

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

**PERFORMANCE, BIOMETRY AND ENZYMATIC ACTIVITY OF CHICKENS FED WITH THERMICALLY PROCESSED DIETS, CONTAINING CORN AND SORGH, IN THE POST-HATCHING PHASE**

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Due to the hatching period and hatchery logistics, newly hatching chicks undergo a fasting of 24 to 72 hours which compromises the organs development, enzymatic production, use of the yolk sac and loss in subsequent performance. In this study we evaluated the performance, biometry and enzymatic activity of post-hatch chicks, fed with thermally processed feeds containing corn and sorghum. A completely randomized design was used in a 2x2 factorial arrangement (pelleted or extruded rations, containing corn and sorghum), with four treatments and six replicates of 30 chicks each, with initial weight of  $38 \pm 0.28$  g. After thermal processing, the pellets were crumbled to facilitate apprehension by the chicks. Diets were provided in transport boxes for 24 hours. The data were submitted to analysis of variance and the means were compared by the Tukey test (5%) using software R. There was no interaction ( $p > 0.05$ ) for feed intake and weight loss. Thermal processing influenced weight loss. Weight loss of 8.66% and 7.88% was observed for chicks consuming extruded and pelleted rations respectively. There was interaction for weight of the yolk sac, pancreas and liver. Sorghum containing feeds provided greater use of the yolk sac. The extruded feed containing corn promoted the use of the yolk sac to the chicks. The chicks that consumed pelleted diet with sorghum obtained a higher weight of pancreas ( $0.51 \pm 0.31\%$ ) compared to pelleted diet with maize ( $0.29 \pm 0.21\%$ ). Considering the thermal processing, the extrusion impaired the development of the pancreas in the diets with sorghum. The pelleted diet containing corn provided lower liver weight. It was observed an increase in the proventriculus and small intestine weight of the chicks consuming sorghum diet. Pelletization increased the weight of the large intestine. There was interaction of the factors for amylase activity. The extruded diet containing corn had the highest amylase activity ( $50.94 \pm 2.36$  U mg of protein<sup>-1</sup>) compared to the sorghum extruded diet ( $25.55 \pm 2.36$  U mg protein<sup>-1</sup>). Extrusion of corn diets increased amylase activity. It was concluded that, post-hatching rations with sorghum allows greater use of the yolk sac and biometry of the organs. Extrusion of diets containing corn increases the amylase activity in the pancreas.

**Keywords:** amylase, extrusion, fasting, specific activity,

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