**Mannanoligosaccharide raise immune response in weaned piglets**

Marcela Speranda1, Tomislav Speranda2, Mislav Didara1, Hrvoje Valpotic3

*1Faculty of Agriculture in Osijek, Croatia, 2Medical-intertrade, Sveta Nedelja,3 Veterinary faculty Zagreb University*

\*Corresponding author: marcela.speranda@pfos.hr

**Introduction**: Early piglets’ weaning is commonly associated with a period of underfeeding, reduction of the gut digestive and absorptive capacities causing diarrhoea, stressed mainly due to an abrupt change from milk to a dry diet. Changes in intestinal morphology have been associated with animal health and performance. Yeast culture and cell wall products containing mannanoligosaccharides can interact with the immune system of the host. It is known that mannanoligosaccharides are able to block fimbriae of pathogenic bacteria and thus prevent their adhesion to the mucous epithelium and might be potential alternatives to antibiotics.

**Aim:** To examine whether dietary mannanoligosaccharides raise immune response shown immunohematological and some biochemical parameters in weaned piglets and to compare correlations between investigated parameters.

**Methods**: Two groups of weaned piglets (N=46), crossbreed (SLxLW) x Pietrain, the same sex proportions, aged 28 days, were involved in the trial. Piglets from all groups were fed on fodder mixture for weaned piglets with 22% of crude protein and 13.84 MJ ME/kg until 21st day of the trial and with 19% of crude protein and 13.74 MJ ME/kg until 35th day of the trial. The experimental group (E) was added 0.2% Bio-Mos® during the whole experimental period. Body weight was controlled at the beginning of the trial and 35th day after weaning day and blood samples were taken from the animals in order to determine haematological (WBC, share of neutrophils, share of lymphocytes) and some biochemical values (total protein, albumin, globulin, haptoglobine).

**Results**: The piglets from the both groups had similar body mass during the whole experimental period. Total number of white blood cells, share of neutrophils and lymphocytes were higher in the experimental group, as well as total protein, albumin, globulin and haptoglobin concentration. Significantly (P<0.05) strong negative correlation between body mass and number of leucocytes was determined in the control group of piglets (r=-0.81), but in the experimental group there was weak positive correlation (r=0.09). Significantly strong positive correlation was determined between total protein and globulin in the animals fed with mannanoligosaccharides addition (r=0.98), but weaker correlation, without significance, was in the control group between the same parameters (r=0.42).

**Conclusion:** Dietary addition of mannanoligosaccharides influenced on the cellular and humoral immune response.

**Summary:** The effect of dietary supplementation of mannanoligosaccharides in the 35 days trial with weaned piglets was investigated. Total number of white blood cells, share of neutrophils and lymphocytes were higher in the experimental group, as well as total protein, albumin, globulin and haptoglobin concentration. Dietary addition of mannanoligosaccharides influenced on the cellular and humoral immune response.