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# DEVELOPMENT OF FROZEN HASH BROWN CASSAVA FROM RAW CASSAVA ROOTS

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## ABSTRACT

Cassava (*Manihot esculanta Crantz*) is nutritionally strategic under-utilized famine reserve crop with very limited post-harvest life. The purpose of this study was to investigate the possibility of developing a convenient breakfast side dish namely frozen hash brown cassava in order to increase the consumption of cassava. Mature undamaged fresh cassava roots of cultivar 'MU 51' were cleaned, peeled and cut in to longitudinal cubes (5cm×3cm×3cm). The cubes were boiled and mixed with wheat flour, vegetable fat and whole egg in a ratio of 10:2:1:1. Hash browns were prepared by sheeting the prepared dough, cutting in to oval shapes, and blast freezing (-20$^0$C) for 3 hours. Then they were packed in 300 gauge low-density polyethylene pouches and stored finally in a frozen storage (-18$^0$C). The sensory profile and nutritional profile of the developed product was analysed and shelf life studies were conducted over twelve weeks in frozen storage (-18$^0$C± 1$^0$C). The experiment revealed that hash brown cassava made with 20 minutes boiled cassava cubes had the best sensory profile and most similar profile to the hash brown potatoes. The frozen Hash brown cassava samples were containing 53.54±1.27% moisture, 1.33±0.11% mineral ash, 0.22±0.07% fat, 5.31±0.15% protein, 0.16±0.04% crude fibre and 39.60±0.96% carbohydrate from its fresh weight. The cyanide content was 3.05±0.26 ppm wet basis. According to the microbiological and chemical testing results, cassava frozen fries were safe for consumption up to 3 months at frozen storage.

**Keywords:** Cassava, hash brown, sensory profile, nutritional profile, storage life