

Compatibility of Flour of Cassava, Sweet Potato, Jackfruit and Breadfruit for Partial Replacement of Wheat Flour in Dinner Bun Production

Sahla S.H.F¹, Abdul Majeed U.L², Weerasinghe T.M.A.N³

¹Department of Biosystems Technology, Faculty of Technology, South Eastern University of Sri Lanka

²National Institute of Post-Harvest Management Anuradhapura

¹sahlahameed67@gmail.com, ²ulmajeed@seu.ac.lk, ³tmamandanw@yahoo.com

Abstract

This study explores the potential of utilizing composite flours derived from Cassava (*Manihot esculentav*), Sweet potato (*Ipomoea batatas*), Jackfruit (*Artocarpus heterophyllus Lam*), and Breadfruit (*Artocarpus altilis*) in dinner bun production by partially replacing wheat flour. Composite flour, offers tailored functional properties and nutritional benefits. The study involves characterizing the flour properties, determining optimal composition ratios, and assessing consumer acceptance. Cassava, Sweet potato, Jackfruit, and Breadfruit were processed into flour and used for dinner bun production. Several treatments of dinner bun samples were prepared by incorporating four types of composite flour of Cassava, Sweet potato, Jackfruit, and Breadfruit with flours of soybean and wheat, each having three treatments (T1, T2, and T3). According to the sensory evaluation the best composite flour samples were selected (Composite flour of Cassava T1, Sweet potato T1, Jackfruit T1, and Breadfruit T3) for this combination, proximate chemical analyses were performed. Proximate analysis revealed for each selected composite flour type: cassava (moisture:0.81±0.04%, protein: 0.091±0.030%, ash: 1.48±0.17%, fat: 1.71±0.00%, fiber: 0.02±0.00%), sweet potato (moisture: 0.80±0.03%, protein: 2.157±0.136%, ash: 1.47±0.07%, fat: 3.12±0.05%, fiber: 0.21±0.01%), jackfruit (moisture: 0.81±0.04%, protein: 0.004±0.002%, ash: 1.53±0.13%, fat: 3.52±0.06%, fiber: 0.02±0.00%), and breadfruit (moisture: 0.81±0.03%, protein: 0.567±0.009%, ash: 1.51±0.04%, fat: 4.14±0.05%, fiber: 0.04±0.00%). The initiative aligns with the Food and Agriculture Organization's composite flour program, aiming to utilize locally available materials for bakery products.

Keywords: *Breadfruit, Cassava, Composite flour, Jackfruit, Sweet potato, Soybean flour, Wheat flour*