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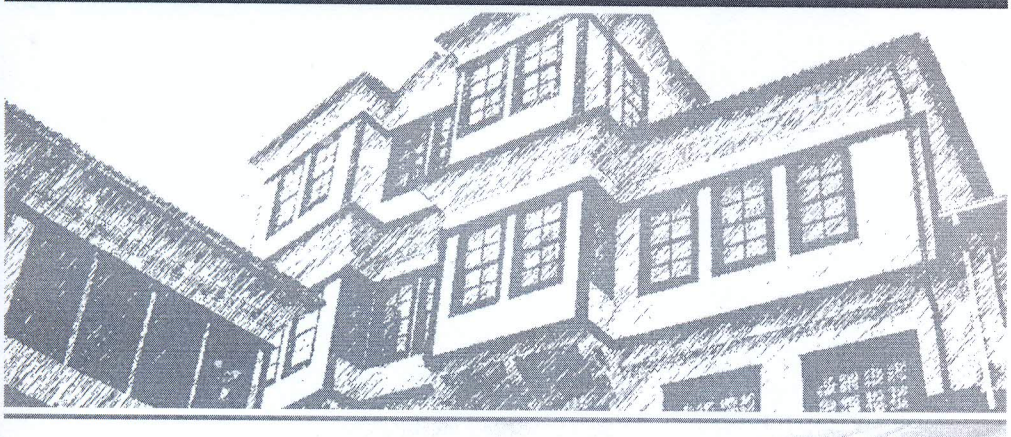

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O25

Change in fatty acid composition of chilled ram semen in relation to spermatozoa motile activity

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Introduction: Protoplasmic membrane of spermatozoa is directly involved in their motility and biological integrity. The proportion of saturated (SFA), monounsaturated (MUFA) and polyunsaturated fatty acids (PUFA) changes in the course of ejaculation and manipulation in *in-vitro* environment along with the production of ATP which is necessary for the sperm velocity. It is debated that SFA and MUFA are not significantly affected by spermatozoa metabolism, whereas n-3 PUFA are most susceptible to lipid peroxidation processes. Our aim was to investigate the change of these fatty acid groups according to the spermatozoa motile activity.

Material and methods: Four rams at age of 1.5-4 years were assigned for this study, and ejaculates were collected by artificial vagina method, twice a week during the non-breeding season. CASA system (Hamilton Thorne) was used for assessment of spermatozoa motile activity and according to its software cut-off criteria for total motility/progressive motility (≥70%/≥40%), ejaculates (n=45) were grouped in the following order: Group 1, n=9 (85.55% ±8.75/46.77% ±6.82); Group 2, n=12 (78.16% ±8.11/27.75% ±9.51); and Group 3, n=24 (49.04% ±16.32/19.29% ±9.98). Ejaculates were then stored at 4°C for 2 hours and were processed in gas chromatographer (Model: GC-FID, Agilent 7890A; Method: AOAC996.06, modified FVMS SOP587) to acquire the fatty acid ratio (mean ± SD %).

Results: Spermatozoa motile activity was positively confirmed by straightness and linearity indexes which were significantly higher in favor of the first versus the second group (80.11% ±7.6 vs. 72% ±6.7 and 51.55% ±15.1 vs. 42.08% ±8.04, P<0.05, respectively). MUFA had the highest significant proportion in the first group in relation to the second and third group (18.32% ±9.98; 7.73% ±10.51; 6.53% ±9.03; P=0.01, respectively). SFA and PUFA means did not differ significantly between group one, two and three (45.15% ±15.1 vs. 54.27 ±16.49 vs. 44.22% ±10.84 and 36.51% ±10.52 vs. 37.97% ±15.08 vs. 45.15% ±10.76, respectively).

Conclusion: In conclusion to this study, it can be stated that ejaculates with high motile activity of spermatozoa contain higher proportions of MUFA in relation to PUFA. This is due to the peroxidative processes that normally occur in *in-vitro* conditions which cause desaturation of PUFA thus lowering their concentration in the ejaculates.

O26

In vitro effect of oxytocin and prostaglandin on stallion sperm quality

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Prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) and oxytocin have been used to improve reproductive performance in many mammalian species, including humans. The goal of the present work was to determine how the addition of $PGF_{2\alpha}$ and oxytocin affects stallion sperm quality. Seven different treatments were evaluated: three with only $PGF_{2\alpha}$ and three oxytocin treatments. All these substances were added to 16 ejaculates from 16 healthy, 15-22 aged (n = 16), and each ejaculate was considered as a replicate. In vitro addition of oxytocin to semen did not show improvement in any quality parameters measured. Supplementation with 40 µg $PGF_{2\alpha}$ caused a statistically significant increase ($P < 0.05$) in the motility of diluted semen. We concluded that addition of small amounts of $PGF_{2\alpha}$ to older stallion semen samples may help to maintain sperm motility. Further research might assess effects of $PGF_{2\alpha}$ on fertility. In vivo mare fertility trials on the inclusion of $PGF_{2\alpha}$ in semen extenders are therefore warranted.

O27

Possibility for inducing follicular growth in dairy cows diagnosed with inactive-static ovaries using two different treatment methods – a field trial

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Introduction: Anestrus is common during the postpartum period in high-producing dairy cows. Static ovaries stand as one of the major ovarian dysfunctions in early postpartum period, causing a significant reproductive problem in the dairy industry. The aim of the present study was to compare the ovarian response in cows diagnosed with static ovaries, more than 60 days postpartum using two different treatment (GnRH and eCG) methods.

Material and methods: From a total of 298 ultrasonographic examined cows, 58 acyclic cows (no CL, follicles<8mm, P4<0.5ng/ml) were identified and randomly divided into three groups: GnRH (Group 1, n=23), eCG (Group 2 n=23) and Controls (n=12), and allocated thereafter, into subgroups according to the applied doses of GnRH (100µg; 250µg); eCG (750 IU;