

## EFFECTS OF DIFFERENT DIETARY PROTEIN LEVELS ON THE PERFORMANCE AND CARCASS CHARACTER- ISTICS OF BROILERS

F.C. NWORGU<sup>1</sup>, G.N. EGBUNIKE<sup>2</sup>, F.I. OGUNDOLA<sup>3</sup>,  
R.A. SALAKO<sup>1</sup> AND O.E. FAKEYE<sup>1</sup>

---

<sup>1</sup>Federal College of Animal Health and Production Technology, I.A.R. & T.,  
Ibadan, Nigeria.

<sup>2</sup>Animal Physiology Laboratory, Department of Animal Science, University of  
Ibadan, Nigeria.

<sup>3</sup>Institute of Agricultural Research and Training, Obafemi Awolowo University,  
Ile-Ife, Nigeria.

---

### ABSTRACT

A feeding trial was conducted in the early rainy season of 1999 in Ibadan to determine the performance and carcass characteristics of broilers fed varying levels of dietary protein. Ninety day-old Anak 2000 broiler chicks were randomly allotted to three dietary treatments, with two replicates for each treatment. The treatments A, B and C, contained 19, 21 and 22% crude protein (CP) for starter phase and 17, 19 and 20% CP for finisher phase, respectively. Differences observed in terms of feed intake, feed conversion ratio, final body weight and weight gain, in both phases were significant ( $P < 0.05$ ). Significant ( $P < 0.05$ ) treatment effects were also observed with dressed, eviscerated, breast and abdominal fat weights. Abdominal fat weight (% E.W) was highest in the broilers fed lowest protein level (diet A.) Length of small intestine varied significantly ( $P < 0.05$ ) compared with length of large intestine. Protein levels significantly ( $P < 0.05$ ) affected nitrogen intake and retention, protein efficiency ratio and apparent digestible crude protein, but did not influence total digestible nutrient. Broilers fed 19% CP (diet B) had least cost of feed per kg weight gain (N94.92/kg) at finisher phase, while at starter phase, those placed on diets A (22% CP) had fed cost of N53.40/kg live weight gain. Mean body weight gain at starter (746.0kg/bird) and finisher (1286.2kg/bird) phases were better on the broilers fed diets C (22% CP) and B (19% CP), respectively. Broiler starters and finishers fed diets containing 19 and 17% CP, respectively did not have encouraging performance at market age. Broiler starters should be fed diets containing 21 to 22% CP, in the starter phase, while those in the finisher phase should be fed diets containing 19% CP.

**Keywords:** Broilers, Carcass and Gut Characteristics, Performance and Protein.