B-108: Osmo-air dehydration of Papaya

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Osmo-air dehydration is a less expensive and simple technique that could be applied to preserve fruits. The present study was conducted to develop processing conditions for production of a papaya snack.

Samples of 7x7x7 mm^3 fruit cubes were obtained from semi-ripe papaya fruit and subjected to osmotic drying followed by air drying and air drying without the osmotic treatment. The drying temperatures were 50-55° C, 60-65°C and 70-75°C, and the samples were dried to a moisture content of 15-20%. Based on the product quality, the processing method and the temperature for drying were selected. The fiuit samples treated with preservatives (citric acid, potassium metabisulphite individually and citric acid and potassium metabisulphite together within permitted concentrations) and the control were subjected to osmotic dehydration. The resulting snack was analysed for proximate composition and water activity. A sensory evaluation test using 9-Point Hedonic Scale ranking method was conducted to evaluate appearance, colour, taste, texture and overall acceptability of the product. Data from the sensory evaluation was analysed using Friedman non parametric statistical method. The suitable processing condition observed was osmotic dehydration followed by drying at 60-65°C for 14-16 h. No signilicant differences were observed in the organoleptic qualities between the control and the products prepared with preservatives. The snack product had a water activity of 0.62 and did not show any change in appearance during the storage period of 3 months. Thus, osmo-air dehydration can be used to produce a papaya snack of good quality with no added preservatives.