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Evaluation of the shelf life quality of deep frozen coconut based products

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Coconut kernel is the major energy source in the diets of coconut producing countries. Ready to use coconut milk, the water extract of the coconut kernel, has a great demand in the market specifically for its nutty flavour. Studies were conducted to evaluate the storage quality of deep frozen coconut cream, scraped coconut and coconut chips. Coconut cream pasteurized and scraped coconut and coconut chips were blanched at 70^{O}C for 1.5 minutes. A known weight of each product was packed in nylon low density polyethylene, triple laminate and polyethylene and stored in a freezer at -10^{O}C. The shelf life was evaluated by free fatty acid content, peroxide value and total plate count (Pour plate method). The acceptability was tested by triangle test using a semi trained panel in two weeks intervals. FFA content increased during the storage period, but none of the products exceed the standard level of 1%. The development of FFA in products packed in triple laminates was slow and peroxides were not detected up to 8 weeks of storage period. At the 8th week, TPC/g exceeded the acceptable limit ($>10^6$) indicating the level of pasteurization/blanching time is not sufficient. Coconut cream was unacceptable due to layer separation and development of off odour and smell. Scraped coconut and coconut chips were accepted for 4 weeks and over 8 weeks respectively. Results of the storage studies indicate the shelf life of the frozen coconut products are 8 weeks. Pasteurization for 70 ^{O}C for 1.5 minutes is not sufficient to reduce the initial microbial load and to inactivate the enzymes. The processed coconut chips can successfully be packed in triple laminates for two months.

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