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Development of pasteurized coconut milk pouches for domestic consumption

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Provision of coconut milk as a stable and in a homogeneous form is a convenient product for the domestic market. Coconut milk is extracted from freshly grated coconut meat, and undergoes progressive deterioration, in a few hours at room temperature (28-30°C). This is due to its high content of fat and moisture which quickly deteriorate upon exposure to micro organisms, light, oxygen and high temperature. Short term preservation is easily effected by pasteurizing the milk, but long term storage can only be achieved by using a heating system that ensures commercial sterility of the product. This research was conducted to develop a coconut milk pouch from mature coconut kernel. Coconut cream was extracted from grated coconut and diluted up to 20% fat content. Stabilizers were added and homogenized. Pasteurized milk was packaged and stored at 4°C. pH, free fatty acid and Brix value were checked at selected storage intervals. Combination of 0.5% Sodium stearoyl lactate and 0.5% Sodium caseinate prevented layer separation. The optimum temperature and time combination observed for pasteurization was 72°C for 20 minutes. Nylon low density polyethylene pouches and Aluminum laminated linear low density polyethylene pouches were identified as suitable packaging materials. pH value decreased gradually from 6.5 to 6 throughout the storage period but it did not reach the unacceptable level (<5.9) at end of four weeks. A Brix value of 10 remained constant throughout the storage period. Free Fatty Acid value reached up to 0.78 which was below the critical level (1%). A consumer preference test on taste, aroma, texture and overall acceptability showed preference (like slightly) to the processed product by the panelists ($p>0.05$) after two weeks of storage compare to that of fresh milk. After four weeks there was no significant difference ($p>0.05$) in taste, aroma and overall acceptability but there was a significant difference ($p=0.006$) observed in texture compared with fresh milk. Storage studies indicate that pasteurized coconut milk pouches could be stored for 14 days at refrigeration condition at 4°C with no change in sensory characters.

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