



IMPROVERS OF QUALITY INDICATORS IN BREAD PRODUCTION

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ABSTRACT

Using local raw materials, creating recipes and technology for the preparation of new types of bread and baked goods, improving the rheological properties of dough due to the high content of protein and fat in wheat bran, soybeans and beans, quality indicators of bread and bakery products, nutritional and raising biological values.

In the Resolutions of the President of the Republic of Uzbekistan dated September 9, 2020 "On measures to rapidly develop the food industry of the Republic and provide the population with quality food products" PK-4821 mid- and long-term strategies for sustainable development are defined. In the implementation of this priority task, the first priority is to have a product that is of good quality and safe for human health.

Today's Consumer Health Concerns Recently, many studies have been conducted on the complex changes in bread production and how they affect the many cues that consumers use to determine quality.

52% of global consumers say they know what fermented foods and drinks are. 50% of these global consumers seek fermented foods to improve digestive health and immunity. In addition, consumers around the world are looking for bakery products that have functional benefits and are tailored to their specific dietary needs and preferences.

Bread remains the main food product prepared and consumed in most countries of the world. There are many forms of bread, each of which is completely different and based on its own characteristics. Over the centuries, artisan bakers have developed our traditional bread varieties using their accumulated knowledge of the proper use of available raw materials (especially the type of wheat) to achieve bread quality.

In some countries, the nature of bread making has preserved its traditional form, while in others it has changed dramatically. In most cases, changes occurred when new, often imported, varieties of wheat became available. Bread Making: Improving Quality concludes this basic study and what it means for improved process control and a better, more consistent product.



Problems facing the production of bread and pastries, as a baker, two things are difficult to deal with during the baking process, one of which is the quality of the flour. The baker cannot control the quality of the flour.

Only by controlling the production process, that is, by adding an improver, it can improve the stability of the production process and the quality of the bread, the bread improver can effectively improve the stability of the dough during the production process, such as the anti-mixing property and the stability of the dough during the fermentation process. improvement and improver can improve the heating expansion of the dough, mainly in the volume of the finished product, and improve the uniformity of the internal structure of the finished product, the improver can maintain the soft character of the finished product for a long time, that is, it can delay the retrogradation of starch, etc. can help to improve the quality of bread: proper kneading of flour, heating the flour by mixing with heated air pneumatically, adding oil in water-oil emulsion state to the dough using the necessary emulsifier, 3-5% dissolved in boiling water adding flour to the dough, high-quality mechanical processing of the dough during the baking of the dough, making semi-finished products, using the methods of preparing the dough, heating the ovens and baking the bread in the most favorable conditions and on time.

At present, dozens of different substances of biological and chemical origin are used in baking to improve the quality of bread. Proper use of substances that improve the quality of bread stabilizes the order of the technological process and the quality of bread. Quality improvers are selected taking into account the properties of flour.

In a number of cases, the components of the dough (flour, salt, yeast, sugar, oil) can be considered as substances that improve the quality of bread. Oxyl-containing flour with strong adhesive properties acts as a quality improver for weak flour, and flour with strong disintegrating properties improves the quality of bread made from it with low disintegrating activity.

Table salt is often used to eliminate sourness (acidity) in the dough and improve the quality of bread. Flavoring substances that increase the caloric value of the product and prevent water from escaping can also be considered as substances that improve the quality of bread. The effect of different additional raw materials on the quality of bread is different.

In order to improve the properties of flour necessary for baking bread, various enzymes are used that accelerate hydrometrical and leavening processes in semi-finished products. Enzymes are obtained from microorganisms and rarely from raw materials prepared on the basis of plants.

with high breaking activity include high-activity wheat extract, juice (syrup) made by long-boiling condensation under vacuum.

Enzymes obtained from yeast fungi or *Subtilis* bacteria, α -amylases obtained from wheat products, yeast fungi, and bacteria have different effects on the quality of bread.

Bacterial α -amylase retains its activity at a temperature of 80-90. Mushrooms contain various enzymes. Orizin PK or amilorizin P10K drugs are widely used. Orizin contains amylolytic enzymes, proteases, phosphotases and other substances. The composition of amyloletic fat of rice includes α -amylase, dextrinase, glucominases.



The temperature of loss of activity of α -amylase produced by the fungus is 55-65 °C. Due to the complete loss of activity of yeast α -amylase in the early stages of baking, starch cannot be released (dextrinized).

The yeast α -amylase allows rapid and independent formation of sugar and gas, which accelerates the process of dough preparation and improves the quality of bread. Due to the effect of enzymes, the process of water escape of bread slows down. Orizin PK has a pale blue color and it is a dispersible substance of a certain size with a moisture content of 13%.

