NUTRITIONAL UPGRADE OF BIOLOGICAL PRETREATED GROUNDNUT HUSK USING *ASPERGILLUS NIGER* AND *TRICHODERMA VIRIDE*

ALIYU, N.[1*], ADAMUDE, F.A.[2] AND ADAMU, Z.[3]
[1] Department of Science Laboratory Technology,
Nuhu Bamalli Polytechnic, Zaria, Nigeria
[2]Department of Biochemistry, Federal University, Lafia, Nigeria
[3]Department of Biochemistry, Federal University of Technology, Minna, Nigeria

ABSTRACT

One of the main problem in treatment of organic solid waste is its non-readily biodegradability due to the complexity of organic material especially lignocellullose. This study reports nutritional upgrade of biologically pretreated Groundnut Husk (GH) using *Aspergillus niger* and *Trichoderma viride*. Proximate content was assayed as described by AOAC. The results showed that the protein content increased to 63% in GH *T. viride* and 0.07% decrease in carbohydrate. There was no significant difference in the ash content for both treatments, while the anti-nutritional (saponin, alkaloid, oxalate, phytate and tannin) contents were relatively affected. Some minerals (manganese and phosphorous) decreased after fermentation. Glycine, 6.71mg/100g protein, was higher in GH *A. niger* than that of GH *T. viride* (4.53). Decrease in all amino acid contents maybe as a result of utilization by these organisms except aspartate which was high in the GH sample than the standard. This study indicates that *T. viride* is a potentially viable microorganism for nutritional upgrade in GH.

Keywords: *Aspergillus niger*, groundnut husk, nutrition, *Trichoderma viride*
***Correspondence**: nafnaf4U@gmail.com