

Quality Evaluation of a Ready-To-Bake Pumpkin Flour Based Cake Premix

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The study focuses on addressing post-harvest losses of fresh pumpkins in Sri Lanka, which range from 30-40%, primarily due to poor handling during transportation and storage. To combat this, the research aims to create a cake premix (CPM) using pumpkin flour (PF) to reduce losses, promote food security, and enhance farmers' economic status. The process begins with the preparation of pumpkin flour, starting with mature pumpkins that are washed, peeled, sliced into 3-5mm pieces, blanched at 94°C for 2 minutes, and then dipped in a Sodium Metabisulphite (SMS) solution for 45 minutes. The slices are dried in an oven at 50°C for 16 hours and ground into a fine powder (150 µm) to create the pumpkin flour. The formulation of the CPM includes 31.53% pumpkin flour, 13.51% wheat flour, 45.04% sugar, 8.40% baking powder, 0.90% milk powder, and 0.60% vanilla powder. This mixture is then packed in LDPE pouches (300 Gauge) at room temperature (25-30°C). The proximate composition analysis reveals that the pumpkin flour contains 6.23% moisture, 4.64% fat, 3.50% protein, 10.16% fiber, 7.67% ash, and 67.77% carbohydrate. On the other hand, the CPM composition consists of 4.53% moisture, 1.61% fat, 2.10% protein, 4.72% fiber, 7.67% ash, and 79.34% carbohydrate. During the seven-week shelf-life analysis, changes were observed in the CPM. Moisture content increased from 4.51% to 8.23%, and water activity rose from 0.622 to 0.828. Additionally, the CIELAB color values indicated changes in lightness (L*) from 76.39 to 63.15, a* value from 1.96 to 1.23, and b* value from 29.24 to 21.56. Overall sensory acceptability slightly decreased over time, highlighting the need for further study on shelf-life dynamics. However, further investigation into microbiological safety is recommended. Ultimately, the pumpkin flour-based CPM offers a potential solution to reducing post-harvest losses of pumpkins while providing a value-added product.

Keywords: *Cake premix; Proximate composition; Shelf life; Sensory evaluation; CIELAB values*