

## INVESTIGATION OF THE INFLUENCE OF PEAS DIETARY FIBERS ON THE PROCESS OF FORMATION OF WHEAT DOUGH

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### Abstract

Since it is well known that bread is consumed by all groups of the population, it can be convenient for the enrichment of useful components. Daily consumption of bread allows to enrich the diet, and reduce the impact of harmful environmental factors on the human body. It is worth noting that enriched varieties of bread products are in high demand among consumers of restaurants. The aim of our research was to investigate the problem of bakery products enrichment of with dietary fibers, or more precisely, adaptation of traditional technology to the conditions of mini-productions.

Materials for this research was pea's fibres "EmfibreEF 200", by-products of vegetable processing, which was added in an amount of 3-7% by weight of flour. There was scientifically proved by many authors that a promising source of dietary fiber is pea's food fiber. The chemical composition and influence of pea's food fiber on the formation of wheat dough are determined by gravimetric method. We studied the influence of pea dietary fibers on biochemical processes in the dough, which characterize the balance of sugar changes during dough preparation and gas formation under the condition of using pea's food fiber during fermentation. Also content of sugars in the finished products was analyzed by iodometric semi-micromethod. Influence of pea's food fibers on the yeast activity was analysed by gas-forming ability of semi-finished products. The total amount of released carbon dioxide in semi-finished products was determined by a volumetric method at the device AG-1M.

It was established that the total content of food fibers in pea's food fibers is 61.6% to the mass of dry matter, which is 2.3 times higher than the content of food fibers in wheat bran. This makes it possible to reduce the percentage of dosage of the studied raw material compared to wheat bran to ensure a physiologically justified concentration of dietary fiber in bakery products. Pea's food fibers contain 20.3% of pulp dry substances and 31.1% of pectin dry substances represented predominantly by protopectins, which allows predicting the potential detoxification effect of bread with this raw material. We established that the introduction of pea's food fibers has positively affects the activity of yeast.

The use of pea's dietary fiber allows to expand the range of useful bread products and adapt the technology to the conditions of mini-production.

**Key words:** Bakery products, Food fibers, Pea's food fibers, Nutritional value.