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Growth response of broiler chicks to graded levels of lysine in low protein diets

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A feeding trial involving four hundred and twenty-day old chicks was carried out to assess the effect of graded levels of lysine in low protein diets on the growth performance and body composition in broiler chicken. A basal diet (CP 19.8%; ME 3000kcal/Kg) formulated without synthetic lysine source served as control. The diet was supplemented with synthetic lysine to achieve 1.0% digestible lysine level. Other experimental diets contained 1.1%, 1.2%, 1.3%, and 1.4% digestible lysine. Four hundred and twenty (n=420) one-day-old broiler chicks were distributed into six dietary treatments. Each treatment was randomly allotted to 30 replicates with fourteen broiler chicks/replicate. Ad libitum feeding was offered to the birds. Water was offered round the clock. Same environmental conditions like light, ventilation, and temperature were offered to the birds. Birds were vaccinated according to the prescribed schedule. The experimental diets were fed from the first day till the end of the trial on day 21. Data on body weight gain, feed intake was recorded weekly to calculate feed conversion ratio. Nitrogen retention, net protein utilization, and protein efficiency ratio was also calculated. Effect of different graded levels of lysine on the performance of the broiler birds during 1-21 day demonstrates that as the lysine level increased there was an improvement in the performance of the bird. Results of the feed intake on day 1-21 indicate that higher feed intake was observed as the lysine supplementation increased. The highest feed intake was observed with T3 (1.3%). Weight gain (1-21 d) increased linearly with incremental levels of lysine with highest weight gain observed in T4 (1.4%) dig. lysine. Similar results were observed with FCR as it went better with an increase in lysine levels. The best FCR was observed in T4 (1.4%) dig. lysine. It was also noted that nitrogen retention, net protein utilization, and protein efficiency ratio was also improved with graded levels of lysine. Work of this trial can be extended by checking the performance of the bird with energy to lysine ratios.

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