Pasture Intake Improves the Performance and Meat Sensory Attributes of Free-Range Broilers

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ABSTRACT Free-range chickens are assumed to consume low to moderate levels of pasture, although the effects of forage intake in broiler performance and poultry meat quality remain to be established. In addition, despite cellulases and hemicellulases being widely used as feed supplements to improve the nutritive value of cereal-based diets for fast-growing broilers, the potential interest of these biocatalysts in the production of free-range chicken is yet to be established. In this study, broilers of the RedBro Cou Nu × RedBro M genotype were fed a cereal-based diet in portable floorless pens located either on a rainfed subterranean clover (*Trifolium subterraneum*) pasture or on an irrigated white clover (*Trifolium repens*) pasture. Control birds were maintained at the same site in identical pens but with no access to pastures. The importance of pasture intake and enzyme supplementation in the performance and meat sensory properties of the free-range chicken from d 28 to 56 was investigated. The results revealed that although cellulase and hemicellulase supplementation had no impact on broiler performance ($P > 0.05$), birds foraging on legume-based pastures reached significantly greater final BW. The data suggest that the improvement in broiler performance results from increased intake of the cereal-based feed rather than from an improvement in the efficiency of nutrient utilization per se. Interestingly, although the intake of the subterranean clover pasture had no impact on the tenderness, juiciness, and flavor of broiler meat, members of a 30-person consumer panel classified the meat from grazing broilers with greater scores for overall appreciation. Together, the results suggest that pasture intake promotes bird performance while contributing to the production of broiler meat with preferred sensory attributes.

Key words: free-range broiler, pasture intake, broiler performance, meat quality

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