



PRODUCTION OF BREAD WITH EGGSHELL POWDER AND THE INCREASE OF CALCIUM CONTENT IN THE BODY

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<https://doi.org/10.34302/crpjfst/2020.12.1.8>

Article history:

Completed by editor

Keywords:

Assimilation;

Bread,

Calcium;

Eggshell;

Substitution.

ABSTRACT

Calcium is the most abundant mineral in the body. An inadequate intake of this mineral can cause problems in several vital processes. Eggshell powder is a rich source of calcium that has been shown to have positive effects on bone metabolism. However, the eggshell is classified as a waste material by the food industry, therefore it is not used despite having different properties, its calcium content being one of the most important. The aim of the present investigation was to produce bread using eggshell powder as the raw material in order to develop a bread product rich in calcium. Also, to determine the increase of the calcium content in the body by means of biological analysis. The investigation started with the production of eggshell powder (EP) and the determination of its calcium content by atomic absorption. Then it was replaced in 3 different percentages (10%, 15% and 20%) in addition to a blank sample (0%) to compare the results. The methodology included the conduct of the biological study, where the substitution at 10% obtained higher percentage of assimilation (9.19%) compared to 15% and 20% which were 6.87% and 4.35% respectively. Proximal, mineral (Ca) and microbiological evaluations (molds) of the bread were performed after obtaining the optimal substitution. The results were obtained: humidity (23.8%), ash (5.24%), fat (3.83%), proteins (9.25%), fiber (2.10%), carbohydrates (55.78%), kilocalories (295.79 KJ) and calcium (29.47 mg/g). Finally, the microbiological analysis showed harmlessness in bread.
