

THE IMPACT OF FLAXSEED FLOUR ON THE QUALITY PARAMETERS OF BAKERY PRODUCTS

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Nowadays the demand for functional food products is increasing rapidly. Flaxseed (*Linum usitatissimum*) is used as a potential ingredient for functional food products due to its unique nutrient profile. It contains a lot of polyunsaturated fatty acids (73%), a moderate level of monounsaturated fatty acids (18%) and a low level of saturated fatty acids (9%). The aim of this study was to evaluate the influence of flaxseed flour on the physico-chemical and sensory parameters of the bakery products. Flaxseed flour affects the texture of the dough as well as the bread fermentation during leavening. Was determined that the control sample without flaxseed flour increased its volume by 2.33 times within one hour, as for the sample with 20% flaxseed flour, its volume increased only 1.86 times. The addition of flaxseed flour slows down the dough fermentation process. This fact can be explained by the absence of starch in flaxseed flour, which serves as a nutrient substrate for yeast. Also, there were determined the chromatic parameters of the bread using CIELAB system. It was determined that the color of the crust darkens with the increase of the amount of flaxseed flour used. The porosity for different bread samples was found to decrease, varying from 72,96±0.05% (control sample) to 61.4±0.04% for the sample with 20% of flaxseed flour respectively. Flaxseed flour contains a large number of grain shells, dietary fibers, which are able to compact the structure of the bread crumbs. The high fat content of the dough affects the level of gas formation during fermentation of yeast cells. These factors influenced the porosity decrease of the bread. Analyzing the main sensory parameters was established that samples with the addition of flaxseed flour in different ratios turned out to have a specific flavor, especially the sample with 20% flaxseed flour. The most suitable were the samples with 5% and 10% of flaxseed flour. They were characterized as slightly nutty aftertaste, pleasant texture and flavor. This research demonstrated that the flaxseed flour functional bread is enriched with healthy fats, proteins, with fewer carbohydrates, which is a great advantage for the health of the human body.

Keywords: flaxseed flour, functional food products, functional bakery products.

Acknowledgment: We gratefully thank the State Research Project with the code 20.80009.5107.10 “Personalized nutrition and smart technologies for my well-being” for financial support.