

Effect of low-protein diet, gender and age on the apparent ileal amino acid digestibility in broiler chickens raised under hot-humid tropical condition

ABSTRACT

The study was undertaken to investigate the effects of feeding low-protein diet, gender, and age on the apparent ileal amino acid (AA) digestibility of broilers raised under hot-humid environmental condition. Broiler chicks (320) of either sex were fed on diets varying in crude protein (CP) levels (standard vs. low), and were assessed for apparent ileal digestibilities (AID) of CP and AA at 3 and 6 week of ages, respectively. Birds were fed on 2 diets, i.e starter (CP 22.2%; 16.2%) and finisher (19.5% and 13.5%) ad lib. from 1–42 days. Results showed that birds fed on low-CP diet significantly increased the apparent ileal digestibility of CP and all AA except for Lys, regardless of sex and age. Sex had no influence on the AID for CP and all AA except for Val and Cys, as measured in this study. At 42 d, a significant increase was found in the AID for CP, Ser, including other 7 essential amino acids (EAA), irrespective of sex and diet. In conclusion, feeding broilers with low-CP diets caused a higher AID for the CP and most of AA under tropical condition. Gender had no effect on the CP and AA digestibility, whereas birds' age influenced the AID highly at 42 days that of 21days.

Keyword: Age; Amino acids; Broiler; Digestibility; Gender; Low protein diet