



EFFECT OF DIFFERENT PACKAGING MATERIALS ON DETERIORATION OF STORED RAW CASHEW SEEDS (*ANACARDIUM OCCIDENTALE* L.)

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ABSTRACT

The effect of different packaging materials on deterioration of stored raw cashew seeds were investigated under laboratory conditions. The packaging materials used included jute bag, nylon, tin, paper and Hessian bag. Two hundred grammes of raw cashew seeds were kept in each of the packaging material for 16 weeks. The parameters tested during the experiment included microbial growth / count, and moisture content. The experiment was conducted at a temperature of 28 °C and 78 % relative humidity. Results showed that the moisture content of samples in packaging materials such as jute bag, Hessian and tin reduced from 9.9% (freshly dried nuts) to 7.6%, 8.1% and 8.7% respectively, while samples in paper and nylon increased from 9.9% to 10.4% and 10.8% respectively. Microbial analysis showed that high bacteria counts were observed in samples stored in nylon, Hessian, paper and tin following that order while the least was recorded in samples stored in jute bag. However, highest fungal count was recorded in nylon and the least in jute bag. Test of possible growth of microorganisms on the seeds showed that the fungi isolated: *Aspergillus fumigatus*, *Aspergillus niger*, *Mucor mucedo* and *Rhizopus stolonifer* were able to grow on the seeds while the bacteria isolates: *Bacillus kaustophilus*, *Bacillus subtilis*, *Branhamella catarhalis*, *Enterobacter aerogenes*, *Micrococcus luteus*, *Serratia marcescens*, *Staphylococcus aureus*, were unable to grow. The best packaging material for raw cashew seeds were jute and Hessian bags and are suitable for warehousing and transportation of cashew seeds.

Keywords: Cashew seeds (*Anacardium occidentale*), packaging materials, moisture content, microbial growth, mouldiness.