

Soy and wheat fibers usage in wheat bread production

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Bread is the product of everyday mass consumption, so the variety growth and bake goods quality increasing becomes the main trend of mini-production and restaurant business development in Ukraine. The most popular product is wheat bread, which consists of small amount of dietary fibers.

The dietary fibers, added to food, enhance the B1, B2, B6, PP vitamins and folacin synthesis, speed up the alimentary transit, stimulate intestinal motility, and positively affect the gastrointestinal microflora. As a result, the proportion of useful lactobacteria and streptococci is rising. According to the WHO recommendations, the product 100 g of which contain 3g of dietary fibers is considered as a source of this functional ingredient. If the content of the fibers is 6g, the product is considered as the product enriched with dietary fibers.

For the purpose of bread enrichment with the dietary fibers the bran, fruit and vegetable powder, concentrated dietary fibers, cereal crop flour, and modified cellulose preparation. Among the wide range of alternative ingredients, which can be used for bread enrichment, soy and wheat fibers are worth particular attention.

The soy and wheat fibers contain over 65% of dietary fibers which possess high hydrophilic properties and ability to bind water in proportion 1:10. For forecasting the fibers' influence on the quality of wheat flour dough and the quality of end products, the structural and mechanical properties of bread researches were conducted. The samples of the dough with 0,3%, 0,5% and 0,7% proportions of soy and wheat fibers in the flour were the objects of the research.

It's been found that the fibers adding leads to the crude gluten content decrease, elasticity increase and expansibility decrease. Due to the high water absorbing capacity of soy and wheat fibers the dough has better thickness, less dough slackness, followed by higher quality of end products and bread yield increase.

Taking account of the findings, adding soy and wheat fibers to the dough allows improving its structural and mechanical properties that can be a prerequisite to production of high quality bread and to improving of economic indicators based on the increase of end products. Besides, the usage of the fibers in wheat bread production enables the production of food enriched with the dietary fibers. In modern world it can be one of the solutions of the balanced nutrition problem, that exists in Ukraine.

KEY WORDS

bread, dietary fibers, soy fibers, wheat fibers.

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