

Scientific justification of using of oat malt flour and gum arabic «FIBREGUM» in butter biscuit technology

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The consumer properties of pastry items depend on the quality of recipe components, their chemical composition and technological properties. The by-products of grain malt are classified as plant raw materials with high nutritional and biological value. The sprouted grains contain the entire set of ingredients necessary for a balanced diet: low molecular weight proteins, amino acids, carbohydrates, food fibers, minerals, vitamins.

Under the influence of amylolytic enzymes, the starch amyolysis with generation of various split products takes place.

Ratio of the essential amino acids to their total number is 34%.

Sugar content is an important aspect from the technological point of view, when using malt flour from various grain crops. It was found that the amount of reducing sugars in the oat malt flour is up to 13%.

When treating oat malt flour in a recipe composition in an amount from 20 to 50%, butter biscuits were characterized by delicious taste and flavor as well as uniform porous structure. The studies of oat malt influence on the process of dough formation have been conducted in order to determine the optimal amount of new material and to form dough having specific structural and mechanical properties.

However, the wheat made of unfermented malt of naked grain oat has no fibrinous complex. Therefore, its adding to the formula resulted in dilution of dough, significant decrease in boundary shear stress and the impossibility of forming dough products.

In order to receive the dough with springy and plastic characteristics necessary for the formation process on forming machines, it is suggested to add hydrocolloid gum arabic FIBREGUM, which is an additional structure former.

The adding of gum arabic FIBREGUM enhances the boundary shear stress and enriches the structural-mechanical properties of butter biscuit dough.

KEY WORDS

butter biscuit, oat malt flour, biological value, dough structural- mechanical.

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