

and summer (June-July). The offered diet consisted of dry alfalfa hay and a commercial concentrate (CP=12%) with free access to water, minerals and shades. In order to extract the samples, a Colorado artificial vagina model was used. Response variables included sperm motility (semen was assessed initially for wave motion with a score ranging from 0 (nonmotile) to 5 (highly motile)), spermatic concentration, scrotal circumference and ejaculate latency. The data was analyzed through the general linear models with repetitions across time (SYSTAT program). The response variables were higher ( $p < 0.05$ ) in summer than winter, with respective values of: (i) sperm motility ( $3.3 \pm 0.3$  vs.  $1.0 \pm 0.57$  units), (ii) sperm concentration ( $146.66 \pm 26.03$  vs.  $66.43 \pm 16.13$  mill/ml), 3) scrotal circumference ( $42.00 \pm 0.57$  vs.  $39.17 \pm 0.72$  cm). The response was higher ( $p < 0.05$ ) in winter than summer for: 4) ejaculate latency ( $183.0 \pm 16.1$  s vs.  $130.3 \pm 26.4$  s). The obtained results demonstrate seasonal long days effect upon semen quality characteristics, with improved seminal parameters during summer; such information should be of practical importance in equine reproductive practices.

## P 16 | Effect of L-2-Thiohistidine on goat semen cryopreservation: preliminary results

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The aim of the study was to investigate the effect of L-2-Thiohistidine (L2TH) on goat semen cryopreservation. Briefly, goat ejaculates were collected and seminal plasma had been separated by centrifugation. Then, pellets were diluted with skim milk based extender (skim milk containing 10% egg yolk and 5% glycerol) with 0 (control), 0.25, 0.5, 1, 2.5 or 5 mM L2TH. Diluted semen was loaded to 0.25 ml straws. Straws were equilibrated (5°C/2 h) and frozen (-120°C/15 min in liquid nitrogen\_LN vapor) and stored in LN. Total of 12 replicates had been performed throughout the study. However, only straws from 3 replicates were thawed (37°C/1 min) and post-thawing sperm parameters (motility, live sperm, membrane integrity, acrosome integrity and abnormal sperm percentages) were obtained to date. Motility percentages was higher in 5 mM L-2-TH ( $45 \pm 8.1\%$ ) and lowest in control ( $35 \pm 4.0\%$ ). Highest acrosomal integrities were determined in 0.5 and 1 mM L2TH ( $79.3 \pm 4.5$  &  $79.4 \pm 4.7\%$ , respectively), while 2.5 mM L2TH ( $65.2 \pm 8.1\%$ ) had lowest acrosomal integrity. Highest abnormality was determined in 2.5 mM L2TH ( $38.3 \pm 6.7\%$ ) and lowest abnormalities were determined for 0.25 and 1 mM L2TH ( $22.3 \pm 5.8$  &  $23.6 \pm 4.6\%$ , respectively). Highest membrane integrity percentage was determined in 5 mM L2TH ( $60.4 \pm 0.9\%$ ) while lowest percentage was determined in 0.25 mM L2TH ( $51.5 \pm 1.0\%$ ). It was concluded that different doses of L2TH may beneficially affect freezability of goat semen. Nevertheless, all replications results must be considered and future studies should be carried out in order to determine the exact effect of L2TH usage on cryopreservation of goat semen. (This research

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## P 17 | Maternal nutritional restriction modulates placental VEGF immunolocalization and fetoplacental development in the rabbit

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Maternal nutritional disorders during pregnancy can modify placental vascularization and therefore, fetal development. The aim of this work was to assess the effect of a feed restriction of 60% of the nutritional requirements during pregnancy on fetoplacental development, placental efficiency (fetal/placental weight) and expression of vascular endothelial growth factor (VEGF) in the rabbit. Multiparous pregnant rabbits were fed ad libitum (C; n = 17) or food restricted (R021, n = 25) from day (D) 0 to D21. On D28, 11 dams were euthanized to study fetoplacental features and the rest (n = 31) were used to assess perinatal survival and birth weight. Immunohistochemical studies of paraffined placentae (ABC method) was performed for VEGF. No differences were found in the number of viable fetuses between C and R021 groups ( $11.6 \pm 2.9$  vs.  $12.0 \pm 2.0$ ). However, fetuses of C group showed higher size (thoracic diameter:  $20.5 \pm 2.8$  vs.  $19.1 \pm 1.8$  mm, occipital-nasal length:  $29.0 \pm 1.4$  vs.  $27.9 \pm 1.4$  mm); total weight ( $39.2 \pm 7.3$  vs.  $34.7 \pm 5-9$  g), and separated head and body weights ( $9.1 \pm 1.5$  vs.  $8.1 \pm 1.1$  and  $29.3 \pm 6.0$  vs.  $25.6 \pm 4.8$  g, respectively) than R021 ( $p < 0.05$ ). Placental efficiency was lower in R021 than in C group ( $p < 0.05$ ). VEGF was mainly immunolocalized in endothelial cells in labyrinth zone in both groups being slightly intensive in C group. Mean number of born alive per doe ( $10.4 \pm 3.0$  vs.  $12.3 \pm 3.1$ ) and their weight ( $59.1 \pm 9.8$  vs.  $56.4 \pm 6.8$  g) were similar between groups. In conclusion, maternal feed restriction seems to modulate VEGF expression, placental efficiency and fetal development in the rabbit. These effects were not reflected in a low body weight at parturition. (Funds by AGL2015-65572-C2.)

## P 18 | Administration of GnRH on day 23 post AI enhances plasma progesterone, embryonic survival, and herd fertility in lactating Nili-Ravi buffaloes

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The objective of the present study was to determine if administration of GnRH at Day 23 post AI enhances plasma progesterone