

## **The effects of protein levels on the total sulphur amino acid requirements of broilers during two growth periods**

### **ABSTRACT**

Studies on the effects of protein levels on the total sulphur amino acid (TSAA) requirements of chickens were conducted on the starter broilers by feeding four levels of crude protein (16, 18, 20 and 23%) at three levels of TSAA (0.83, 0.93 and 1.03%) and on the grower broilers by feeding three levels of crude protein (16, 18 and 20%) at three levels of TSAA (0.72, 0.79 and 0.86%). The metabolisable energy of the diets was maintained constant at 3,200 kcal/kg and the experiments were earned out for two growing periods: starter (0-3 wk) and grower (3-6 wk). The results showed that there were significant differences in body weight gain, feed intake and feed:gain ratio under different protein levels of the starters. Crude protein, ME and TSAA intake were significantly affected by increasing the CP levels. The TSAA requirement of the starter broilers is recommended at 0.93% and it is not influenced by different protein levels used in the experiment. For the grower period, body weight gain and feed:gain ratio improved significantly at higher protein diets. Birds fed higher protein diet consumed greater quantities of protein. Responses to TSAA supplementation for body weight gain, feed intake and feed:gain ratio were not significant. The present results showed that the TSAA level of 0.79 to 0.86% was required for grower diets and that the protein levels of the diet did not influence the the TSAA requirement.

**Keyword:** Amino acid; Performance; Protein; Starter and grower broilers; Total sulphur