ABSTRACT

Rheological And Baking Characteristics of Batter and Bread Prepared from Pregelatinised Cassava Starch and Sorghum and Modified Using Microbial Transglutaminase

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The effect of different concentrations (0, 0.5, 1 and 1.5 U/g) of microbial transglutaminase (MTG) on the creep-recovery properties of gluten-free batter prepared from pregelatinised cassava starch, sorghum and egg white was investigated. The test conducted in the rheometer had an instant loading of 80 Pa for 60 s and recovery of 0 Pa for 140 s. Increasing MTG concentration decreased the batters' resistance to deformation and compliances but increased zero shear viscosity and elastic recovery. Changes in batter rheological properties were insignificant ($P > 0.05$) at MTG concentrations beyond 0.5 U/g. Crumb properties of gluten-free bread baked from the batter revealed that increasing MTG concentration increased ($P < 0.05$) crumb firmness and chewiness, whereas increasing incubation time decreased ($P < 0.05$) crumb cohesiveness, chewiness and resilience. There were no significant interaction effects ($P > 0.05$) between enzyme concentration and incubation time.

Keywords: A-Amylase, Cassava Starch, Gluten-Free Bread, Sorghum.