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The 15th Annual Conference of the European Society for Domestic Animal Reproduction (ESDAR)

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15–17 September 2011

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

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Oral Communications

OC 1-1

Performance of the spermvital semen processing technology in field trials

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The SpermVital (SV) technology is a new technology developed for artificial insemination (AI) in cattle. Spermatozoa are immobilized within a gel-network to restrict the sperm movement and hence extend the time period for fertilization. Thus, timing of AI will be less critical. Results from three field studies conducted in Norway, the Netherlands and Germany are presented. The Norwegian trial included 93 Norwegian Red (NRF) heifers presented for first AI. The heifers were inseminated with ordinary semen at optimal time during estrus (n = 30), SV semen at optimal time (n = 30) and SV semen one day before optimal estrus (n = 33). There was no difference in pregnancy rates between groups: 66, 70, and 76%, respectively. In the Dutch study, 436 Holstein repeat breeders were randomly allocated to AI using either ordinary Holstein semen or SV semen from NRF bulls. The overall pregnancy rate was 25% (52/204) for Holstein semen vs. 49% (114/232) for SV semen. In the German trial, AI were performed in 162 cows with SV semen from NRF bulls resulting in anon-return rate after first AI of 42% during summer whereas the normal non return rate in the herd was about 20%. Currently, there are two ongoing field trials in Norway, both using split-sample designs where ejaculates are processed using ordinary and SV technology. The first trial is a field study comparing the performance of SV semen on NRF cows on a large scale (n = 8000 for each treatment). The second study will test the application of SV technology on Charolais cattle. These studies will provide valuable information for further research and development work.

OC 1-2

TNF immunolocalization in boar spermatozoa

R Payan-Carreira

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Tumor necrosis factor (TNF) is a pro-inflamatory cytokine with other functions including modulation of spermatogenesis, apoptosis and ovulation. So far, TNF has been found in boar seminal plasma and was positively related to spermatozoa motility and viability. However, it is unknown if it is present in boar spermatozoa. The aim of this study was to assess whether TNF is present in boar spermatozoa from fresh ejaculates and in cells after removing seminal plasma. We used an immunocytochemistry (ICC) approach (streptavidin–biotin–peroxidase method) with a monoclonal primary antibody at a 1:50 dilution in PBS. Cytological preparations for ICC were analyzed from fresh semen (n = 8) and washed sperm suspended in capacitating medium (n = 5). Positive immunoreaction against TNF was scored according to the intensity (weak, moderate or strong), on 10 different fields at 1000× magnification. Cellular localization was also registered. Positive immunoreaction was observed in all fresh ejaculates where sperm cells consistently evidenced strong immunostaining for TNF. Immunoexpression was restricted to the cell midpiece. However, <20% of the sperm cells showed a moderate intensity of immunostaining in sperm samples suspended in capacitating medium. Whether this decrease is due to washing procedures or to the re-suspension in the medium was not ascertain in this work. Nonetheless, this study provides evidence that TNF is present in the mid-piece of the spermatozoon suggesting a role in motility.

OC 1-3

Effects of some cryoprotectants and antioxidants on frozen/thawed bull sperm motility and motion characteristics

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The aim of the present study was to determine the effects of different doses of glycerol and ethylene glycol in Tris extender containing the trehalose or cycteine on post-thawed bull sperm motiliy and motion characteristics following cryopreservation. Ejaculates collected from via artificial vagina from three Holstein bulls were evaluated and pooled at 37°C. Each ejaculate was divided into twelve equal experimental groups and diluted to a final concentration of 60 million/ml spermatozoa with the extender containing cysteine (5 mM) and trehalose (25 mM) and no antioxidants for glycerol (glycerol 5%, 7%) and ethylene glycol (3%, 5%) groups, respectively, and then cooled to 5°C, frozen in 0.25 ml French straws to be stored in liquid nitrogen. Frozen straws were thawed individually at 37°C for 20 s in a water bath for evaluation. The addition of antioxidants and cryoprotectants did not present any significant effect on the percentages of post-thawed sperm motilities and some motion characteristics VSL and LIN among the groups ($p > 0.05$). The addition of Cys 5 mM + EG 5% for VCL and ALH and Tre 25 mM + EG 3%, Cys 5 mM + Gly 7% for VCL provided higher values, compared to group containing the C – Gly 5% ($p < 0.01$).

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