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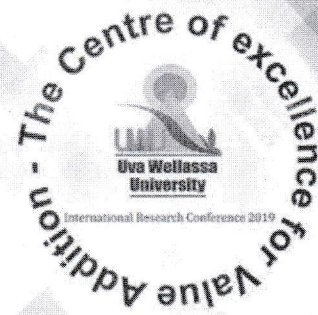
# INTERNATIONAL RESEARCH
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# Characterization of Flour from Sri Lankan Cassava (*Manihot esculenta*) Cultivars

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Cassava is an important crop for low income families in Sri Lanka to consume as boiled or fried roots. It is a good source for product diversification in food industry. Thus, present study was a preliminary investigation to produce flour from Sri Lankan cassava cultivars to be used as a raw material in food industry. Roots of Suranimala, Swarana, Shani, MU-51 and Kirikawadi cultivars were harvested, cleaned and thoroughly mixed with water in an open vessel for 5 h at 30°C. Slices were dehydrated at 50°C for 20 hours, ground and passed through a 0.250 mm sieve to obtain flour. Flour was placed in poly-nylon plastic vacuum bags and stored at room temperature. The shape, size and color of the starch granules, and nutritional composition and total phenolic contents were analyzed. Size of starch granules ranged between 12.79 μm to 14.85 μm and there was no significant difference ($p > 0.05$) between the sizes of starch granules and they were polygonal in shape, homogeneous and there were no any holes on the surfaces. The lightness, red/green coordinate and yellow/blue coordinate of flour were significantly different ($p < 0.05$) to each other. Maximum ash content of 2.06±0.01% was reported in Suranimala while Kirikawadi had minimum ash content of 1.12±0.02%. Ash contents had significant differences between them. Maximum fat content of 0.64±0.12 % was found in Suranimala cultivar and minimum fat content of 0.21±0.06 % was reported by MU 51. There was a significant difference between fat contents of flour ($p < 0.05$). Protein contents were ranged between 1.09±0.22 % to 1.70±0.03% and there was a significant difference ($p < 0.05$) between protein contents. Total phenolic contents were determined according to the Folin Ciocalteu method and ranged between 2.69±0.21 to 4.45±0.08 (mmol GAE/100 dry weight). There was a significant difference ($p < 0.05$) between phenolic contents of cultivars. Present findings helped to differentiate flour from five cassava cultivars and provided basic information about their potential to be used as a raw material in food industry.

*Keywords:* Cassava, Cultivars, Flour, Composition, Phenolic content

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249