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THE USING OF HEN EGGSHELLS POWDER AT BREAD FABRICATION

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1. INTRODUCERE

The present study focuses on chicken eggshells - derived components as a renewable resource. This paper presents the preparation of white bread with different hen eggshells powder additions. The addition of eggshells powder added to the white bread preparation was up to 2% and an increasing in bread quality was on elasticity and humidity starting with 0.5% eggshell powder addition. After 24 h, all physico-chemical properties of bread crust and crumb in the case of fortified bread with calcium have a positive effect. Eggshells are natural bio-ceramic composites, with a combination of both inorganic and organic components that have exceptional characteristics.

2. RESULTS AND DISCUSSIONS

By using these natural materials, we want to achieve the three following aspects. We all want that shelf life of a product to be as long as possible and also the negative effects of additives to be eliminated in the same time. Through this research study we want these natural materials to play the role of additives. In addition to additive role, we want foods enrichment (additional) in mineral substances for public health. Also we all know that soils are poor in minerals and grains default. Through the large amounts of calcium and magnesium content in egg shells and then in bread, a fortification with minerals of white bread is aimed. The obtained bread was also sensory analyzed (Table 1) with a scoring scale of maximum 20 points for the evaluation of organoleptic characteristics. The maximum total score was 19/20.

3. CONCLUSIONS

The nutritional value of bread is an important element to the daily ration of food and the subject of wide research in the field of nutrition. This value is conferred not only energy intake (calories), based on their increased groove-sugars (carbohydrates), proteins and lipids (fats) but also by the contribution of all components in those products, representing shapes that are easily assimilated by the human body.

The final product obtained has a pleasant taste and smell, but also better developed and interaction of calcium from eggshell powder conditioning bread freshness.

Table 1. Sensorial analysis of bread with ES powder

Sensorial characteristics	Samples				
	Sample 1 (0%)	Sample 2 (0.5%)	Sample 3 (1%)	Sample 4 (1.5%)	Sample 5 (2%)
Shape, external appearance, volume	3	3	3	3	3
Appearance of bread crust	2.5	2.5	3	3	3
Appearance of bread crumb	3.5	4	4	4	4
Consistency and behavior in mastication	3	2	2	2	2
Bread smell	2.5	3	3	3	2.5
Bread taste	2.5	3	4	4	3
Total	**17**	**17.5**	**19**	**19**	**17.5**

REFERENCES

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