EVALUATION OF NUTRITIONAL AND SENSORY QUALITIES OF CAKE INCORPERATED WITH RED RICE FLOUR

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ABSTRACT

The need for gluten free bakery items has driven the exploration of other flours to improve the nutritional and sensory properties of cakes. This study aimed to develop and optimize a gluten free cake from various ratios of red rice flour and wheat flour and to examine its nutritional content, texture, and sensory characteristics. Five formulations ranging from 100% wheat flour to 100% red rice flour were explored. The results indicated that the increase in red rice flour percentage significantly enhanced the fiber, protein, and mineral content and reduced the carbohydrate content relative to the control sample (100% wheat flour). Texture profile analysis indicated that higher levels of red rice flour incorporation resulted in denser cakes with greater firmness. Sensory evaluation indicated that the 50% wheat flour – 50% red rice flour blend contained the best balance of flavor, texture, and consumer acceptability. This study highlights the potential of red rice flour as a nutritious gluten free ingredient for cake production with added nutritional benefits without compromising sensory properties. The findings are useful to the development of healthier bakery foods. It is responding to the needs of gluten intolerant consumers and health-conscious consumers.

Keywords: Gluten free cake, Nutritional profile, Red rice flour, Sensory evaluation, Texture analysis, Wheat flour

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