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EVALUATION OF GROWTH PERFORMANCE OF NOILERS, BROILERS AND ISA BROWN COCKERELS AS MEAT TYPE CHICKENS

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Abstract
Growth is the single most important phenotype for evaluating the productivity of livestock species. This study evaluated growth performance of noiler meat chicken compared with broilers and isa brown chicken. Forty-eight (48) each of noiler male (cockerels), noiler female (pullets), broilers, and isa brown cockerels were used and the experimental birds were allotted into four (4) treatments comprising noiler male, noiler females, broilers and isa brown cockerels representing treatment 1 – 4, respectively. There were three (3) replicates per treatment and each replicate contained 16 birds and the experiment lasted 86 days. Data collection included initial weight, weight gain, feed intake, feed conversion ratio, final weight and mortality. Final weight, weight gain, average daily weight gain, average feed intake, feed conversion ratio, initial weight and average daily intake were significantly different ($P<0.05$). However, mortality was not affected ($P>0.05$). Initial weight, average final weight, daily weight gains and total weight gained followed the same trend, values for broilers (263.67g/bird, 2585.33g/bird, 27.00g/bird/day and 2321.66g/bird, respectively), male noilers (214.33g/bird, 2290.00g/bird, 24.14g/bird/day and 2075.67g/bird, respectively), female noilers (202.00g/bird, 1906.67g/bird, 19.82g/bird/day and 1704.67gbird, respectively) and isa brown cockerels (135.00g/bird, 1180.00g/bird, 12.15 g/bird/day and 1045.00g/bird, respectively) were significantly different ($P<0.05$) among themselves across the treatments except noiler male and females. Average daily feed intake for boilers, noiler cockerel, noiler pullets and cockerels were 60.48, 57.21, 45.39g/bird/day and 41.43g/bird/day, respectively. All the values were significantly different ($P<0.05$) among themselves across the treatments. The results revealed that growth performance of broilers significantly surpass noiler males and females, however, noiler chicken recorded feed conversion ratio similar to value reported for broilers.

Keywords: Feed intake; Female noiler; Male noiler;; Performance; Weight gain

Introduction

Broilers are known for their efficient feed conversion into essential nutrients required by man. According to Wilson (2005), broiler has the capability to attain table weight of 2.0kg in 33days. However, this depends on the genetic makeup of the strain, housing standard, feed quality and management strategy adopted (Idahor*et al*., 2013). Cockerel rearing has attained great importance due to its hardiness and relatively high survival rate, though its production does not appear profitable due to its relatively long maturity period. However, it is well documented that its live weight increases with age unlike in spent hens in which the live weight decreases with increasing egg production and then age (Okosun, 1987).

Kuroiler (known as Noiler in Nigeria) is bred in Nigeria by Amo Farms. Kuroilers are derived from crossing either coloured broiler males with Rhode Island Red females, or, White Leghorn males crossed with female Rhode Island Reds (Sandilands and Hocking, 2012). Kuroilers, a dual-purpose breed

producing meat and eggs, they can thrive on kitchen and agricultural waste. The meat yield per bird of Kuroilers is greater; males weigh approximately 3.5 kg and females about 2.5 kg whereas the native male bird weighs 2.5 kg and females 1.2 kg and due to its unique genetic features. Kuroiler chicks are potential bio-converters of low cost agricultural, household and natural waste abundant in villages into human protein food and substantial incomes for rural households. It was introduced in the early 1990s, the breed was created by VinodKapur of Kegg Farms Private, ltd., and the name is a portmanteau of Kegg and Broiler. (Sandilands and Hocking, 2012).

Noiler proved superior in growth performance compared to Isa brown and nera black as replacement pullets (Mosobalaje and Oloko, 2021). Also Mosobalaje and Adedoyin (2021) stated that Noiler chicken showed better growth performance, however, Isa brown had the best egg production performance. This study evaluated growth performance of noiler meat chicken compared with broilers and isa brown chicken.

