THE EFFECT OF BANANA TYPE ON THE FUNCTIONAL OF BANANA FLOUR AS A LOCAL FOOD INGREDIENT SUPPORTING FOOD SECURITY AND NUTRITION

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ABSTRACT

Banana is one of the local food commodities with potential to be developed into flour as a functional food ingredient supporting food security and nutrition. Different banana varieties are expected to influence the functional properties of the resulting flour. This study aimed to analyze the effect of banana variety on the functional properties of banana flour and to determine the most potential variety for local food development. This study used of three banana varieties, namely yellow kepok banana, kayu banana, and horn banana. The bananas were processed into flour through peeling, slicing, soaking in 2.5% citric acid solution, drying at 60°C for 6 hours, milling, and sieving. The observed parameters included swelling power, solubility, and resistant starch content. Data were analyzed using One Way ANOVA at a 95% confidence level, followed by Duncan's multiple range test when significant differences were detected. The results showed that banana variety had no significant effect on swelling power and solubility of banana flour ($p>0.05$). The swelling power values of yellow kepok, kayu, and horn banana flours were 428.01%, 408.22%, and 474.37%, respectively, while their solubility values were 13.93%, 12.94%, and 10.26%. In contrast, banana variety significantly affected resistant starch content ($p<0.05$). Kayu banana flour had the highest resistant starch content (36.85%), followed by yellow kepok banana flour (28.27%) and horn banana flour (9.97%). Based on the results, kayu banana flour was identified as the most promising local food ingredient to support food security and nutrition due to its highest resistant starch content, which may provide functional health benefits.

Keywords: *banana flour, kayu banana, resistant starch, swelling power, solubility, functional food.*