

# ***Physicochemical and Functional Characteristics of Belitung Taro Flour with Steaming and Fermentation as a Functional Food Ingredient***

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## ***ABSTRACT***

*Belitung taro (*Xanthosoma sagittifolium*) is a local tuber with potential as an alternative and functional food due to its dietary fiber and resistant starch content. Processing into flour aims to improve its utilization. This study aimed to determine the characteristics of Belitung taro flour with no treatment (P0), steaming treatment for 30 minutes (P1), and spontaneous fermentation for 72 hours (P2). This research was a laboratory experiment using descriptive quantitative analysis of physical, chemical, and functional properties. The results showed that fermentation treatment produced the brightest color ( $L^*$  78.10), the highest total dietary fiber ( $4.14 \pm 0.04\%$ ), and the highest resistant starch (16.10%). The steaming treatment resulted in the highest bulk density (0.48 g/mL), swelling power (360.64%), and water holding capacity (213.75%). Meanwhile, no treatment produced the highest yield (22.82%). The highest oil holding capacity was obtained in the fermentation treatment ( $105.45 \pm 0.22\%$ ), followed by steaming ( $88.52 \pm 3.45\%$ ) and no treatment ( $85.45 \pm 2.89\%$ ). The chemical composition ranged from 81.70–81.80% carbohydrates, 5.52–5.73% protein, 1.39–1.42% fat, 9.38–9.62% moisture content, and 1.57–1.63% ash content. The treatment methods resulted in specific characteristics of Belitung taro flour with value ranges in each parameter.*

**Keywords:** *Fermentation, steaming, functional properties, Belitung taro, taro flour*