Materials and methods

The study was conducted at the Poultry Unit of Teaching and Research Farm of Oyo State College of Agriculture and Technology Igboora. Forty-eight (48) each of noiler male (cockerels), noiler female (pullets), broilers, and isa brown cockerels were used to compare growth performance of noilers with two other poultry meat types. After 14 days of brooding, the experimental birds were allotted into four (4) treatments comprising noiler male, noiler females, broilers and isa brown cockerels representing treatment 1 – 4, respectively. There were three (3) replicates per treatment and each replicate contained 16 birds. The experimental design was Complete Randomized Design (CRD). Data collection lasted 86days and data collected included initial weight, weight gain, feed intake, feed conversion ratio, final weight and mortality. Data obtained from the study were subjected to Analysis of Variance (ANOVA) and where differences exist between means, Duncan's Multiple Range Test (Duncan, 1955) was used to separate the means at 5% probability level.

Results

Performance characteristics of the four different meat types of birds were presented in Table 1. All the parameters were significant ($P<0.05$) except mortality. Cockerel recorded the significant ($P<0.05$) least value (135.00g/bird) of the initial weight. Values for noiler cockerels (214.33g/bird) and noiler pullets (202.00g/bird) were similar but significantly ($P<0.05$) lower to value recorded for broiler that was the highest (263.67g/bird). The final weight was also affected by the types of bird, boilers had value (2585.33g/bird) that was significantly higher ($P<0.05$) than noiler cockerels (2290g/bird) and noiler pullets (1906.67g/bird), cockerel recorded value (1180.00g/bird) that was significant lower than other types.

Average daily weight and total weight gained followed the same trend and values for broilers, male noilers, female noilers and isa brown cockerels were 27.00g/bird/day and 2321.66g/bird; 24.14g/bird/day and 2075.67g/bird; 19.82g/bird/day and 1704.67gbird; 12.15 g/bird/day and 1045g/bird, respectively. Average daily feed intake for boilers, noiler cockerel, noiler pullets and cockerels were 60.48, 57.21, 45.39g/bird/day and 41.43g/bird/day, respectively. All the values were significantly different ($P<0.05$) among themselves across the treatments

Feed conversion ratio was also significantly affected ($P<0.05$), cockerel had the highest value (3.41) followed by noiler cockerel (2.37), noiler pullet (2.29) while broiler had the least feed conversion ratio value with (2.24). However, only cockerel had value significantly higher ($P<0.05$) than other types. The Mortality values obtained from the birds were similar ($P<0.05$) noiler cockerel and noiler pullet had the same value (2.08) so also cockerel and boiler recorded the least value (1.96).

Table 1: Performance characteristics of the four different meat types of birds

Parameter(gram)	Male Noiler	Female Noiler	Broilers	Isa brown cockerels	SEM
Initial weight (g/bird)	202.00[b]	214.33[b]	263.67[a]	135.00[c]	14.60
Final weight (g/bird)	1906.67[c]	2290.00[b]	2585.33[a]	1180.00[d]	114.77
Total weight gained (g/bird)	1704.67[c]	2075.67[b]	2321.66[a]	1045.00[d]	0.21
Average weight gain (g/bird/day)	19.82[c]	24.14[b]	27.00[a]	12.15[d]	2.32
Average total feed intake (g/bird/day)	45.39[c]	57.21[b]	60.48[a]	41.43[c]	3-93
Feed conversion ratio	2.29[a]	2.37[a]	2.24[a]	3.41[b]	0.15
Mortality (%)	2.08	2.08	1.96	1.96	0.86

[abc]: Means differently subscripted are significantly different from one another (P<0.05)

Discussion

Results obtained on performance characteristics of the experimental birds revealed that almost all the performance parameters were affected. The result showed that noiler cockerels and pullets had similar values while isa brown cockerels had the lowest value for most of the values. The final weight attained by noiler was comparatively high. Mosobalaje and Adedoyin (2021) reported high final weigh for noiler pullets. Feed conversion ratio of cockerel contradicted the value presented by Imouokhome (2012). The values were higher to that of Noilers and broiler despite their higher feed consumption, this is as a result of the high rate of conversion of feed to weight (Mosobalaje Oloko, 2021).

Conclusion

Growth performance of broilers significantly surpass noiler males and females, however, noiler chicken recorded feed conversion ratio similar to value reported for broilers. This shows that noiler can attain values attained in eight weeks by broiler at longer period than fourteen weeks.

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