

# Manufacture and Utilization of Cassava Flour

By

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Master of Science

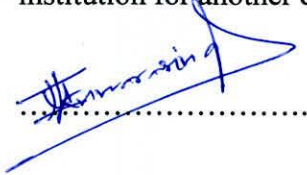
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## Declaration

The work described in this thesis was carried out by me under the supervision of Dr. K.K.D.S.Ranaweera, Co-ordinator /Food Science & Technology Postgraduate Programmes, Department of Food Science and Technology and Prof. A. Bamunuarachchi, Professor of Applied Chemistry, Department of Food Science and Technology and a report on this thesis has not been submitted in whole or in part of any university or any other institution for another degree.

  
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*Affectionately dedicated to my dear parents and two sisters.*

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# MANUFACTURE AND UTILIZATION OF CASSAVA FLOUR

BY

UDENI INDIKA KUMARASINGHEARACHCHI

## ABSTRACT

Cassava (*Manihot esculenta*, Crantz) also known as Manioc, Mandioca, Tapioca and Yucca is a root crop cultivated in tropical and sub tropical countries including Sri Lanka. Its tuberous root is the most important part as the food value of it lies in high starch content. The products derived from Cassava are high-energy foods of excellent quality. However, Cassava is a relatively neglected tuber crop and it is processed only in to traditional food preparations without introducing any locally modified processing methods. In order to popularise and maximise the Cassava consumption, a study was carried out to develop value added Cassava flour based bakery products (Biscuit, cake and bread). In this regard, Cassava flour was manufactured using several unit operations. The processed flour was analysed for the nutritional composition and for the shelf life. By carrying out a preliminary market survey, consumer preferences on Cassava flour based bakery products were obtained. In order to select the most preferred sample for further modification, different formula of Cassava based bakery products were developed to produce to the sensory panel for evaluation. Using 1kg of fresh Cassava tubers, 300 g of white coloured, fine powder of Cassava flour could be obtained. Utilizing the processed flour, consumer acceptable 100% Cassava flour biscuit was formulated incorporating Mung bean (*Vigna radiata*). Consumer preferred cake product was processed using formulated composite flour of 75% Cassava and 25% Rice (*Oryza sativa*). Bread of acceptable quality was obtained using 30% Cassava flour. Cassava flour still remained safe from microbial growth after three months storage. Sensory characteristics were comparable for 100% Cassava biscuits processed using fresh and three months stored Cassava flour.