



THE EFFECT OF USE OF HYDROCOLLOIDS IN DIFFERENT TYPES AND RATIOS ON THE QUALITY OF GLUTEN-FREE BREADS

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<https://doi.org/10.34302/crpjfst/2024.16.1.14>

Article history:

Received: April 13th, 2023

Accepted: December 12th, 2024

Keywords:

Gluten-free bread;

Hydrocolloid;

Quality;

Konjac gum.

ABSTRACT

Hydrocolloids are used as gluten substitutes in gluten-free bread formulation due to providing the improvement on textural, moisture, viscosity and overall quality properties. Although the effect of hydrocolloids on the final product varies, the chemical structure-amount of hydrocolloid used, process parameters and interactions with other components are very important. In our research, the specific volume, moisture, color, texture (hardness, chewiness, elasticity, cohesiveness) and organoleptic properties of gluten-free breads (konjac gum (CG) and xanthan gum (XG), hydroxypropyl methyl cellulose (HPMC), carboxymethyl cellulose (CMC)) effects were investigated. As a result of analytical and sensory analyzes, it was determined that the use of konjac gum at increasing concentrations significantly affected the quality and the consumability of gluten-free breads ($p < 0.05$). In this research, the effects of different types of hydrocolloids on gluten-free breads, that were planned to be developed for celiac patients, were investigated and it was determined that the konjac gum among these hydrocolloids which is widely used in the food industry but has a limited usage in gluten-free bread production, significantly improves the physicochemical, textural and sensory properties of the samples.
