

ABSTRACT

Effect of Acetylated Starch (AS) and Propylene Glycol Alginate (PGA) on volume, hardness, colour, moisture and overall baking performance of frozen bread dough were studied during four weeks of frozen storage time. Results revealed that the addition AS improve the water holding capacity in gluten that made it more elastic and can retain more CO₂ gas. The bread made from frozen dough possessed larger volume, smaller hardness, and higher moisture content with addition of AS. AS 0,5% showed the most positive effect on baking performance of the frozen dough during storage from week 0 to week 4. The results also revealed that the addition of PGA improve the frozen dough characteristics as an emulsifier to strengthen the gluten network to be able to retain more moisture and gas. The bread made from frozen dough with the addition of PGA showed larger volume, smaller hardness, and higher moisture content. PGA 0,3% showed the most positive effect on baking performance of frozen dough. Both AS and PGA sample showed no significant effect in the L*, a* and b* value of the baked bread. Lastly, Baked bread treated with AS and PGA showed an improvement in overall baking performance.

Keywords: frozen dough, acetylated starch, propylene glycol alginate, baking performance, gluten