

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

OXIDATIVE STABILITY OF THE MEAT OF BROILERS FED DIETS SUPPLEMENTED WITH GUAVA EXTRACT STANDARDIZED IN PHENOLIC COMPOUNDS

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Lipid oxidation is one of the main aspects responsible for the loss of meat quality as it causes unpleasant odours and flavors, reducing meat shelf life, safety and nutritional quality. In attempt to preserve meat quality, antioxidants of synthetic or natural origin can be used in animal feeding. In recent years, interest has increased in using natural antioxidants due to concerns with the safety and toxicity of antioxidants in food. The extract obtained from guava agro-industrial residues has antioxidant potential as it contains phenolic compounds, which are natural substances with high antioxidant activity. The aim was to evaluate the oxidative stability of the meat of broilers fed diets supplemented with guava extract standardized in phenolic compounds (GESPC). A total of 600 Cobb-500 male broilers were housed in experimental boxes, distributed in a completely randomized design, with five treatments and five replicates, totaling 24 broilers per plot. The treatments were: basal diet (control), 200 mg/kg vitamin E, and three levels of GESPC (1,000, 1,300 and 1,600 mg/kg). At 42 days of age, one bird per replicate, representing the mean weight of the plot, was slaughtered. The breast and thighs/drumsticks were collected and packed in plastic bags and frozen at -20° C for 30 days. At the end of the storage period, the degree of lipid oxidation was determined by assessing the levels of thiobarbituric acid reactive substances (TBARS). Data were submitted to analysis of variance and the means were compared by the Tukey's test (5%). Polynomial regression analysis was performed on GESPC inclusion levels. Lipid oxidation in breast meat was not influenced by treatments ($p > 0.05$). The highest oxidation was verified in the thigh/drumstick of broilers supplemented with 1,300 or 1,600 mg/kg of GESPC, compared to the other treatments ($p < 0.05$). The thigh/drumstick meat of broilers supplemented with vitamin E had the lowest oxidation when compared to the other treatments ($p < 0.05$). No effect was observed between extract levels whit regression analysis ($p > 0.05$). Guava extract standardized in phenolic compounds at the evaluated levels is not recommended for broilers as it worsened the lipid oxidation of meat frozen at -20° C for 30 days.

Keywords: antioxidants, lipid oxidation, *Psidium guajava* L

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