

Effects of fungal treatment on the in vitro degradation of cassava.

ABSTRACT

The objective of this experiment was to increase the nutrient value of cassava by the solid state fermentation technique (SSF). Peeled cassava root was fermented for 10 days under solid state fermentation culture with two different fungi (*Aspergillus niger* and *Rhizopus oryzae*). A follow-up in-vitro gas production experiment was conducted in order to determine the kinetics of fermentation (degradation rate) using cassava from the two SSF. There was an increase in crude protein concentration due to treatment of cassava with *A. niger* but not with *R. oryzae* compared to the unfermented treatment (fresh cassava). Acid detergent fibre (ADF) and neutral detergent fibre (NDF) were greater for both fermented treatments compared to the unfermented treatment. The rate of fermentation, in vitro organic matter digestibility (IVOMD) and metabolizable energy (ME) were greater, and gas production was higher, from the cassava fermented with *R. oryzae* after 10 days SSF compared to cassava fermented for 10 days with *A. niger* or the unfermented cassava. It was concluded that *A. niger* is an effective fungus to increase the crude protein of cassava.

Keyword: *Aspergillus niger*; Kinetics of fermentation; *Rhizopus oryzae*; Solid state fermentation.