

## Участие на международна конференция с отпечатване на резюмета

**43.** Kistanova, E., D.Kacheva, J.Koleva, K.Shumkov, R.Nedeva, Y.Marchev, A.Apostolov, D.Abadjeva, G.Boryaev, M.Nevitov, 2008. Influence of the injective administration of selenopyran on the morpho-functional characteristic of the ovaries in growing gilts, Asian Reproductive Biotechnology, Proceeding of the 5-th annual conference of the Asian Reproductive Biotechnology Society.

The selenium is an essential microelement of the reproductive swine diet. The organic selenium is more preferable than sodium selenite and the recent availability of organic selenium sources has increased interest in their use to replace the inorganic selenium in the diet. The main disadvantage of the widespread organic source, selenium content yeast, is difficultness to do the precise dosages of the selenium. In the present work the effect of new selenium organic compound selenopyran on the morpho-functional activity of the ovaries in the growing gilts was investigated. It was synthesized from academician A.F. Blinkhvatov in Penza state agricultural academy, Russia in 1981. Selenopyran in comparison with inorganic selenium possesses lower toxicity, fat solubility and positive influence on the immune function in young animals. For the experiment 18 Danube white breed gilts between 120 and 228 days of age were randomly divided into two groups. The animals received the equal basal diets without selenium. The experimental gilts were injected intra peritoneum with an oil solution containing 0.1 µg/kg live weight selenopyran (9-phenyl-symmetrical octahydroselenoxanthene) once per month. At the first and the last day of the experiment the blood samples were taken from sinus opthalmicus for the analysis of plasma levels of selenium, of progesterone and oestradiol - 17β. After slaughtering the histological analysis of ovaries were done. Content of the selenium in ovaries was estimated by atomic absorption spectroscopy. Data were analysed by one-way and regression analysis with STATISTICA (Ver.6.0 of the Stat Soft Inc.). It was observed the significant increase of the selenium level in blood ( $P_{0,05}$ ) and estradiol level in blood ( $7.44 \pm 1,81$  ng/ml versus  $5.95 \pm 0.98$  ng/ml,  $P > 0.05$ ). In the ovaries of experimental gilts a higher number of tertiary preovulatory follicles were observed. Close positive correlations between the selenium content in ovary, ovary weight ( $r=0,76$ ;  $P < 0.05$  and serum estradiol-17β level ( $r=0,78$ ;  $P < 0.05$  were established.

**44.** Kacheva, D., E.Kistanova, J.Koleva, K.Shimkov, R.Nedeva, Y.Marchev, A.Apostolov and D.Adjeva, 2008. Effect of Selenopyran Treatment on the Reproductive System of Growing Gilts, Annual ESDAR Conference Reproduction Domestic Animals, 43, 101-102

The selenium is an essential microelement of the reproductive swine diet. The main disadvantage of organic source, selenium content yeast, is difficultness to do the precise dosages of the selenium. The effect of new selenium organic compound selenopyran on the reproductive system of growing gilts was investigated. For the experiment 18 Danube white breed gilts between 120 and 228 days of age were randomly divided into two groups. The animals received the equal basal diets without selenium. The experimental gilts were injected intramuscularly with an oil solution containing 0.1 µg/kg live weight selenopyran (9-phenylsymmetrical octahydroselenoxanthene) once per month. At the first and the last day of the experiment the blood samples were taken from sinus opthalmicus for the analysis of plasma levels of selenium and oestradiol - 17β. After slaughtering the morphometric analysis

of reproductive organs (uterus, cervix, horn and oviducts) and the histological analysis of ovaries were done. Content of the selenium in ovaries was estimated by atomic absorption spectroscopy. Data were analysed by one-way and regression analysis with STATISTICA (Ver.6.0 of the Stat Soft Inc.). The selenopyran treatment leads to an increase of selenium levels in blood ( $p<0.05$ ) No significant differences between the morphometric parameters of reproductive organs were found but in the ovaries of experimental gilts a higher number of pre-ovulatory follicles were observed. Close positive correlations between the selenium content in ovary, ovary weight ( $r=0.76$ ;  $p<0.05$ ) and serum estradiol -  $17\beta$  level ( $r=0.78$ ;  $p<0.01$ ) were established.

Kistanova, E., Y.Marchev, R.Nedeva, D.Kacheva, K.Shumkov, B.Georgiev, A.Shimkus, Effect of dietary use of *Spirulina platensis* on the mitochondrial enzymes activity and ROS production in boar sperm, Workshop “ Mitochondria and reproduction” Cost Action FA 0602 FP 7 Project ReProForce, 2-3 june ,2010, Sofia, Bulgaria.

