FLOUR VARIETIES AND OTHER PRODUCTS OBTAINED AS A RESULT OF THE COMPLEX PROCESSING AND BIOMODIFICATION OF TRITICALE GRAINS

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Annotation: The analysis examines the potential to expand the assortment of various flour types, bread, and flour confectionery products obtained through the complex processing and biomodification of triticale grains cultivated in the dry climatic conditions of our republic, as well as the opportunities to enhance the raw material base and nutritional value.

Key terms: amylolytic enzyme, triticale-barley, bread products, biomodification.

The relevant trends in the development of flour milling technology are achieved through the improvement of traditional methods, the production of products with high biological and nutritional value, and the use of biotechnological methods in advanced processing technology.

It can be concluded that fundamental and practical research is necessary to develop the main methods for preparing various grain types for flour milling and managing the technological processes of flour production, focusing on high chemical composition and functional properties [1-4]. Therefore, milling flour from triticale requires an analysis of the characteristics of its anatomical parts and their composition for obtaining semolina and pasta flour for children's and dietary nutrition.

The biopotential of triticale grains is primarily related to its varietal characteristics and agricultural practices [5]. Its nutritional value is associated with high protein content and the fractional composition of amino acids.

Modern enzymatic modification biotechnological methods have been studied for producing protein hydrolysates, structurally modified flour, and biomodified bran from triticale grain processing products [6-9]. It has been researched that high-quality milling of triticale grains can yield secondary products, allowing for the production of biologically active substances while preserving the natural and biological properties of organic ingredients and dietary fibers through the action of amylolytic enzymes [10].

Experimental results from researchers indicate that the gas-producing ability of dough made from triticale flour is quite close to that of wheat flour [11-14], although its gas retention capacity was shown to be significantly lower, ranging from 72-79% [15]. Based on the developed technological scheme, experimental studies demonstrated that high-dispersed flour obtained from triticale grains could be used in confectionery products, enhancing the stability of shapes and improving technological quality indicators [16].

Foreign researchers have conducted extensive studies due to the beneficial effects of bioactive compounds derived from various flours used in the confectionery industry [17]. The analysis of the complex processing and biomodification of triticale grains cultivated in the dry climatic conditions of our republic reveals opportunities to expand the assortment of various flour types, bread, and flour confectionery products, as well as to enhance the raw material base and nutritional value. This necessitates analyzing research conducted on producing bread products from triticale flour and mixtures of triticale-wheat and triticale-barley flours.

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