

## **Current approaches to the technology of bakery products made from frozen prepared food**

Josyp Roglev, Andriy Gavrysh, Viktor Dotsenko, G. Lykjanez  
National University of Food Technologies

In recent years the technology of bakery products that uses freezing is developing rapidly in most developed countries, including Western European and Northern American ones. New technology of using frozen bakery production allows responding to market needs in supplying fresh products in a wide range to the population, and managing the quality and safety of frozen dough products on the stage of their preparation.

There are different versions of this technology, depending on what stage of bakery products preparation their freezing carried.

It can be divided into 3 main areas:

- Freezing of formed dough pieces;
- Freezing of partially baked products;
- Freezing of the finished product.

A key challenge in the technology of frozen dough preparations is stabilization of biotechnological and enzymatic properties of yeast cells.

For this purpose, researches are conducted to find out the impact of low temperature treating on the livelihood of yeast in the dough with different content of sugar and fat.

It is found that strains of yeast in the dough with sugar and fat content of 10% by weight of flour provide high and stable quality of finished products concerning specific volume, porosity and its structure, shape stability.

The following studies were carried out to select and detect cryoprotective properties of sunflower oil, egg yolk, oleic acid, lecithin, glycerol, and emulsifiers.

It is established that the use of these additives leads to stabilization of yeast cells vital functions, as confirmed by the release of carbon dioxide during maturation dough preparations.

However, the effectiveness of their action is manifested in different ways. The most pronounced effect is made by egg yolk and lecithin.

Key words: freezing, dough, yeast cells, sugar, oil, egg yolk, lecithin.

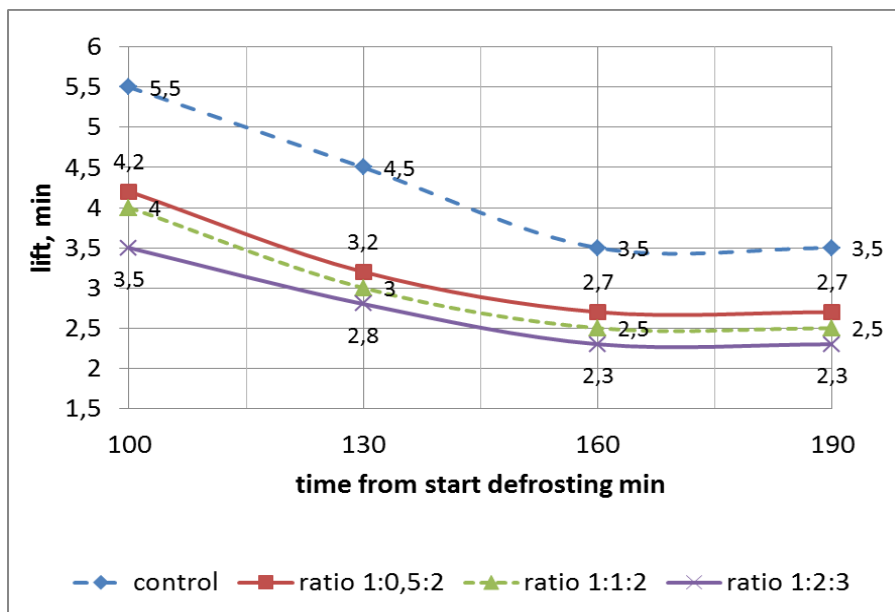


Image 1. Effect of suspension components Spivdnoshennya yeast, egg yolk and water to lift pastry rolls with raisins after thawing.

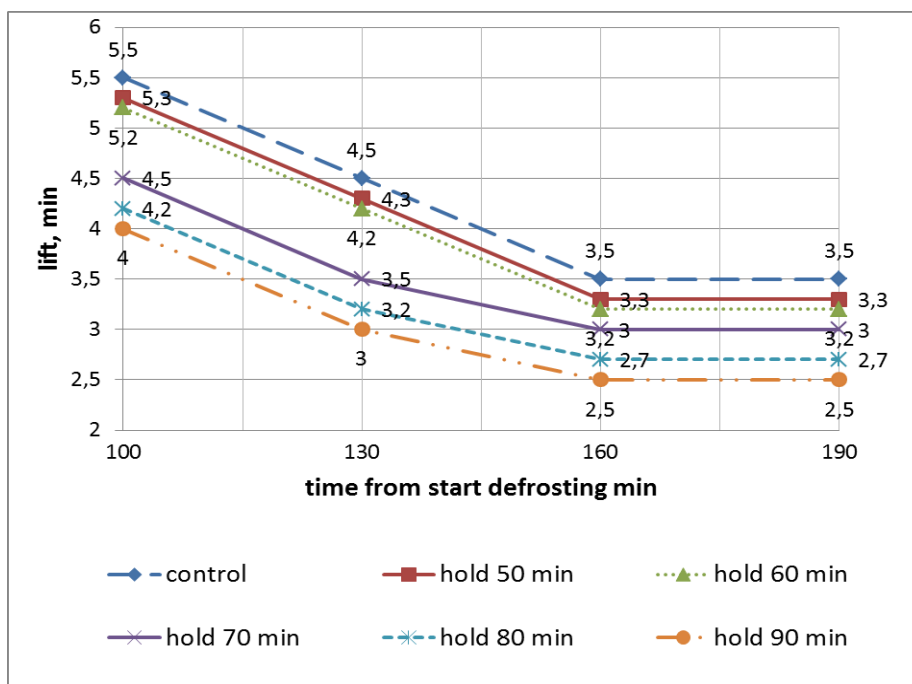


Image 2. Effect of duration of exposure of yeast in suspension of egg yolk and water to lift pastry rolls with raisins after thawing.