

The Effect of Feeding Whole Grains Millet on the General Performance of Broilers at Finisher Phase

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Abstract:- A total of 126 broiler finishers were fed diets containing millet as the major source of energy. Three diets were formulated to contain 0% of the millet as whole grain to serve as control (Diet 1). Diet 2 contained 50% of the millet as whole grain while Diet 3 had its millet as 100% whole grain. The study was conducted to determine the effect of whole grain millet on the performance of the birds. The three treatments were replicated three times each. Results showed that feed intake, water intake, body weight gain and feed conversion ratio were not significantly affected ($P>0.05$) by feeding portions of millet as whole grain in the diet.

I. INTRODUCTION

A large percentage of Nigerians live below the protein recommended level resulting in malnutrition with the attendant reduction in productive capacity. Therefore, it becomes imperative to meet the Millennium Development Goals by increasing livestock production and consequent intake of animal protein to alleviate the prevailing shortage of protein intake by Nigerians. Towards realizing these needs, efforts are being made to increase animal protein production through poultry with the use of various energy feed stuff such as millet grains, sorghum grains among others and also the use of plant proteins and oil seeds such as groundnut cake, soyabean meal, cotton seed cake and benniseed meal as feed ingredients.

FAO (1985) recommended a protein intake of 35g/head/day but this is grossly not met in Nigeria as only 5.5g/head/day of protein is consumed (Idufueka,1984). Hence, broilers, noted for their fast growth rate, attaining a market weight of between 1.8-2.0kg in eight to twelve weeks due to high feed efficiency and good body conformation (Oluyemi and Robert, 1988), can be a means of solving the issue of protein deficiency in Nigeria, thus meeting the FAO (1985) requirement.

Protein is used for the synthesis of body tissues and for growth, body repairs and also for egg formation. (Oluyemi and Roberts 1988).

In an attempt to reduce cost of production, you can feed laying hens and meat birds, including young birds' whole grains, either as their entire diet or to supplement purchased feed (Anonymous 2001). Whole grain is more nutritious than ground since oxidation occurs after grinding, reducing nutritional content; and the longer the ground grain sits around, the greater the loss. (Anonymous 2001).

Whole grain feeding is particularly attractive on the prairies where trucking distances are long and grain is often grown locally (Anonymous, 2001). Research by Cumming in Australia indicates that feeding whole grain may reduce Coccidia challenges while feeding high protein, low fiber diets will increase it (cumming, 1992)

II. IMATERIALS AND METHODS LOCATION OF EXPERIMENT

The study was carried out in the Poultry Unit of the Veterinary Centre, along Aliyu Jodi Road, Sokoto lies on Latitude 12° and 14° Nand longitude 5° and 6° S (Reuben, 1981). The climate is marked with distinct dry and wet seasons, having a mean annual rainfall of 700mm from May to October with a peak in August. The ambient temperature ranges from 14°C during the harmattan season from November to January to 40°C during the hot season from March to May. Humidity is usually less than 40% during the dry season but can be as high as 70% during the wet season (Sokoto Energy Research Center, 1992).

III. EXPERIMENTAL PROCEDURE

A total of 126 unsexed birds were randomly allocated to nine groups of 14 birds each. These groups were randomly assigned to each of the following treatment: 0% whole grain, 50% whole grain and 100% whole grain respectively. The distribution of the birds was done in such a way that the nine groups of 14 birds each had similar body weight before the commencement of the feeding trials.

Ingredient	Diet 1 (0% w.m)	Diet 2 (50% w.m)	Diet 3 (100% w.m)
Millet whole	-	27.5	55
Millet Ground	55	27.5	-
Groundnut cake	25	25	12.5
Wheat bran	15	15	15
Limestone	1	1	1
Bone meal	3	3	3
Salt	0.26	0.26	0.26
Premix	0.26	0.26	0.26
Methionine	0.26	0.26	0.26
Lysine	0.26	0.26	0.26
Total	100	100	100

Table 1: Gross composition of experimental diets

IV. DATA ANALYSIS

All the data were subjected to analysis of variance (Anova), using a computersoftware package (French version).

V. RESULTS AND DISCUSSION

Parameter	D1	D2	D3	Sem
Tfi	11611.97	11131.80	11199.47	260.30
fi/b/d	119.12	9691.80	114.28	3195.21
wi/b/d	273.61	259.64	266.28	8.82
Iw	10250.00	9800.00	8033.33	550.68
Fw	24333.33	26966.67	25433.33	1226.13
Wg	14083.33	17166.67	17400.00	1086.41
Fcr	1.35	1.16	1.01	0.09

Table 2: Performance characteristics of broiler finisher fed whole grains

Key

tfi	Average total feedintake
fi/b/d	Average feed intake per bird per day
wi/b/d	Average water intake per bird per day
iw	Initial weight
fw	Final weight
wg	weight gain
fcr	feed conversion ratio

There was no significant ($P>0.05$) difference in the mean feed intake per bird per day between the diets. This may be attributed to the fact that diet 3 is palatable to the birds McIntosh *et al.*, (1962).

There was no significant ($P>0.05$) difference in the mean water intake per bird per day between the diets. This may be function of water as it relates to digestion, absorption of nutrient and body temperature regulation Bashar (2009).

There was also no significant ($P>0.05$) in the overall weight gain and the feed conversion ratio which may be as a result of feed acceptability.

VI. CONCLUSION

The study established that use of whole grain will help in increasing broiler production.

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