

Effect of microbial transglutaminase enzyme on antimicrobial and qualitative properties of gluten-free baguette bread

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ABSTRACT:

Celiac is the most common disease that will be emerged by consumption of gluten and the only way to treat it is using of gluten free diet throughout the lifetime of the patient. So, the aim of the present study was the investigation of microbial transglutaminase enzyme on the breads and its effect on antimicrobial, chemical and physical specifications of bread without gluten, by mixing corn and rice flour. For this purpose, transglutaminase enzyme at the levels of 0.5, 1, 1.5 and 2 percent was added to the formulation of breads. The results showed that the enzyme transglutaminase bread samples at 2% had been significantly increased the protein, fat, ash, moisture and fiber samples. Also, this enzyme had a role in significant reducing of total amount of microorganisms and mold and yeast in bread production. In addition, results showed that the addition of transglutaminase enzymes improves the organoleptic properties and delayed staling of breads in comparison with the control sample.

Keywords:

Microbial transglutaminase enzyme, gluten-free baguette bread, anti-microbial.