Guaranteed storage for 1 year, temperature - 25 °C, amylorizine is used to improve the quality of wheat and rye wheat products (in the amount of 0.0015-0.003% relative to it). The surface of the products prepared with the addition of amilorizine turns red, it becomes soft and gentle, it is distinguished by its taste and aroma, as well as by the fact that it does not leak for a long time. Light-colored, milled wheat (malt) containing amylolytic enzymes is added to the dough in the amount of 0.3-1% compared to the amount of flour.

Almost every discussion about bread and its quality begins with a reference to the specific nature of wheat, and this is not surprising considering that wheat flour is the largest ingredient in dough and bread. Further additions have more specific properties to form gluten after hydration of wheat flour proteins and during the mixing process, which mixing is delivered mechanically or by hand. From yeast fermentation or, in more "natural" processes, lactic acid and other types of bacteria form a network that captures and holds air bubbles for inflation of carbon dioxide.

Gas production refers to the formation of carbon dioxide gas as a natural result of yeast or other microorganisms during fermentation.

Not all of the gas produced during baking is retained in the oven before it is left in the oven. The maintained ratio depends on the development of a suitable gluten matrix that can hold the expandable gas. Therefore, gas retention in the dough is closely related to the degree of development of the dough and the relevant inputs. The most frequently considered factors are related to the protein component of wheat flour; however, dough development is affected by a large number of ingredients and processing parameters.

References:

1. Mirziyoyev Sh.M. "The approval of our people is the highest assessment given to our activities." Volume 2 - Tashkent: "Uzbekistan", 2019. - 592 p.
2. M.G. Vasiyev, Q. O. Dadayev, I. B. Isaboyev, Z. Sh. Sapayeva, Z. J. Gulomova. //Fundamentals of food technology// -T.: "Voriz-nashryot", 2012.-400 p.
3. Vasiev. M.G. Technology of bakery products. Study guide. T. New century generation. 2009.302. p.
4. Aykhodjaeva.N.K., Dzhakhongirova. G.Z. Biochemistry of bread. Textbook. T. Islamic Academy of Uzbekistan. 2020.340.p.
5. Barakaev, N. R., & Kuzibekov, S. K. (2022). INVESTIGATION OF FLOW HYDRODYNAMICS IN THE PROCESS OF ASPIRATION CLEANING OF SOYBEAN SEEDS (GRAIN) ON A COMPUTER MODEL. Harvard Educational and Scientific Review, 2(2).



6. Solijonov, G. K., Uzaydullaev, A. O., Kuzibekov, S. K., & Jankorazov, A. M. (2023). SANPIN RULES AND METHODS OF FOOD WASTE ANALYSIS. *Евразийский журнал академических исследований*, 3(11), 52-56.
7. Barakaev, N. R., Kurbanov, J. M., Uzaydullaev, A. O., & Gafforov, A. X. (2021, September). Qualitative purification of pomegranate juice using electro flotation. In IOP Conference Series: Earth and Environmental Science (Vol. 848, No. 1, p. 012024). IOP Publishing.
8. Nurmuxamedov, A., & Jankorazov, A. (2023). ANALYSIS OF THE METHODS OF IMPROVING THE FRYING PROCESS IN THE PRODUCTION OF VEGETABLE OILS. *Science and innovation*, 2(A1), 266-271.
9. Nurmukhamedov, A. A., Jankorazov, A. M., Khazratkulov, J. Z., & Tashmurotov, A. N. (2023). Methods of improving the frying process in the production of vegetable oils.
10. Nurmuxamedov, A., & Jankorazov, A. (2023). METHODS OF IMPROVING THE FRYING PROCESS IN THE PRODUCTION OF SOY OIL. *Евразийский журнал академических исследований*, 3(4 Part 4), 41-48.
11. Xamdamov, M., Jankorazov, A., Xazratqulov, J., & Xidirova, S. (2023). STRUCTURE OF PROTEINS AND APPLICATION IN THE FIELD OF BIOTECHNOLOGY. *Евразийский журнал академических исследований*, 3(4 Part 4), 212-220.
12. Jankorazov, A., Xolmamatova, D., & Murodboyeva, M. (2023). ENZYMES AND THEIR INDUSTRIAL APPLICATION METHODS. *International Bulletin of Engineering and Technology*, 3(3), 102-107.
13. Solijonov, G., Uzaydullaev, A., Kuzibekov, S., & Jankorazov, A. (2023). THE ROLE OF STANDARDIZATION IN THE INDUSTRY AND THE ANALYTICAL METHODS OF PRODUCT CERTIFICATION. *Science and innovation*, 2(A3), 144-149.
14. Javsurbek, K., Abror, J., Akhmad, N., & Shakir, I. (2023). REQUIREMENTS FOR THE QUALITY OF RAW MATERIALS PROCESSED IN THE INDUSTRY. *Universum: технические науки*, (1-4 (106)), 47-49.
15. Khazratkulov, J. Z., & Tashmurotov, A. N. (2023). STUDYING METHODS OF IMPROVING THE PROCESS OF APPLE JUICE PRODUCTION. *International Bulletin of Engineering and Technology*, 3(4), 38-42.