

Development of an appropriate methodology for extending shelf life of Cassava

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Institute of Post Harvest Technology, Research and Development Centre, Jayanthi Mawatha, Anuradhapura

Fresh Cassava roots are highly perishable under ambient conditions, becoming unmarketable in 3 days or less. It has been reported that Cassava roots when stored at high relative humidity of around 80-90% and at temperature of 35°C can be kept fresh. Therefore, this study conducted with the objective of development of an appropriate methodology for extending shelf life of fresh Cassava and to evaluate the impact of storage condition on extending post harvest life.

Cassava plants at 10 months old were de-topped 10-20 cm above ground, 08 days prior to harvest. After that roots were harvested and brushing was done, using soft brush, to remove sand, soil and dust. Harvested fresh roots were transported as soon as possible to the laboratory of the IPHT and medium sized undamaged roots were selected for the study. The selected roots were stored in a box made of ply wood sheets (L x W x H: 75 x 60 x 60 cm) lined with Mc-foil while covering the roots alternatively by layers (15cm thick) of sun dried Guinea grass (*Panicum maximum*). Wet and dry bulb temperatures within the box were measured three times a day at 8, 12, 16 h using a digital thermometer. Roots stored in a plastic crates (560 x 295 x 395 mm) at room temperature were used as the control. Ambient temperature and relative humidity was also measured by a wet and dry bulb thermometer. The stored produce was analyzed for cyanogens content, colour, firmness, weight loss, moisture and dry matter contents and for brix at regular intervals. A sensory evaluation was also conducted.

It was revealed that, fresh Cassava which are free from mechanical damage, soil and other foreign materials and without external free moisture can be stored successfully in a box made of ply wood sheet (L x W x H : 75 x 60 x 60 cm) lined with Mc-foil while covering the roots alternatively by layers (15mm thick) of properly dried Guinea grass (*Panicum maximum*)for up

to 21 days(temperature 35°C and RH (96-98%) in contrast the same fresh cassava roots can only be kept less than 5 days when they are under ambient conditions(temperature 32°C and RH (71-77%).