Effect of humic-plant feed preparations on biochemical blood parameters of laying hens in deep litter housing system

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Abstract

An influence of various humic-plant feed additives based on some herbs (nettle, chamomile, yarrow, perforatum), lucerne and humic materials on biochemical indices of Lohmann Brown (LB) layers blood plasma was estimated. Hens were housed in deep litter system, 20 birds in a group. Four groups were formed: control (C – standard feeding), and experimental, supplemented with preparations: E-1 herbal-humic, E-2 humic-herbal and E-3 – humic-lucerne. Hens were placed in the pens on the 16th week of life, addition of preparations with standard food mixture started at the 22nd wk and lasted until 66th wk of life. Blood for analyses was collected four times in the following periods: 27, 37, 54 and 65th wk of life. The applied humic-plant preparations to a limited degree affected the values of examined biochemical parameters in serum: total protein (TP), albumins (Albs), glucose (Glu), urea, triacylglycerols (TAG), total cholesterol (TCh), alanine aminotransferase (ALT), aspartate aminotransferase (AST) and alkaline phosphatase (ALP). It is difficult to determine based on these study, which preparation is one the most active biologically, however is seems that humic-lucerne preparation affected the examined blood parameters to the highest degree. The reference values ranges in hens blood serum LB hens were proposed for: TP (43-65 g/l), Albs (15-22 g/l), Glu (10-15 mmol/l), TCh (2.2-4.5 mmol/l), TAG (10-24 mmol/l), AST (4-12 U/l), ALT (150-280 mmol/l) and ALP (190-350 U/l).

Key words: humic-plant preparations, hen, blood, biochemical parameters

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