



RHEOLOGICAL, PHYSICAL AND SENSORY CHARACTERISTICS OF BREAD OBTAINED BY PARTIALLY REPLACING WHEAT FLOUR WITH HEN'S EGG SHELL POWDER

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ABSTRACT

Bread is one of the staple foods in many countries of the world. Currently, the consumption of bread made from wheat flour is of limited nutritional value. The aim of this investigation was to produce bread with high calcium content, performing different substitutions using eggshell powder in order to evaluate the effects it has on the product. The research began with the production of eggshell powder (HCH), and its proximal and microbiological composition. The eggshell powder was substituted in 3 different percentages (10%, 15% and 20%) in addition to a control group. The methodology included the conducting of a rheological study by evaluating parameters such as tenacity, extensibility, swelling index, dough's strength, tenacity/extensibility ratio and elasticity index. The rheological properties of the dough were evaluated with the Chopin alveograph. The physical characteristics (specific volume and height) were determined and the results showed no significant difference. On the other hand, the sensory evaluation was carried out using a hedonic scale of 5 points by 25 panelists; seven attributes were evaluated (color, smell, texture, taste, external appearance, internal appearance and overall appearance), in which there were significant differences.
