

DIETARY EFFECTS ON MUSCLE FATTY ACIDS COMPOSITION IN GROWING TURKEYS

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Summary. The influence of diet with increased amount of peas on muscle fatty acids composition in growing turkeys was investigated experimentally. Sixty turkeys were divided into 2 control (Groups 1 and 2, male and female) and 3 experimental (Groups 3-5, male and female) groups of twelve birds in each. The experiment lasted for 20 weeks. Controls in Groups 1 and 2 were fed soya feed diet. In Group 3 from 0 to 4 weeks of age soybean meal diet was substituted with 10 % of peas, 5-8 weeks with 15 % and 9-12 weeks with 20 % of peas. In Group 4 from 0 to 4 weeks of age 15 % of soybean meal was replaced by peas, 5-8 weeks of age – 20 % and 9-12 weeks of age – 25 % of peas, respectively. In Group 5, 0-4 weeks turkeys were fed with 20 % of peas, 5-8 weeks of age with 25 %, and 9-12 weeks of age with 30 % of peas. In all experimental groups from 13 to 20 weeks age turkeys had diet supplemented with 40 % of peas without soya feed.

The results of this experiment demonstrated correlation between fatty acids composition in turkey meat and dietary composition. The amount of $\Omega - 6$ linolenic fatty acid and arachidonic fatty acid in the pectoral muscles of male in experimental groups was higher (1.37 – 4.76 %) compared to female on experimental diets (1.00 – 3.67 %). The amount of arachidonic fatty acid in femoral muscles of male turkey was lower (0.13 – 0.32 %) compared to controls (Groups 1 and 2). The amount of $\omega - 3$ linolenic fatty acid in male femoral muscles was higher compared with male turkey (Groups 1 and 2) on soya meal (0.15 – 1.16 %). In addition, the level of $\omega - 3$ docosahexaenoic acid in Groups 3-5 in male turkey femoral muscles was lower (0.12 %) and in female birds femoral muscles and shins muscles higher (0.66 – 0.24 %) compared to male and female in control groups (Groups 1 and 2).

Keywords: peas, fatty acids, poultry, feed, turkey.