

DEVELOPING NUTRITIOUS ALTERNATIVE FLOUR IN BREAD MAKING USING WATER SPINACH

ABSTRACT

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Food Science & Engineering

KEYWORDS

*water spinach; alternative
flour; bread making;
nutritional bread; high-fiber
bread; vitamins and minerals*

ARTICLE ID

AASGBCPJMRA-B51816

This study explores the use of water spinach (*Ipomoea aquatica*) as a nutritious alternative flour in breadmaking. Given its rich content of vitamins A, C, and K, as well as essential minerals such as calcium and iron, water spinach presents a cost-effective and health-promoting ingredient for bread products. The research aims to assess the nutritional benefits, practicality, and acceptability of water spinach flour as a substitute for conventional flour, with a focus on promoting healthier food options. The study employed purposive sampling to align the participant profile with the research objectives, following the methodology outlined by Campbell et al. (2021). Data collection focused on the evaluation of water spinach's characteristics in bread production, particularly its nutritional profile, sensory attributes, and processing challenges. The respondents provided feedback through structured surveys based on their experience with the product. The findings revealed that 65% of respondents were aged 18–21, 20% were aged 22–25, and 15% were 26 years old and above. In terms of gender, 60% were female and 40% were male. Respondents rated the water spinach bread as “excellent” in terms of vitamin and mineral content, health benefits, and affordability. Challenges in production, including consistency of texture, flavor balance, and shelf life, were also rated as “excellent,” indicating their manageable nature. The production method and processing techniques for water spinach flour received positive feedback, highlighting their feasibility. The study supports the development of a guide intervention plan to promote the use of water spinach flour in bread making. The study concluded that water spinach is a viable alternative flour for bread production due to its nutritional value, high fiber content, and antioxidant properties. Despite benefits, challenges such as inconsistent ingredient quality, temperature sensitivity during mixing, and dough handling must be addressed. Recommendations include using fresh water spinach leaves, selecting moisture-tolerant yeast, and supervising students during preparation for safety. A step-by-step baking procedure was also developed to ensure replicability and instructional use. These findings offer practical insights for educators, food innovators, and health-conscious consumers seeking affordable and functional bread alternatives.

RECOMMENDED CITATION

Alabarta, M., Aludino, B., Lumbao, R., Mostero, E., & Navales, N. (2025). Developing Nutritious Alternative Flour in Bread Making Using Water Spinach. *Ascendens Asia Singapore – Bestlink College of the Philippines Journal of Multidisciplinary Research Abstracts*, 7(4), 98.