

HUBUNGAN ANTARA WAKTU FERMENTASI GRITS JAGUNG DENGAN SIFAT GELATINISASI TEPUNG JAGUNG PUTIH YANG DIPENGARUHI UKURAN PARTIKEL

[Relationship between Fermentation Time of Corn Grits and Gelatinization Properties of White Corn Flour Influenced by Particle Size]

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ABSTRACT

The uses of white corn in Indonesia's food industries are still limited. To explore the potential uses, evaluation of functional properties of white corn flour is needed. The objective of this study was to evaluate the gelatinization properties of white corn flour, and its changes as affected by spontaneous fermentation of white corn grits and particle size of its flour. White corn flour was prepared by soaking of white corn grits followed by drying and grinding. Soaking was done in a closed pan at a controlled temperature, to promote spontaneous fermentation. The fermented flour was fractionated by particle size using multiple sieves of 100 mesh (150 μm), 150 mesh (106 μm) and 200 mesh (75 μm) and analyzed for its chemicals, physicals and gelatinization characteristics. The result showed that the smaller particle size resulted in increased breakdown viscosity and the tendency to retrograde. Overall, the result showed that control of length of fermentation of corn grits and particle size could be used as a mean to control breakdown viscosity and tendency to the retrogradation of the corn flour.

Key words: *white corn flour, gelatinization, particle size, spontaneous fermentation*