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Determining the optimum levels of methionine in different ages of native turkey of East Azerbaijan province of Iran

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Abstract

This experiment was conducted to determine the desired level of methionine on yield, characteristics of the carcasses of indigenous turkeys of East Azarbaijan at different stages of growth and during 6 age periods (hatch up to 24 weeks). The experiment was performed with 300 single-hatched turkeys with almost identical weight. Turkeys were fed with the same ration of diet and protein in terms of energy and protein but in total amino acid content of total methionine with 5 levels in a completely randomized design with 5 treatments and 3 replications. Each replicate contains 20 chickens of turkeys in equal proportions, male and female weighed separately.

The results of the experiment showed that the percentage of eatable carcass weight and the percentage of thigh weight at age (0-4 weeks) were affected by different levels of methionine ($P \leq 0.05$). The highest percentage of usable carcass weight was related to the level of 0.47% (15% lower than the recommended in NRC) methionine. The mean weight of 8 weeks, the percentage of breast weight and liver weight percentage at age (4-8) were influenced by different levels of methionine ($P < 0.05$). The highest mean weight of 8 weeks and liver weight was related to the level of 0.58% methionine (30% higher than recommended in NRC). Percentage of carcass weight at age (8-12) weekly was affected by different levels of methionine ($P \leq 0.05$). The highest percentage of usable carcass weight was related to the level of 0.34% methionine (30% less than recommended in NRC). Percentage of liver and heart weight percentages (12-16) were affected by various levels of methionine ($P \leq 0.05$). The highest percentage of liver and heart weight was related to the level of 0.25% methionine (15% less than the recommended in NRC). Average weight of 20 weeks of body weight, turkey weight gain, feed conversion ratio, percentage of eatable carcass weight at age (16-20) week were affected by different levels of methionine ($P \leq 0.05$), the highest mean body weight and the most appropriate Food conversion

ratio was 0.29% (15% higher than recommended in NRC), methionine. Weight gain of turkey, dietary conversion ratio, liver weight and heart weight percentages at the age of 24-24 were influenced by different levels of methionine ($P \leq 0.05$). The most suitable feed conversion ratio, the highest turkey weight gain, liver and heart weight percentages related to 0.21% (30% less than the recommended in NRC) methionine.

Considering all the studied traits, the optimal methionine level of east Azarbaijan indigenous turkeys during six age groups, age 0-4 week was 0.47%, age 4-8 week 58.8%, age 8-12 week were 0.34%, age 12-16 week was 0.25%, age 16-20 week was 29.9%, and for the age 20-24 weekt was 0.21%

Key words: turkey, methionine, performance, growth, carcass decomposition