



Tropentag, October 7-9, 2008, Hohenheim

“Competition for Resources in a Changing World:  
New Drive for Rural Development”

## Effect of Supplementing Fungi Degraded Cowpea Seedhull in Broiler Diets

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### Abstract

The primary objective of this study was to determine the response of broiler birds to different levels of fungi (*Aspergillus niger*) degraded cowpea seedhull. The cost benefit of including the biodegraded seedhull in the diets of broilers was also investigated. One hundred and twenty day-old broiler chicks were assigned in a completely randomised design to 0 %, 5 %, 10 %, 15 % and 20 % inclusion of degraded seedhull in the diets. The experiment lasted for eight weeks. Birds on dietary 5 % inclusion had the highest body weight of 2125 g bird<sup>-1</sup>, followed by birds fed 20 % inclusion of the degraded seedhull (2025 g bird<sup>-1</sup>) while those fed control diet gave least (1675 g bird<sup>-1</sup>). The weekly weight gain showed that birds fed 5 % and 10 % inclusion levels gained slightly similar weights of 392.5 and 380.0 g bird<sup>-1</sup> respectively, while the highest feed consumption was observed with birds fed 20 % (809.3 g bird<sup>-1</sup>). An improvement in the Total Protein (TP) of finisher birds over the starters was observed in the entire dietary group. No significant difference was observed in the globulin content and these values obtained ranged between 2.13 mg per 100 ml and 2.81 mg per 100 ml. The highest cholesterol value was observed in birds fed 5 % inclusion of degraded seedhull (88.9 mg per 100 ml) while the least was observed with birds fed 20 % (73.6 mg per 100 ml) at the starter phase. Although no significant differences were observed in the weights of kidney, liver, spleen and abdominal fat of birds in all the dietary treatments, the weight of the lungs of birds on the control diet (0.69 %) was higher than in birds fed supplemented diets. Cost benefit of 26.8 % was realised when broiler birds were fed 20 % inclusion of *A. niger* degraded cowpea seedhull as compared to 20.3 % and 20.7 % obtained in feeding 15 % and 10 % inclusion respectively. No histopathological lesion was observed in the selected organs (kidney, liver) as a result of feeding fungi degraded seedhull to broilers.

**Keywords:** *Aspergillus niger*, biodegradation, cowpea seedhull