

USE OF HEMP FLOUR FOR THE PRODUCTION OF GLUTEN-FREE CONFECTIONERY

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Abstract

One of the new sources of gluten-free raw materials is hemp flour, which has a high nutritional value, and, unlike the leaves and inflorescences of hemp, does not contain a narcotic psychotropic substance cannabinoid. The aim of the work is to study the possibility of using hemp flour to create gluten-free biscuit baked goods.

The objects of the study were hemp seed flour and products from biscuit dough with a complete replacement of wheat flour for hemp seed flour. In the study of hemp flour, the following physicochemical and technological parameters were determined: acidity, humidity, autolytic activity, water-retaining, and fat-retaining capacity using standard methods. Determination of the content of biologically active substances in hemp flour was carried out by spectrophotometric method. A new technology was developed to prepare the biscuit dough in a "separate" way. The following physical-chemical and technological parameters were determined in the finished products: moisture, porosity and swelling of the crumb according to standard methods. Rheological characteristics of finished products were determined by the device "Structure meter ST-1M". During storage of products, the dynamics of microbiological indicators and water activity over 10 days was determined.

According to the obtained experimental data, hemp flour is characterized by low humidity ($5.8 \pm 0.3\%$) and high acidity ($6.9 \pm 0.2\%$). The content of flavonoids in flour is (7.9 ± 0.1) mg/100 g, the amount of p-carotene - (7 ± 0.1) mg/100 g - can fill the daily need for vitamin A. The results objectively proved the possibility of using hemp flour for the production of baked gluten-free biscuit products. Finished products had high organoleptic and rheological properties.

The use of hemp flour enriched the product with magnesium, zinc, phosphorus, p-carotene and fat-soluble vitamins.

Key words: *Gluten-free, Hemp flour, Biscuit dough.*