

A Comparative Study of the Performance of Noiler and Broiler Birds in Tropical Humid Zone (South-East Nigeria)

¹Obienyem, J.N., ^{2*}Ezebo, R.O., ³Ozoh, C.N. and ⁴Omumuabuiké, J.N.

¹Department of Animal Health and Production Technology, Anambra State Polytechnic, P.M.B. 002, Mgbakwu, Anambra State, Nigeria.

²Department of Botany Faculty of Bioscience, Nnamdi Azikiwe University, P.M.B. 5025, Awka, Anambra State, Nigeria.

³Department of Applied Microbiology and Brewery, Faculty of Bioscience, Nnamdi Azikiwe University, P.M.B. 5025, Awka, Anambra State, Nigeria.

⁴Department of Animal Science, Faculty of Agriculture, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus, Anambra State, Nigeria.

*Correspondence: esau_056@yahoo.com

ABSTRACT

The purpose of this study was to evaluate the performance of broiler and noiler birds. A total of 36 (thirty-six) day old unsexed broiler (Casacada) and noiler birds were sourced from Ibadan, South-western and Amo Farm from Owerri, South-eastern Nigeria respectively. After brooding, the chicks were randomly divided into two treatment groups of eighteen birds each. They were replicated twice and were fed with equal amount of commercial broiler finisher. The feed intake, feed conversion ratio and body weight gain were determined. There was a significant difference ($p < 0.05$) between the two treatments with the highest weight gain in T2 at 1.885kg and the lowest weight gain in T1 at 1.237kg. There was a significant increase in the body weight gain, feed intake and feed conversion ratio of broiler birds across the treatments. It was therefore, concluded that broiler birds have better feed efficiency than the noilers.

Keywords: Comparative, Study, Performance, Noiler, Broiler, Birds, Humid, Zone, Nigeria

INTRODUCTION

As the population of Nigeria continues to increase in a geometric pattern, food supply particularly, protein supply lags behind in arithmetic pattern. [1], have stated that one of the ways of increasing protein supply for the Nigerian population is through broiler production. Broilers are poultry birds used mainly for meat, and in recent years occupied a leading role in meeting the animal protein need of people worldwide [2]. The high price of conventional poultry feed ingredients in Nigeria has increased the feeding cost to about 80% of the total cost of production [3]; [4]. This is due to the stiff competition between human and monogastric animals for the already scarce conventional feed resources [5]; [6]. The resultant effects have been low production level, narrow profit margin and collapse of the once prosperous poultry farms. In the present time, the

choice of feed is determined to a large extent by price rather than by quality of feed [7]. This development has also contributed to the indiscriminate appearance of new commercial feeds in the market, the quality of such commercial feeds being doubtful because no quality grading system is in place. Chickens have short generation interval and therefore are the choice animal species for achieving sustainable and rapid production of animal protein for human consumption [8] Unlike other forms of animals (livestock) that have either or both cultural taboos and religious prohibitions attached to them, the chickens have neither restrictions in all parts of Nigeria [9]. [10], also reported that poultry, particularly broilers are fast growing birds, with high feed efficiency, reaching the required market weight of 2 kg within eight to twelve weeks (8 - 12

weeks) of age. In a world where malnutrition and starvation stare the entire human race at the face, it is amazing that there exist some agro-industrial by-products lying waste, which could be utilized for increased food production, especially livestock and poultry, to supply protein [5]. In cases

where agricultural by-products are utilized, they are inappropriately or grossly under-utilized; not withstanding their favourable yield characteristics and relatively lower cost [11]. This study evaluated the comparative performance of noiler and broiler birds in tropical humid zone of South-east Nigeria.

MATERIALS AND METHODS

Experimental Site

The experiment was conducted at the poultry unit of Animal Health and Production Technology Department, Anambra State Polytechnic, Mgbakwu in Awka North Local Government Area in

Anambra State, Nigeria. The area of Mgbakwu lies between the Latitude 6°16'58"N and Longitude 7°3'46"E North by Ebenebe in West and Isuaniocha in the South.

Experimental Birds and Management

A total number of thirty-six (36) day old birds, that is eighteen noiler birds and eighteen broiler birds were purchased from Amo Farm Sieberer Hatchery Ltd, Awe, Oyo State, Nigeria, for the experiment. The thirty-six (36) day old birds were randomly divided into two treatment groups to determine the productivity of the two strains of birds.

Hygienic measures such as cleaning, disinfection and other sound management practices were carried out before the arrival of the birds. The birds were brooded for nine weeks in a deep litter system under a nice brooding condition. The birds were also vaccinated after which the main study began on the performance of noiler and broiler birds.

Statistical Analysis

The experiment was laid out in a completely randomized design (CRD) with two replicates. Data collected were

subjected to ANOVA and the means were separated using Duncan Multiple Range Test at 5% probability.

