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Effect of Arginine Level and Source and Level of Methionine on Performance of Broilers 0 to 18 Days of Age

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Abstarc :

There is still a debate about the possible difference in the relative bioefficacy between DL-Met and DL-HMB as a source of methionine activity for broilers. This experiment was conducted to determine if the interaction between Arg and Met is influenced by methionine sources (MetS) and methionine level (MetL) in diets for male broilers. A 3 x 2 x 5 factorial arrangement experimental design included three total Arg levels (1.25, 1.35 and 1.45), two Met sources (DL-Met and DL-HMB) and five equimolar levels of supplemental Met (0, 0.05, 0.10, 0.15 and 0.20%) for a total of 30 treatments. Each treatment was fed to 6 replicate pens of 6 male broilers in electrically heated battery brooders from 1-18 days of age. Chickens fed the 1.25% Arg level showed a significantly higher body weight compared to other treatment groups. The FCR and FE were significantly affected by the different levels of Arg in diets. However, FI was not significantly affected by dietary Arg levels. There was no interaction between Arg-MetS and Arg-MetL or any three-way interactions. There was no significant difference between the two Met sources on the performance of broilers. Body weight and FI were not significantly affected by MetL, but an increase of MetL in basal diet significantly improved FCR and FE. The interaction between MetS and MetL had no significant effect on the performance of broilers. These results indicate that the 1.25% total Arg level was sufficient to provide optimum body weight in broiler starter diets. Both MetS had the same relative effectiveness on the performance of broilers when supplemented with equimolar amounts in diets.

Key Word :
Arginine, methionine, male broiler, performance

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