Comparison of the Chemical and Physical Properties of Pumpkin (Cucurbita moschata) Flour With and Without Fermentation Prior to Drying. Supervisor: Dr. Ir. Rindiani, M.P.

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ABSTRACT

Pumpkin (Cucurbita moschata) is a local food rich in nutrients but has a high moisture content, making it highly perishable. Processing pumpkin into flour can improve its shelf life and broaden its utilization. This study aimed to compare the chemical and physical properties of pumpkin flour produced with and without fermentation using a lactic acid bacteria (LAB) starter before drying. A descriptive quantitative method with a comparative approach was employed. Fermentation was carried out using the commercial LAB starter BIMO-CF for 12 hours, followed by drying at 60°C for 22 hours. The observed parameters included yield, moisture, ash, protein, dietary fiber, color (L, a*, b*), and bulk density. The results showed that fermentation increased moisture content (10.10%), ash content (4.95%), protein content (12.91%), lightness (L* = 55.61), and bulk density (0.76 g/mL). In contrast, fermentation reduced yield (10.85%), dietary fiber (8.24%), a* value (10.26), and b* value (21.60) compared with the non-fermented treatment. It can be concluded that fermentation prior to drying affected the chemical and physical properties of pumpkin flour by increasing moisture, ash, protein, lightness, and bulk density while decreasing yield, dietary fiber, and the intensity of red and yellow colors.*

Keywords: *chemical properties, fermentation, physical properties, pumpkin flour, Cucurbita moschata.*