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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

DIETARY TREATMENTS						
Parameters	A (0%)	B (5%)	C (10%)	D (15%)	E (20%)	SEM
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)	$470.00^{a} (2125.00^{a})$	$430.00^{ab} \\ (1815.00^{d})$	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°)	106.48 ^{ab} (380.00°)	98.17 ^b (406.25 ^b)	3.20 (5.20)
Feed intake (g/bird/week)	228.34 ^b (715.83 °)	258.33 ^a (729.03 °)	253.17 ^{ab} (720.00°)	253.33 ^{ab} (759.03 ^b)	261.67 ^a (809.33 ^a)	5.10 (3.07)
Feed Conversion Ratio	2.24° (2.25°)	2.11° (1.76°)	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

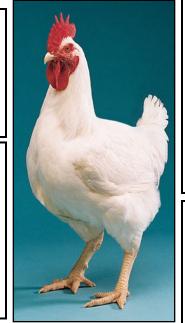
...... Values in the parenthesis are values for the finishing phase

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 Oluvemi 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).



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.

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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