DEVELOPMENT OF FIBER RICH RICE BASED BISCUIT

A dissertation submitted to the

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

in partial fulfillment of the requirement for the award of the

Degree of Export Agriculture

By

PITIPANAGE AGANA THILINI FERNANDO

Export Agriculture Degree Programme

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

2010

ABSTRACT

Dietary fibre has demonstrated its benefits in health and disease prevention in medical nutrition therapy. The study was carried out on the utilization of the Banana Blossom (BB) in nutritional enrichment of biscuits. The Blossom of Banana is an excellent source of crude fibre in the human diet. Dietary fibre promotes laxation, lowers blood glucose and cholesterol levels. The aim of this study is to develop a value added product BB and rice flours in different blends. BB was cut in to slices and dipped directly in to 20gl^{-} Citric acid solution for five minutes and dehydrated at 55° C for 8 hours and pulverized. Resultant Banana Blossom Flour (BBF) was packed in Polyethylene and Polypropylene and was subjected to proximate analysis, to determine moisture absorption capacity and L' value. Polyethylene was superior to Polypropylene as a packing material. BBF was used to supplement rice flour in percentages of 3,5,10 and 15 for biscuit production. Biscuits made of 15% coarse BBF and red rice flour with ginger flavor added were selected as the best treatment based on selected sensory attributes such as taste, color, texture and overall acceptability evaluated at the sensory evaluation. According to the proximate analysis, crude fibre content of the selected biscuits was 12.32%. To analyze the shelf life of the selected formula, Total colony count, Yeast and Mould count, moisture absorption capacity, acidity of the extracted fat were determined. According to the results, the developed product has a shelf life of three weeks without an addition of a preservative. Aluminum foil laminated with high density polyethylene (HDPE) was superior to Polyethylene as a packing material for the developed biscuits. The fibre content of this novel product is far above than the products available in the market.

Key words: Banana Blossom, Banana Blossom Flour, Dietary fibre, Biscuit, Rice, Shelf life, Polyethylene