

Study on the Use of Stabilized Rice Bran for the Formulation of Healthy Foods and Evaluation of the Nutritional and Functional Properties of Developed Products

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Abstract

Rice is a member of the grass family and it is considered as man's main staple food. Rice bran is the outer layer of rice grains, and it is a by-product of rice milling. The burger bun, muffin and cracker were developed by incorporating the stabilized rice bran. Rice bran incorporated products were evaluated for physical, physiochemical parameters and sensory evaluation. At-362 variety rice bran had highest ash, moisture, fibre, and fat content and also At-313 variety had highest protein and carbohydrate percentages. The At-362 variety is most suitable for non-communicable patients who require formulated healthy food products. However, there were significant differences between the At-362 variety and At-313 variety. Rice bran incorporated cracker was shown the highest ash and fibre content. And also rice bran incorporated burger bun was shown the highest protein and moisture content. As well as highest fat and carbohydrate percentage were shown the muffins. Crackers had less moisture content and a higher shelf life. However, there were significant differences between the rice bran-incorporated products. Therefore, all selected products were accepted. The sensory evaluation was carried out using 9-point hedonic scale testing for appearance, taste, texture, colour, odour, mouthfeel and overall acceptability. Based on the sensory evaluation, muffin had the highest mean score for overall acceptability. Cracker and Burger bun high mean scores for overall acceptability. However, there were no significant differences between the other products. Therefore, all selected products were accepted. However, healthy cracker, muffins and burger bun can be prepared using stabilized rice bran.

Keywords: Physical, Physiochemical, Rice bran, Sensory evaluation