



ECONOMICS OF PRODUCTION OF GROWING COCKERELS FED MIXED SAW DUST AS A SUBSTITUTE FOR WHEAT OFFAL.

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Abstract

A total of 96 day- old cockerel chicks were obtained and allocated into 6 brooding units of 16 birds and replicated twice in a complete randomized design experiment. At the 9th week the birds were moved to the rearing units which housed 16 Cockerels chickens per treatment and were offered one of the three dietary treatments for the duration of the experiment. Experimental diets were introduced from 9-12 weeks. Three substitution levels of mixed saw dust substituting wheat offal at 0, 50 and 100% levels respectively. The results showed that there were significantly ($p < 0.05$) difference across the dietary treatments. The lowest values (₦124.57) for the cost of feed in (₦/kg) was obtained in growing cockerels fed diet 3 while the highest value (₦130.97) was obtained for the cost of feed in ₦/kg in growing cockerels fed diet 1. The result obtained in this research showed that the lowest cost (₦12,457.00) was recorded for the production of 100kg of feed for growing cockerels fed diet 3 while the highest cost (₦13,097.00) was recorded for the production of 100kg of feed for growing cockerels fed diet 1. It could be concluded that the use of mixed saw dust as a substitute for wheat offal resulted in a decreased in the cost of growing cockerel and thereby increased the profitability of cockerel farmers/producers.

Introduction

Poultry make a significant contribution to human nutrition and economic sustenance. They provide substantial amount of high quality protein in form of meat and table eggs. According to Okorie (1983) and Oluyemi and Roberts (1988) poultry yield the quickest returns of investment compared to other livestock species. Poultry provide useful by-products for manufacturing industries. Among the poultry birds, the cockerels and turkeys are considered as the meat type bird, the cockerels are regarded as hatchery wastes at the point of hatching in the developed countries and are hence recycled as livestock feed components. However, the emerging potentials for the cockerels birds in the developing countries as meat-type birds especially when reared beyond sixteen weeks of age to target the festive periods like the Christmas and the Easter seasons. Consumers have reported cockerel meat to be firmer in consistency, tastier and less fatty than that of cockerels. It is also relatively cheaper to raise cockerels to 2kg body weight than cockerels because of lower cost of feed and medication and the hardiness of the cockerel birds. Harnessing these inherent potentials in cockerel production will therefore go a long way in ameliorating the shortage of proteins, particularly those of animal origin that is prevalent in most African countries reputed with low consumption of animal proteins (FAO, 1986). This study aims to examine the cost effectiveness of production of growing cockerels fed mixed saw dust as a substitute for wheat offal.

Materials and Methods

Experimental site: The experiment was carried out in the poultry unit of Teaching and Research Farm of Oyo State College of Agriculture and Technology, Igboora.

Experimental Ingredient: The saw dust used in the experiment was obtained from the local saw mill at igboora, Oyo State.

Experimental birds and management

A total of 96 day- old cockerel chicks were obtained from Obasanjo Farm Nigeria Limited. The birds were allocated into 6 brooding units of 16 birds and were offered one of the three dietary treatments such that there were 2 replicates assigned to each dietary treatment in a complete randomized design experiment. The birds were fed *ad-libitum* throughout the experimental period. The birds were managed under a deep litter system of management with wood shavings as bedding materials. At the 9th week the birds were moved to



the rearing unit which house 16 cockerel chickens per treatment and they were offered one of the three dietary treatment for the duration of the experiment.

3.6 Experimental Diets

Three experimental diets were formulated for the finisher (9-12weeks) phase. The diets were introduced from 9-12 weeks and fed for the duration of the experiment. Three substitution levels of mixed saw dust substituting wheat offal at 0, 50 and 100% levels respectively.

Table 1: Gross Composition of Experimental Diet (Grower phase)

Ingredient	T1 (0%)	T2 (20%)	T3 (40%)
Maize	50.0	50.0	50.0
Soyabean	11.50	11.50	11.50
Wheat offal	20.0	16.0	12.0
Saw Dust	0.00	4.00	8.00
Limestone	2.60	2.60	2.60
Bone meal	2.30	2.30	2.30
Grower premix	0.25	0.25	0.25
Salt	0.25	0.25	0.25
Methionine	0.05	0.05	0.05
Lysine	0.10	0.10	0.10
Palm kernel cake	13.0	13.0	13.0
Total	100	100	100
ME	2684.25	2736.83	2789.41
C.P	15.92	15.66	15.40

ME- Metabolizable energy, CP- Crude protein

A kg premix contains vitamin A; 110,000,000iμ Vitamin D; 2,500,00iμ, Vitamin E; 20,000mg Vitamin K₃; 3000mg, Vitamin B₃; 3.00mg Vitamin B₂; 7000mg, Vitamin B₆; 500mg Vitamin B₁₂; 25mg, Panthotenic acid; 10,000mg, folic acid; 800mg, Biotin; 50mg, Manganese; 80,000mg, Iron; 40,00mg, Zinc; 60,000mg, Copper; 800mg, Cobalt; 250mg, Iodine; 1,000mg, Selenium (1%); 150mg, Chlorine, 200,000mg and Anti oxidant; 100,00mg.

