

Effect of Banana Variety on the Physical Characteristics of Banana Flour as a Local Food Resource for Food and Nutrition Security

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ABSTRACT

Banana (Musa paradisiaca L.) is a local food resource with great potential to support food diversification and strengthen food and nutrition security through its utilization as banana flour. This study aimed to evaluate the effect of banana variety on the physical characteristics of banana flour as a local food resource. A Completely Randomized Design (CRD) with one treatment factor consisting of three banana varieties, namely yellow kepok banana, horn banana, and kayu banana, each with three replications, was employed. Banana flour was produced through peeling, slicing, soaking in a 2.5% citric acid solution for 15 minutes, drying at 60°C for 6 hours, milling, and sieving through an 80-mesh sieve. The evaluated parameters included color (L^ , a^* , and b^* values), syneresis, bulk density, and flour yield, and the data were analyzed using one-way ANOVA followed by Duncan's multiple range test at a 5% significance level. The results showed that banana variety significantly affected ($p < 0.05$) color, syneresis, and bulk density but had no significant effect ($p > 0.05$) on flour yield. Horn banana flour exhibited the highest lightness (L^*) value (79.70) and the lowest bulk density (0.66 g/mL), yellow kepok banana flour had the highest yellowness (b^*) value (14.61) and the lowest syneresis (11.98%), while kayu banana flour showed the highest redness (a^*) value (8.93) and flour yield (21.53%). These findings demonstrate that different banana varieties produce distinct physical characteristics, indicating their potential for specific applications in flour-based food products to support food diversification and food and nutrition security.*

Keywords: banana flour, banana variety, physical characteristics, syneresis, bulk density, food and nutrition security.