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## Evaluation of optimum dietary tryptophan requirement for broiler chicks reared in the cold season under tropical environment

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It has been suggested that the amount of nutrients consumed, environmental temperature and season may affect nutrient requirements of animals, interaction between broilers and season of rearing remains an important problem especially under the tropical environment. The experiment was conducted with broiler chicks from 1 to 28 days of age to determine the optimum tryptophan requirement in the cold season under tropical environment. A total of 285 day old chicks were used in this experiment. The mean minimum daily temperature was from 14-24°C. The experimental design was a completely randomized design, consisting of five treatments each with three replicates. There were five experimental diets with graded levels of supplemental tryptophan at 0.00, 0.04, 0.08, 0.12 and 0.16% to give total dietary tryptophan levels of 0.15, 0.19, 0.23, 0.27 and 0.31% respectively. The basal diet was based on corn (50.66%), groundnut cake (25%) and fishmeal (12.95%), 23% CP and 3008 Kcal/kg of ME. Dietary treatment had significant ( $p < 0.05$ ) effects on final weight, weight gain, feed intake and feed conversion ratio. Chicks fed 0.24% dietary tryptophan gave the highest final body weight, average daily gain and better feed conversion ratio. Chicks fed 0.15% total dietary tryptophan had significantly ( $p < 0.05$ ) higher value for feed intake (1,789.90 g) and significantly lower weight gain (1,021.00 g). Based on this study, overall results suggest that broiler chicks need approximately 0.24% dietary tryptophan between 1-28 days of age.

### Biography

Opoola Emmanuel has obtained his BSc, MSc in Poultry Production from Ahmadu Bello University and currently pursuing PhD in Poultry Production from same university, Nigeria. His research interest is on the nutrition and digestive physiology of farm animals, particularly poultry. He has published more the 10 papers in reputed journals. He is a Member of Nigerian Society for Animal Production (NSAP), Animal Science Association of Nigeria (ASAN) and a Registered Animal Scientist (RAS) in Nigeria.

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