RESULTS AND DISCUSSION

The results of overall performance of broilers as compared with noilers are presented in Table 1. From the table data, there was a significant ($p < 0.05$) difference between the two breeds of chicken with regard to their body weight gain. The body weight gain for noilers and broilers in this study were 1.237kg and 1.885kg respectively. This agrees with the work [12], who reported a broiler with body weight gain of 1.81kg. This slower growth rate may indicate why today's noiler has moved away from meat production to egg production characteristics. Table 1 showed that feed intake for the broilers was greater than that of the noilers. The feed intake of the noilers continued to increase but never reached the same levels of intake attained by the broilers. The average amount of feed it took for broilers to reach market weight of 1.885kg at nine weeks was 4.575kg, whereas it took the noilers 3.605kg to reach the weight of 1.237kg at nine weeks. These results are similar to work done by [13], in which a

fast-growing broiler strain was compared with slower-growing broiler strains. In that study, the feed intake for the slower-growing birds was associated with the length of growth. As the noilers grew slower than the broilers, their feed intake became greater. The overall feed conversion ratio for broilers and noilers in this study were 2.40kg and 2.95kg respectively. That implies it took broilers 2.40kg of feed to create 1kg of meat while it took noilers 2.95kg of feed to make 1kg of meat. There was a significant ($p < 0.05$) difference between the two treatments. This result agrees with the work of [2], who reported that the feed conversion ratio for the broiler was more efficient than that of heritage line. [13], reported significant difference between fast-growing broilers and slower-growing broiler strains. A greater number of replications in future trials may be able to detect differences in the feed conversion ratio between broilers and noilers.

Table 1: Overall performance of broilers as compared with noilers

Parameter	Noiler T1	Broiler T2
Initial body weight (g)	452.20±11.03 ^a	735.55±0.00 ^b
Final body weight (g)	1689.00±21.01 ^b	2616.70±15.81 ^a
Body weight gain (kg)	1.237±0.05 ^c	1.885±0.30 ^c
Feed intake	3.605±0.46 ^d	4.575±0.37 ^f
Feed conversion ratio (kg)	2.95±0.49 ^e	2.40±0.56 ^e

Means with the same letter in the same column are not significantly different at $p < 0.05$ using Duncan Multiple Range Test (DMRT)

CONCLUSION

The result of this study showed that broilers performed better in terms of body weight gain, feed intake and feed conversion ratio than their noiler counterparts. The results revealed that the average amount of feed it took the broilers to reach the market weight of

1.885kg at nine weeks was 4.575kg whereas it took the noilers 3.605kg to attain the market weight of 1.237kg at the same number of weeks. Hence, the broiler birds have better feed efficiency than the noilers.

REFERENCES

- Ladokun, A. O. and Longe, O. G. (2004). The effect of replacing groundnut cake protein diet with cocoa bean meal protein on performance of broilers. *Trop. J. Anim. Sci.*, 7 (1): 91-97.
- Meremikwu, V.N. and Udedibie, A.B.I. (2007). The performance of finisher broilers under subsistence free range system of production. *Nig. J. Anim. Prod.*, 34 (2): 226-232.
- Durunna, C.S., Udedibie, A.B.I. and Anyanwu, G.A. (1999). Combinations of maize/sorghum-based dried brewers' grain, cocoyam-corm, and cassava tuber meal as substitute for maize in the diets of laying hens. *J. Agric. Biotech. Environ.*, 2: 1-7.
- Olomu, J. M. (2003). *Poultry Production*. A Jachem Publication, Benin city, Nigeria. Pp. 108-214. Schmidt, C.J., Persia, M.E., Feierstein, E., Kingham, B. and Saylor, W.W. (2009). Comparison of a modern broiler line and a heritage line unselected since the 1950s. *Poult. Sci.*, 88: 2610-2619
- Abeke, F.O., Ogundipe, S.O., Sekoni, A.A., Adeyinka, I.A., Abubakar, B. Y., Oni, O.O. and Nwagu, B.I. (2003). Response of laying hens to dietary levels of heat-treated sheep manure (HSM). *Trop. J. Anim. Sci.*, 6(2): 111-116.
- Ubosi, C.O. and Sekura, A. M. (2000). Effect of varying levels of full-fat soybean and groundnut cake intake on the performance of broilers in hot dry environment. *Proc. 25th Annual Conf. Nig. Soc. Anim. Prod.*, University of Agriculture, Umudike, Abia State. Pp. 221-224.
- Alikwe, P.C.N., Akinsoyinu, A.O., Babatunde, B.B. and Ogunwole, O.A. (2005). The replacement value of rumen epithelial scrapping meal (RESM) for fish meal in the diets of broilers. *Trop. J. Anim. Sci.*, 8(1):69-75.
- Atteh, J.O. (2004). *Theory and Practice of Poultry Production*. Adlek Printers, Ilorin Kwara State Pp. 124-125.
- Ikeme, A.I. (1990). *Meat Science and Technology. A comprehensive approach*.

www.idosr.org

African FEP publishers. Onitsha, Nigeria.
Pp. 254-262.

10. Fanimio, A.O., Adebayo, A.J., Oduguwa, O.O. and Biobaku, W.O. (2007). Feeding value of Cashew nut testa for broiler chickens. *Nig. J. Anim. Prod.*, 34(1):83-93.
11. Essary, E.O., Mountney, G.J. and Goff, O.E. (1951). Conformation and performance in standard bred and crossbred broilers. *Poult. Sci.*, 30: 552-557.
12. Fanatico, A.C., Pillai, P.B., Cavitt, L.C., Owens, C.M. and Emmert, J.L. (2005). Evaluation of slower-growing broiler genotypes grown with and without outdoor access: Growth performances and carcass yield. *Poult. Sci.*, 84: 1321-1327.

Obienyem, J. N., Ezebo, R. O., Ozoh, C. N. and Omumuabuiké, J. N. (2023). A Comparative Study of the Performance of Noiler and Broiler Birds in Tropical Humid Zone (South-East Nigeria) IDOSR JOURNAL OF APPLIED SCIENCES 8(3) 147-150. <https://doi.org/10.59298/IDOSR/2023/10.2.1421>