



Effect of Supplementing Fungi-Degraded Cowpea Seed hull in Broiler Diets

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INTRODUCTION

- In meeting the Millenium Development Goals there is need for increased livestock production and consequent intake of animal protein to alleviate the prevailing shortage of protein intake by Nigerians.
- Realizing these needs, efforts are being made to increase animal protein production from beef and poultry with the use of various agro-industrial wastes, including those of carbohydrate residues as animal feed.
- Although crop residues are found in many rural parts of Nigeria, their potential for animal feeding has not been often not fully exploited.
- It is possible to increase the nutritive value of some of these residues, thus improving livestock productivity

Table 1: Performance characteristics of broiler birds fed supplemented diets containing different levels of *Aspergillus niger* degraded cowpea seedhull

Parameters	DIETARY TREATMENTS					SEM
	A (0%)	B (5%)	C (10%)	D (15%)	E (20%)	
Initial Weight (g/bird)	104.50 (410.00)	103.50 (470.00)	110.00 (430.00)	110.00 (430.00)	100.00 (400.00)	
Final Weight (g/bird/)	410.00 ^b (1675.00 ^c)	470.00 ^a (2125.00 ^a)	430.00 ^{ab} (1815.00 ^b)	430.00 ^{ab} (1950.00 ^c)	400.00 ^b (2025.00 ^b)	3.32 (4.05)
Weight gain (g/bird/week)	101.83 ^{ab} (316.25 ^d)	122.16 ^a (413.75 ^a)	108.15 ^{ab} (392.50 ^c)	106.48 ^{ab} (380.00 ^c)	98.17 ^b (406.25 ^b)	3.20 (5.20)
Feed intake (g/bird/week)	228.34 ^b (715.83 ^c)	258.33 ^a (729.03 ^c)	253.17 ^{ab} (720.00 ^c)	253.33 ^{ab} (759.03 ^b)	261.67 ^a (809.33 ^a)	5.10 (3.07)
Feed Conversion Ratio	2.24 ^c (2.25 ^a)	2.11 ^c (1.76 ^b)	2.34 ^a (1.92 ^{ab})	2.38 ^b (1.99 ^{ab})	2.69 ^a (2.00 ^{ab})	0.16 (0.12)

abc = means on the same row with the different superscript are significantly different (p<0.05);

SEM = Standard Error of Means

..... Values in the parenthesis are values for the finishing phase

MATERIALS AND METHOD

- One hundred and twenty day-old broiler chicks were used for the study.
- The sterilization and incubation of samples were carried out using the procedure of Onilude (1996).
- The management of the birds was as outlined by Oluyemi and Robert (1979).
- Degraded cowpea seedhull was included in the diets at 5%, 10%, 15% and 20%.

SAMPLE COLLECTION AND CHEMICAL ANALYSIS

- Serum protein and albumin were analyzed using sigma assay kits, glucose by the method of Cooper and McDaniel (1970).
- The globulin concentration was obtained as described by Peters *et al.*, (1982).
- All data collected were subjected to analysis of variance and means separated using Duncan Multiple Range Test (SAS, 1999).



RESULT AND DISCUSSION

- No significant difference was observed in the weight gain by birds fed control diet (101.83 g/bird), 10% inclusion, (108.00 g/bird) and 15% inclusion, (106.48 g/bird/week)
- Weekly feed intake was highest with birds on 20% inclusion (261.67g/bird) while the least was observed with birds fed control diet, (228.34 g/bird).
- The highest weight gain among the birds was observed with birds fed 5% degraded seedhull at the starter and finisher phases.
- Birds fed 5% supplemented seedhull had better feed conversion ratio at the finisher phase than at the starter phase
- Improvement in Serum Total Protein (TP) of finisher birds over the starters was observed for the entire dietary group

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CONCLUSION

It can be concluded therefore that supplementing the diet of broiler birds with *A. niger* degraded cowpea seedhull at the finisher phase gave better feed utilization than at the starter phase, with no adverse effect on the kidney and liver of the birds.