Microalgae *Spirulina platensis* contains a lots of vitally important for the organisms minerals and macroelements such as iron, calcium, sodium, potassium, copper, magnesium, phosphorus, selenium, vitamins, carotene, nucleic acids, enzymes and other active substances due it a value feed additive for the agricultural animals. The aim of this work was studying the effect of *Spirulina platensis* on the mitochondrial activity of boar sperm. The experiment was carried out with 6 boars from Danube white breed in the experimental animal base of the Agricultural Institute-Shumen. The time of the experiment was divided into the control and experimental periods. During the control period animals received the main diet in accordance with Bulgarian state standard BDS-1642-96. In the experimental period to the main diet were added 7 ml/per head the fresh biomass of microalgae preserved by melasa (final quantity 1,4 mg *Spirulina platensis*). The total dehydrogenase activity (DH) of spermatozoids was estimated by methylene-blue reduction method. The activity of spermatozoids' lactate dehydrogenase (LDH) in the water and tritons' extracts was estimated by the spectrophotometric method of Wroblewski and LaDue (1955) after centrifugation and removing of sperm plasma. The evaluation of the ability of spermatozoa to produce reactive oxygen species (ROS) was done by using nitroblue tetrazolium (NBT) staining (Navid et. all, 2003). The obtained results showed a higher activity of total DH as well as LDH in the spermatozoa of boars received *Spirulina*. These spermatozoa demonstrated better survivability during the storage at temperature above zero ( $15^{\circ}\text{C}$ ) and thermal resistance at  $39^{\circ}\text{C}$ . The antioxidative properties of *Spirulina* reduce semen oxidative stress. The NTB test pointed at a lower ROS production in sperm during the post treatment period.

**45.** Nedeva, R., Y.Marchev, Z.Nakev, **2011.** Effect of the addition of VEMOZYME in the compound feed for pigs with high level of fibers, 96-101, 2 nd Conference of the Balkan Network for the biotechnology in Animal Reproduction, Proceeding, Institute of Biology and Immunology of Reproduction, BAS, Sofia, 24-25 March, 2011.

Two scientific – economic experiments were carried out at the Agricultural Institute – Shumen: the first one was with fattening pigs and the second one – with boars. The study included pigs from the Danube white breed. The first experiment was carried out with two groups of 10 pigs each or total number of 20 growers – finishing pigs. The trial was carried

out in two sub-periods – from 34,0-35,00 kg to 57,5-58,9 kg live weight and next the second one till reaching the carcass weight. The second experiment was carried out with 18 young boars, divided into two groups of 8 pigs each. The pigs from II (experimental) groups received compound feed with high level of fibers by adding lucerne meal and VEMOZYME. The results from the study showed that: 1. The application of the VEMOZYME in fattening pigs' feeding with compound feed with increased content of fibers influenced positively on the finishing period. 2. The including of lucerne meal and the enzyme VEMOZYME for young boars increased the mobility and the survival rate of the spermatozoa in the 24th, 48th and 72nd hour after receiving the samples.

**46.** Nadezhda Palova, Dimitrinka Krusheva, **Yordan Marchev**, Radka Nedeva, Zhivko Nakev, 2017, The Eastbalkan pig – possibility for production of healthy food, Book of abstracts, 34, ISBN 978-9989-9688 -9-1, Macedonian Journal of Animal Science, 8,1,25-31.

The article presents the opportunities and perspectives for the production of healthy food from East Balkan pig. A description of the breed has been made and important aspects of the technology for his breeding have been considered. This process is fully in line with the requirements for animal welfare and sustainable development of the environment and meets the consumers' demand for healthy food. His essential characteristics have been indicated in terms of the fattening and slaughtering qualities. Special attention is paid to the quality of the meat. A review of the regulations for the production of healthy products has been made. A brief flashback has been made of established delicacy high quality products that could satisfy the most refined tastes of consumers in respect of healthy foods.

**47.** **Yordan Marchev**, Nadejda Palova, Dimitrinka Krusheva, Gergana Yordanova, 2018, Effect of Organic Feeding of Sows and Boars from the East Balkan Breed on Their Reproductive Performance, *ICOALS - 2018*, Abstrac Book, 157, ISBN 978-9928-245-34-2, Albanian Journal of Agricultural Science, in press.

A study with 20 sows and 8 boars from the Eastern Balkan breed was carried out. A traditional system of feeding is practiced – on the pasture and feeding cereal feeds. Sows from the first group were fed conventionally produced, and those from the second group - organically produced barley and wheat in the amount of 1.8 - 2.0 kg /capita/day. The results of the reproduction for a three-year period are analyzed. A chemical analysis of conventional and organic barley and wheat, for dry and organic content, protein, fibers, fats, minerals, calcium and phosphorus has been performed. It was found that the organic feeds (barley and wheat) are comparable to conventional and can be successfully applied in feeding of pigs from the East Balkan breed. The results for the reproductive performance of the sows shows an average of 6,34 pcs per sow in I group fed conventional feeds and 6,43pcs in group II pigs fed organic feeds. The average live weight at birth was 1069g for pigs of group I and 1048 g for pigs of group II which is within the normal range for the breed. These results are not different from those from our previous studies on the characteristics the reproduction of sows of the East Balkan breed fed conventional cereal feeds. The comparative analysis characterizing the quality of the ejaculates of boars fed conventional and organic feeds shows 205.33 ml and 211.33 ml volume,  $346 \times 10^6$  and  $334 \times 10^6$  / ml concentration, 75% and 76% motility and 18% and 16% agglutination of the spermatozoa. These results indicate that the

use of organic cereal fodders in feeding the boars does not have a negative effect on the sperm quantitative and qualitative characteristics.