Table 2: Cost of growing cockerels feed

Ingredient (kg)	Price/kg (#)	T1(0 %)	T2 (20%)	T3 (40%)
Maize	150.00	7500.00	7500.00	7500.00
Soyabean	200.00	2300.00	2300.00	2300.00
Wheat offal	90.00	1800.00	1440.00	1080.00
Saw Dust	10.00	-----	40.00	80.00
Limestone	20.00	52.00	52.00	52.00
Bone meal	50.00	115.00	115.00	115.00
Grower premix	850.00	212.50	212.50	212.50
Salt	50.00	12.50	12.50	12.50
Methionine	1500.00	75.00	75.00	75.00
Lysine	1200.00	120.00	120.00	120.00
Palm kernel cake	70.00	910.00	910.00	910.00
Total cost/100kg	-----	13097.00	12777.00	12457.00

Parameters to be measured



The following are the economy of production parameters to be measured on growing cockerels fed experimental diets: final weight (g/bird), weight gain (g/bird), feed intake (g), cost of feed on (₦/kg), cost of 100kg of feed in (₦), cost of weight gain in (₦/kg).

Statistical Analysis: Data collected were subjected to statistical analysis of variance (ANOVA) and means were separated using Duncan multiple range test.

Result and Discussion

Economy production of growing cockerel

Table 3 shows the economy of production of growing cockerels fed mixed saw dust as a substitute for wheat offal. It was discovered that the values obtained were significantly ($p < 0.05$) difference across the dietary treatments. Cockerel on treatment 3 recorded the lowest values for cost of feed (₦124.57) While the highest value of (₦130.97) was recorded for the cost of feed in ₦/kg in growing cockerels fed diet 1 The result obtained in this research showed that the lowest cost (₦12,457.00) was recorded for the production of 100kg of feed for growing cockerels fed diet 3 While the highest cost (₦13,097.00) was recorded for the production of 100kg of feed for growing cockerels fed diet 1. The highest cost (₦94.98) of weight gain in (₦/kg) was obtained in growing cockerels fed diet 1. While the lowest cost (₦83.30) of weight gain in (₦/kg) was noticed in growing cockerels fed diets 3. The lowest cost (₦540.38) of feed/bird in ₦/kg was recorded in growing cockerels fed diet 3. While the highest cost (₦572.11) of feed/birds in ₦/kg was noticed in growing cockerels fed diet 1.

Table 3. Economy of production of growing cockerels (9-12 weeks) fed mixed saw dust as a substitute for wheat offal.

Parameters	T1	T2	T3	SEM
Final live weight (kg)	13215.00 ^a	1210.10 ^b	1132.00 ^c	21.94
Weight gain (kg)	725.20 ^a	713.00 ^b	668.20 ^c	14.02
Feed intake (kg)	4368.28 ^a	4368.22 ^{ab}	4337.96 ^c	8.24
Cost of feed (₦/g)	130.97 ^a	127.77 ^b	124.57 ^c	1.51
Cost of 100kg	13097.00 ^a	12777.00 ^b	12457.00 ^c	150.85
Cost of weight gain (₦/g)	94.98 ^a	91.10 ^b	83.30 ^c	2.80

The highest (₦130.97) cost of feed in (₦/kg) was recorded for growing cockerel fed diet 1 While the lowest (₦124.57) of feed in (₦/kg) was noticed in cockerel fed diet. The result of this study was in agreement with the finding of Ojewola *et al.*, (2004) who reported the lowest cost/kg feed in ₦49.66 for broiler fed diet 5 (100% cashew nut meal and 0% soya bean meal) based diet. The highest cost (₦94.98) of weight gain in (₦/kg) was obtained in growing cockerel fed diet 1 (0% substitution level of mixed saw dust for wheat offal). The lowest cost of (₦83.30), weight gain in (₦/kg) was obtained in growing cockerel fed diet 3. This result confirmed the finding of Ogungbenro *et al.*, (2013) who reported the least cost ₦206.70 of feed consumed/weight gain in (₦/kg) in turkey poult fed 30% replacement level of cashew nut meal for maize. It could be concluded that the use of mixed saw dust as a substitute for wheat offal resulted in a decreased in the cost of production of growing cockerel and this resulted in an increase in the profitability of growing cockerel production.

Conclusion

It could be concluded that the use of mixed saw dust as a substitute for wheat offal resulted in a decreased in the cost of growing cockerel and thereby increased the profitability of cockerel farmers/producers.



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