</sup>Institute for the Reproduction of Farm Animals, Bernau, Germany

A variety of pathogenic and commensal bacteria are found in the bovine uterus during the puerperium. It is hypothesized