EFFECT OF SUNFLOWER AND RAPESEED OIL, ORGANIC AND INORGANIC SELENIUM AND VITAMIN E IN THE DIET ON YOLK FATTY ACIDS PROFILE, MALONDIALDEHYDES CONCENTRATION AND SENSORY QUALITY OF LAYING HENS EGGS

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Abstract. The aim of this study was to investigate the effects of diets with supplemented oils, selenium and vitamin E on the contents malondialdehydes (MDA) and fatty acids profile, texture properties and sensory quality of laying hens eggs. In total, 48 *Lohman Brown* laying hens 28 weeks old were assigned to four treatment groups (12 hens per each treatment group) and fed with one of the experimental diets for 8 weeks and keeping in the same conditions. The content of MDA in fresh raw eggs ranged from 0.204 to 0.232 μmol/kg sample, SFA concentration in egg yolk in experimental groups had tendency to decreased from 0.44 to 1.02 percent ($P<0.05$), MUFA – in experimental group I – decreased 1.31 percent ($P>0.05$), in experimental group II also decreased 0.93 percent ($P>0.05$), but PUFA increased in experimental group I – 0.35 percent ($P>0.05$), compared to the control group.

The results of present study showed that oil derived from sunflowers or rapeseed can be used with organic or inorganic selenium as supplements to the diet of laying hens without any significantly negative effect on eggs sensory and texture properties, acceptability. Compound feed supplemented with different oils and selenomethionine did improve omega 6 and omega 3 ratio respectively 9.18 and 1.41 point ($P<0.05$) compared with control group, but increased MDA level on storage and fresh eggs.

Keywords: Malondialdehydes, fatty acid, eggs, texture prfile