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Carcass, organs and palatability characteristics of broiler fed with graded levels of cowpea testa based diets

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THE MESSAGE

- To improve protein diet in developing countries in order to contribute to food security.
- There is the possibility of reducing over-dependency on the conventional protein feedstuff where there are other alternative feedstuff that can supply protein as much as soybean.
- This will help to reduce the cost of producing broiler.

INTRODUCTION

- ❖ Over dependency on Soybean meal as the key conventional protein for feeding poultry birds is currently threatening the development of the industry because of increase in the cost of Soybean meal.
- ❖ Food Security exists when all people at all times have access to safe nutritious food to maintain healthy and active life (FAO, 1996).
- ❖ To be able to achieve this, the cost of production poultry product which is one of the most supplier of animal protein, must be reduced to the minimum by reducing the cost of protein feedstuff.
- ❖ Alternative feed stuffs are used to reduce cost of feed and livestock product.
- ❖ Cowpea testa is relatively cheap feed stuff with CP of 17% and 1005 KCal/kg/DM.
- ❖ The objective of this study is to determine the effect of CTM on carcass, organs and palatability of broiler.

MATERIALS AND METHODS

➤ One hundred and twenty day-old arbor acre (unsexed) broiler were used. The birds were randomly allocated to four treatments of cowpea testa meal (CTM) used to substitute Soybean meal at 0%, 15%, 30% and 50% for T1, T2, T3 and T4 respectively.

➤ The treatments were replicated three times with 10 birds per replicate in a Complete Randomized Design.

➤ Data on initial liveweight, weight gain, feed intake, dissected carcass and organ weight, and the result of the panelist for the palatability test were all subjected to analysis of variance. Significant means were separated using the Duncan's Multiple Range (DMR) test. SAS computer package was used (SAS, 1999)

Table 1: Organs and primal cuts of broiler chicken fed different levels of CTM (P<0.05)

Parameter	0% CTM	15% CTM	30% CTM	50% CTM
Heart	0.45	0.57	0.73	0.68
Kidney	0.49	0.42	0.96	0.71
Spleen	0.12	0.09	0.11	0.14
Intestine	5.21	5.65	7.05	7.64
Lungs	0.97 ^b	0.72 ^b	0.77 ^b	1.00 ^a
Liver	1.93	1.78	2.27	2.94
Gizzard	3.23 ^b	4.48 ^a	4.66 ^a	4.76 ^a
Proventriculus	0.96 ^b	0.99 ^a	0.81 ^c	0.85 ^c
Breast/Chest	17.52	14.89	15.71	16.28
Thigh	9.80	12.32	10.00	11.22
Drumstick	9.39	10.66	8.71	9.58
Wings	8.32	10.34	9.05	9.63
Back	21.27 ^a	21.04 ^a	17.71 ^b	17.89 ^b
Neck	5.08	4.28	7.05	5.06

Table 2: Palatability characteristics of broilers fed CTM (P<0.05)

TREATMENT	COLOUR	FLAVOUR	TENDERNESS	JUICENESS	TEXTURE	ACCEPTANCE
0%	6.00 ^a	6.47 ^a	6.63 ^a	6.50 ^a	6.20 ^a	7.03 ^a
10%	6.57 ^a	6.60 ^a	6.63 ^a	6.33 ^a	6.53 ^a	7.07 ^a
30%	5.80 ^a	4.40 ^b	5.30 ^a	5.20 ^a	4.73 ^{bc}	5.30 ^a
50%	5.17 ^a	5.20 ^{ab}	5.43 ^a	5.73 ^a	5.23 ^b	5.50 ^{ab}

CONCLUSION

- ✓ Fresh meat could be preserved into delicious and nutritive products like Balangu
- ✓ Balangu, was observed to have high protein and low moisture content, which could help to contribute to food security in Nigeria.
- ✓ Balangu produced from beef was highly acceptable to other products of Balangu.

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