UTILIZATION OF CASSAVA THROUGH FREEZING

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ABSTRACT

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Cassava tubers once harvested deteriorate rapidly and in most cases it is caused by physiological changes, mechanical damages during harvesting, transportation and handling. Development of proper technology to increase the shelf life of processed cassava will help to increase the utilization of cassava. This study was designed to identify the best method of freezing cassava and to increase the shelf life through better packaging.

Two different varieties of freshly harvested cassava as 'MU 51' and 'Kirikavadi' were selected Packing was done using two different packaging materials low-density polyethylene (LDPE) and nylon mixed low-density polyethylene (LDPE+N). Each pack contained approximately 400 g of cassava. They were freezed using normal slow freezer (NSF) and modified slow freezer (MSF). Determination of quality characteristics was conducted from 1 month to 3 months after storage such as percentage weight loss, microbiological analysis (TPC), cyanide analysis and sensory evaluation.

Modified slow freezing showed lesser percentage weight loss compared to that of normal slow freezing. Regardless of the packaging used in both varieties boiled cassava showed a significantly higher weight loss than that of blanched cassava. Maximum value recorded was 0.5% even at 3 month of storage. Microbial counts of both varieties were not in hazardous range. Both blanching and boiling drastically reduced the initial cyanide levels in both varieties. No further cyanide

development during the frozen storage was observed. Modified slow frozen cassava had better sensory quality than normal slow frozen cassava.

According to the results of this study, freshly harvested cassava varieties "MU 51" and "Kirikavadi" can successfully be stored under frozen storage for 2-3 months. Before freezing cassava roots must be peeled and boiled for 15 minutes for softening and to reduce cyanide levels. Boiled cassava can be packed in 300 gauge low-density polyethylene bags and freeze quickly using modified slow freezing method since modified slow freezing showed better quality than normal slow frozen cassava.