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DEVELOPMENT OF READY TO EAT CASHEW APPLE SNACK WITH IMPROVED CONSUMER ACCEPTABILITY AND LONG SHELF LIFE

W.K.D.N. Kaushalya, M.K.B. Weerasooriya

Department of Chemistry, University of Kelaniya, Sri Lanka

bandu@kln.ac.lk

Cashew is a highly abundant crop mainly grown in tropical countries. Millions of tones of cashew apple are being wasted annually because the focus was on the nuts alone. Cashew apple is rich in Vitamin C and minerals (i.e., Ca, P, Fe). In fact, its vitamin C content is 4-5 times higher than that in Citrus. Despite its high nutritive values and economic potential, It has been known as a virtually unconsumed product, because of its astringent and acrid principles. In this study a simple cost effective methodology was established to prepare ready to eat snack with improved consume acceptability and long shelf life by applying osmo-dehydration and subsequent drying and packing.

Conditions for osmo-dehydration were optimized, changing the parameters such as sucrose concentration and composition in the hypertonic solution, immersion time, fruit : syrup ratio and the mechanical pretreatment . To improve the shelf life of osmo-dehydrated fruit pieces, two drying methods were tested; freeze drying and hot air drying. Packing were also done under vaccum and under nitrogen. Storing the samples were done at ambient temperature. Microbiological analysis were performed fortnightly. Nutritional analysis and sensory evaluation of the final product were also carried out.

Findings showed that immersing the fruit pieces for 12 hours in 50% sucrose solution (fruit: syrup ratio) 1:4) fortified with 2% CaCl2 at ambient temperature (30ºC) were the optimum condition for osmo dehydration. Hot air drying for 48 hours at temperature below 60ºC (fan speed inside the dryer was ~1200 rpm) provide the fruit with improved organo-leptic properties. Packing the product under vaccum in a nylon vaccum packaging showed shelf life of 6 months at ambient temperature 30°C±2. Phosphorus, ash, fiber content and total acidity of final product found to be remained almost the same. Retained Moisture and ascorbic contents were nearly 8% and 63% respectively. The estimated medians for colour, taste, aroma, crispness and overall acceptability scored 6 in 7 -point Hedonic scale.

Described methodology provides a value added product with improved consumer acceptability and longer shelf life that can be easily used to generate a healthy profit - with minimal investment costs.

Keywords: *cashew apple, improved consumer acceptability, longer shelf life, Osmo dehydration, value added product, healthy profit*