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DEVELOPMENT OF HIGH FIBRE BISCUIT FROM UN – BOILED PALMYRAH TUBER FLOUR

BY

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DECLARATION

The work described in this thesis was carried out by me under the supervision of Dr.S.B.Navarathne and a report on this has not been submitted in whole or in part to any university or any other institution for another Degree.

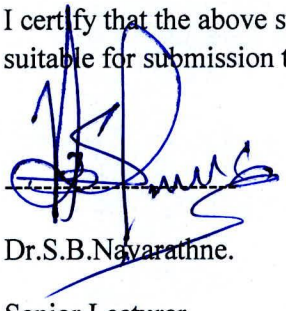
---S.Sharaniya-------

S.Sharaniya

Date;--08/12/2015

DECLARATION

I certify that the above statement made by the candidate is true and that this thesis is suitable for submission to the University for the purpose of evaluation.



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Development of high fibre biscuit from un - boiled palmyrah tuber flour

By

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ABSTRACT

Value added food products with high nutritional value have become the major choice of customers in the recent years. This research was conducted to develop biscuit that is high fibre using locally available raw materials. The un-boiled palmyrah tuber flour is naturally bitter and it needs to be debittered. Debittering process was carried out to remove bitter compound flabelliferin by soaking the tuber flour in distilled water for three hours and filtered. The water was replaced once every hour. Eight types of biscuit weredeveloped according to the Two factor factorial design using three variables namely palmyrah tuber flour, *Alternantherasessilis* stem powderand red rice flourat two levels.Then prepared biscuits were subjected to sensory evaluation in order to select best two treatment combination.Selected biscuits were packed in metalized polypropylene (MP) and Lenior low density poly ethylene (LLDPE) bags. These were then monitored for parameters such as moisture, peroxide value and pH withmeasurement taken every month for two months. This was done to determine its shelf life duration. Duo-Trio test was done to determine the organoleptic changes. Moisture content, Fat, Protein, Dietary fibre, Total sugar, Carbohydrate, Ash, Total Energy (MJ), Calcium, Copper, Magnesium, Manganese and Iron of these two treatment combination were analyzed.

Moisture content, Fat, Protein, Dietary fibre, Total sugar, Carbohydrate, Ash, Total Energy (MJ), Calcium, Copper, Magnesium, Manganese and Iron of these two treatments were 1.44±0.19%, 21.89±0.18%, 7.91%, 10.51%, 3.02%, 64.79%, 0.02±0.01%, 20.96±0.14%, 0.35mg/100g ,0.10mg/100g, 1.50mg/100g, 0.01mg/100g, 0.09mg/100g and 1.48±0.74%, 21.89±0.16%, 8.03%, 10.30%, 3.34%, 64.72%, 0.02±0.03%, 20.82±0.05%, 0.33mg/100g, 0.10mg/100g, 1.53mg/100g, 0.01mg/100g, 0.06mg/100g respectively. Shelf life test revealed these two biscuit products can be stored in metalized polypropylene for more than two months