

Effects of Storage Methods on Proximate Compositions of African Yam Bean (*Sphenostylis stenocarpa*) Seeds

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Abstract : One of the limitations of African yam bean (AYB) (*Sphenostylis stenocarpa*) is poor storage ability due to the adverse effect of seed-borne fungi. This study was conducted to examine the effects of storage methods on the nutritive composition of AYB seeds stored in three types of storage materials viz; Jute bags, Polypropylene bags, and Plastic Bowls. Freshly harvested seeds of AYB seeds were stored in all the storage materials for 6 months using 2 × 3 factorial (2 AYB cultivars and 3 storage methods) in 3 replicates. The proximate analysis of the stored AYB seeds was carried out at 3 and 6 months after storage using standard methods. The temperature and relative humidity of the storeroom was recorded monthly with Kestrel pocket weather tracker 4000. Seeds stored in jute bags gave the best values for crude protein (24.87%), ash (5.69%) and fat content (6.64%) but recorded least values for crude fibre (2.55%), carbohydrate (50.86%) and moisture content (12.68%) at the 6th month of storage. The temperature of the storeroom decreased from 32.9°C - 28.3°C, while the relative humidity increased from 78% - 86%. Decreased incidence of field fungi namely: *Rhizopus oryzae*, *Aspergillus flavus*, *Geotricum candidum*, *Aspergillus fumigatus* and *Mucor meihei* was accompanied by the increase in storage fungi viz: *Apergillus niger*, *Mucor hiemalis*, *Penicillium expansum* and *Penicillium atrovnetum* with prolonged storage. The study showed that of the three storage materials jute bag was more effective at preserving AYB seeds.

Keywords : storage methods, proximate composition, African Yam Bean, fungi

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