

The effect of genotype and choice-feeding on organically-reared broilers fed diets devoid of synthetic methionine.

A. L. Rack, N. P. Buchanan, J. M. Hott, S. E. Cutlip, J. S. Moritz
West Virginia University, Morgantown WV

In light of the impending ban on synthetic methionine in organic poultry diets, researchers have focused on finding alternative strategies to supply this amino acid. The objectives of this study were two-fold: 1) to assess performance and carcass characteristics of a slow-growing and fast-growing broiler genotype fed diets devoid of synthetic methionine and 2) to determine performance and carcass quality effect, of choice-feeding. Inclusion of fish meal and high percentages of soybean meal enabled the specific genotype methionine requirement to be met. All diets were certified organic. Slow-growing broilers (Gourmet Black) were raised from 1-83 days, and fast-growing broilers (Cobb 500) were raised from 1-54 days. One hundred fifty birds from each genotype were reared indoors during the starter period. The broilers were transferred at the end of the starter period to houses located on the West Virginia University certified organic farm. Broilers had access to pasture for at least eight hours daily, and were exposed to natural fluctuations of environmental conditions. Choice or no choice feeding management was implemented in the grower and finisher periods. Choice-feeding management was defined as providing one feeder of ground corn and one feeder of the remaining complete diet ingredients in each pen. No choice-feeding management was defined as providing two feeders of complete diet in each pen. Birds on no choice management showed higher LWG ($p < 0.05$) compared to choice managed birds. Slow-growing broilers had higher FCR ($p < 0.05$) than the fast-growing genotype. Slow-growing birds also had lower breast yield ($p < 0.05$), than the fast-growing genotype. The fast-growing no choice birds had higher breast yield than the choice birds of the same genotype ($p < 0.05$). Fast-growing genotypes were superior in performance and carcass characteristics. Choice-feeding management did not improve performance and carcass characteristics.

Key words: Methionine, Organic, Broilers