

Enhanced egg production in practice: the case of bio-omega-3 egg

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Abstract

Objective of this research was to determine the effect of enriched feed “Bio-omega” on the hens performance (egg production and quality) under practical conditions in a farm (Mega Farm SA). The “Bio-omega-3” eggs, is a new type of enhanced or designer eggs or omega eggs, produced in Athens, Greece, according to Patent No Gr1004395, with a view to improving the nutrient intake of consumers with vitamin E, folic acid, polyunsaturated fatty acids, herbal antioxidants, iodine, and selenium in a palatable and acceptable commodity.

Totally of 16000 Hisex Layers were divided into two treatment groups (8000 hens in each group), housed in cages (4 hens in each cage) and were to age of 30 to 50 weeks. Hens received food and water ad libitum from 30th-to 50th week of age. The diet was supplemented with 0 (standard type-for control group) and 0,5 % of herbal mix (enriched type diet) which were contained 4 kinds of herbal (thymus meal, oregano, etc) plus extra some minerals and vitamins. Egg production, egg weight, feed intake, feed conversion ratio, mortality, as well as yolk fatty acid composition and internal egg quality characteristics were recorded.

Based on obtained results of the investigation it can be concluded that the enriched diet had positive effect on hens performance. Thus, egg production was over 90 % for more to 6 wks, feed intake was in average 104 g per hen and day, egg weight increase during the 20 wks trial about 1.5 % and was in average 64 g per egg and mortality was 1,2 %. Concerning the internal egg quality characteristics, hens receiving the enriched diet produced less intensively coloured egg yolks than those received the control diet.

The fatty acid composition of the egg yolk was significantly affected by the diet. Eggs from hens fed the enriched feed has more omega 3 fatty acids, more vitamin E, less cholesterol (170 mg Vs 200 per egg), more folic acid, iodine and selenium in comparison to regular eggs. As a basic result, it may be concluded that bio-omega 3 feed as a functional food are not only improving the general health of the hens; but also producing health promoting eggs. Herbal mix in the enriched feed had to further improve the immunity in the hens and quality of the omega eggs or nutrient enhanced eggs.