NUTRITIONAL CHARACTERISTICS AND QUALITY OF EGGS FROM LAYING HENS FED DIETS SUPPLEMENTED WITH DIFFERENT OILS PRODUCED IN ROMANIA

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By the present work, we proposed to assess the nutritional characteristics and quality of eggs from laying hens fed diets supplemented with different types of oils produced and marketed in our country, oils with high or low price, respectively soybean oil, sunflower oil and rapeseed oil. The study was performed with 729 laying hens 33 week-old belonging to ROSO-SL-2000 hybrid. The hens were allotted to 3 groups, each group received isonitrogenous diets for a period of 10 weeks. Experimental diets were included: 1) 7.74% soybean oil, 2) 7.56% sunflower oil, 3) 7.80% rapeseed oil. The energy content of diets were: 1) 11.69 MJ MEE/kg, 2) 11.85 MJ MEE/kg, 3) 11.67 MJ MEE/kg, the differences couldn’t influence the expected results. Egg weight, fatty acid composition of yolk, polysaturated fatty acids n-3, n-6 and their ratio were determined. The inclusion of soybean oil, sunflower oil and rapeseed oil in the diet of laying hens had no significant effect on egg weight. The fatty acids profiles of yolk were affected by the presented oils. The linoleic acid content of the egg yolk significantly decreased when the laying hens received rapeseed oil in diet.

Table 3

<table>
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<tr>
<th>Week</th>
<th>Experimental Batch 1</th>
<th>Experimental Batch 2</th>
<th>Experimental Batch 3</th>
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The medium egg weight (g)

The fatty acids profile in the yolk (% from the total fatty acids)

<table>
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<th>The fatty acid</th>
<th>Experimental Batch 1</th>
<th>Experimental Batch 2</th>
<th>Experimental Batch 3</th>
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The structure of yolk unsaturated fatty acids (% from the total fatty acids)

The polyunsaturated/saturated fatty acids report in the yolk

The polyunsaturated/saturated fatty acids structure in the yolk (% from the total fatty acids)

CONCLUSIONS

- Incorporation of rapeseed oil into compound feed for laying hens has led to the production of eggs with a lower content of saturated fatty acids (28.65% of total fatty acids) compared to soybean oil (32.24% of total fatty acids) and sunflower (33.18% of total fatty acids);
- unsaturated fatty acid enriched eggs were obtained from birds fed with compound feeds containing soybean oil (63.67% of total fatty acids) and sunflower (63.15% of total fatty acids);
- the addition of rapeseed oil to the laying hens feed decreases the linoleic acid concentration of the egg yolk, while the addition of soybean oil and sunflower oil of eggs produced in this polyunsaturated fatty acid, fatty acid with a special importance for human health;
- the average weight of the egg was not influenced by the type of oil introduced into the compound feed nor by the duration of its administration, the slight weight gains of the egg recorded in the first part of the experiment are due to the laying chickens.

BIBLIOGRAPHY


