

Growth Performance and Meat Quality of Cobb 500 Broilers Fed Phytase and Tannase Treated Sorghum-Based Diets

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Abstract : This study aimed to evaluate the effects of phytase and tannase addition in broiler diets on growth performance and meat quality of broilers fed sorghum-based diets. Twelve experimental diets were formulated at three sorghum levels, which include 0, 50, and 100%, and 4 enzyme levels: No enzyme, 5000FTU phytase, 25TU tannase, and a combination of 5000FTU phytase plus 25TU tannase. Data on voluntary feed intake, average weekly weight gain and feed conversion ratio were recorded and used to assess growth performance. Meat technical and nutritional parameters were used to determine meat quality. Broilers fed total sorghum diets with phytase and tannase enzyme combination had the highest feed intake in the first ($24.4 \pm 0.04\text{g/bird/day}$) and second weeks of life ($23.0 \pm 1.06\text{g/bird/day}$), respectively. Complete sorghum diets with phytase ($83.0 \pm 0.88\text{g/bird/day}$) and tannase ($122.0 \pm 0.88\text{g/bird/day}$) showed the highest feed intake in the third and fourth weeks, respectively. Broilers fed 50% sorghum diets with tannase ($135.3 \pm 0.05\text{g/bird/day}$) and complete maize diets with phytase ($158.1 \pm 0.88\text{g/bird/day}$) had the highest feed intake during weeks five and six, respectively. Broilers fed a 50% sorghum diet without enzymes had the highest weight gain in the final week ($606.5 \pm 32.39\text{g}$). Comparable feed conversion was observed in birds fed complete maize and 50% sorghum diets. Dietary treatment significantly influences the live body, carcass, liver, kidneys, abdominal fat pad weight, and intestinal length. However, it did not affect Pectoralis major meat nutritional and technical parameters.

Keywords : feed efficiency, sorghum, carcass, exogenous enzymes

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