IMPROVING BAKING QUALITY
OF WHEAT FLOUR

D. Zhygunov, V. Kovalova

The use of enzyme preparations in flour mill of Ukraine will make it possible to maximize the potential of raw materials, stabilize the quality of flour and satisfy the needs of the bakery and confectionery industry. Nutritional supplements and enhancers of different principles use the actions in the baking industry to improve the quality of bread. The literature review does not contain information on the use of targeted enzymes as enhancers directly in flour mill of Ukraine to stabilize the quality of finished products. The aim of the work is to improve the baking quality of wheat flour by introducing a complex of enzyme preparations of different producers and comparing their influence on the quality of bread.

The article presents studies of correction of baking properties of high quality wheat flour obtained at a flour mill of low productivity with a reduced technological process, located in the Odessa region. The sample of flour is characterized by low amylolytic activity (FN – 460 s) and strong gluten (IDG – 50 units.). To improve quality, complexes of enzyme preparations with amylase and hemicellulase activity of three manufacturers from Denmark, Germany and Turkey were used. The influence of enzymes in different dosages (from the minimum to the maximum, according to the recommendations of each manufacturer), on the baking properties of the flour is established on the basis of test laboratory baking. It is established that all enzyme preparations begin to work already with a minimum dosage, the greatest influence is made by the improver of the German manufacturer, the volume of bread is increased by 1.5 times. The best result with the average dosage is bread with the enzymes of the Danish manufacturer, the bread volume is increased by 1.6 times. The volume of bread at the maximum dosage with the enzymes of the Danish manufacturer decreases, the German – equal to the volume at its average dosage. Enzyme preparations of the Turkish manufacturer improve the quality of bread, with a minimum dosage, the volume of bread increases 1.1 times, and at the maximum – 1.2 times, but is smaller than the volume of bread of other manufacturer, even with their minimum dosage.

Keywords: wheat flour, gluten quality, enzyme preparations, amylolytic activity, α-amylase, hemicellulase.