

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

DIGESTIBLE VALINE FOR FEMALE BROILERS DURING EARLY GROWTH PERIOD

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Dietary supplementation with valine is essential for poultry since this branched-chain amino acid is not endogenously synthesized. While considered the fifth limiting amino acid in corn & soybean-meal diets, few studies have determined its requirement for female broilers. Thus, the objective of this study was to determine the concentration of dietary digestible valine to maximize performance in growing female broilers. An experiment was conducted in the poultry sector of IFMT - Campus S o Vicente/MT. A total of 735 8-day-old Cobb female chicks were distributed in a completely randomized design with seven dietary treatments and seven replicates of 15 birds. Treatments were obtained from a basal corn & soybean-meal diet, formulated to reach or exceed birds' nutritional requirements, except for digestible valine, which was kept at 7.74 g/kg. The other six treatments were obtained by adding L-valine into the basal diet, in place of corn starch, to reach digestible valine concentrations of 8.24, 8.74, 9.24, 9.74, 10.24 and 10.74 g/kg. At day 21, performance variables were determined and analyzed by regressing them against digestible valine concentrations using a linear regression model. Significance was set at $p \leq 0.05$. No significant effect of treatments was observed on feed intake and feed conversion, but a quadratic effect of digestible valine concentrations was detected on weight gain. The estimated level of digestible valine for maximum weight gain was 9.23 g/kg. Inferior levels of this amino acid may lead to growth depression by impairing endogenous synthesis of protein. In conclusion, 9.23 g/kg of digestible valine is the recommendation for better productive performance in female broilers during the initial growth period.

Keywords: amino acid, ideal protein, performance, poultry

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