



Universal Xalqaro Ilmiy Jurnal

Jurnalning bosh sahifasi: <https://universaljurnal.uz>

Universal International Scientific
Journal

e-ISSN: [3060-4540 \(online\)](https://universaljurnal.uz)

Year: 2025 Issue: 2 Volume: 2

Published: 27.02.2025
<https://universaljurnal.uz>



International indexes

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TECHNOLOGICAL ASPECTS OF FUNCTIONAL FLOUR PRODUCTION FROM WHEAT GRAIN

Uktamov Sherzod Burkhanovich

Teacher

Yangiyyer Branch of the Tashkent Institute of Chemical Technology

Uzbekistan

sherzoduktamov8787@gmail.com

Abstract: This article is devoted to the technology of obtaining functional flour from wheat grain.

Keywords: grain, flour, technology, production, product, requires searching, wheat, pea, soy or white oat flour.

Аннотация: Статья посвящена технологии получения функциональной муки из зерна пшеницы.

Ключевые слова: зерно, мука, технология, производство, продукт, требует поиска, пшеничная, гороховая, соевая или белая овсяная мука.

Annotatsiya: Ushbu maqola bug'doy donidan funktsional un olish texnologiyasiga bag'ishlangan.

Kalit so'zlar: don, un, texnologiya, ishlab chiqarish, mahsulot, qidirishni talab qiladi, bug'doy, no'xat, soya yoki oq jo'xori uni.

Language: English

Citation: Uktamov , S. (2025). TECHNOLOGICAL ASPECTS OF FUNCTIONAL FLOUR PRODUCTION FROM WHEAT GRAIN. Universal International Scientific Journal, 2(2), 122–127. Retrieved from <https://universaljurnal.uz/index.php/jurnal/article/view/1451>

Doi: <https://doi.org/10.5281/zenodo.14950125>

Google scholar: <https://scholar.google.com/citations?user=Uktamov>

The creation of the material and technical base of our republic and the further improvement of the material well-being of the people requires the search for new sources of resources. This puts in the first place the issues of the development of social production, living and materialized labor saving, capital savings and the effective use of fixed assets.

The role of economists in solving such issues is great. Economists should be able to use resources competently, take into account changes in economic activity in a timely manner, correlate the level of production with the needs and demand of the market, improve holding calculations, promptly introduce new equipment and technology into production in all sectors of the national economy.

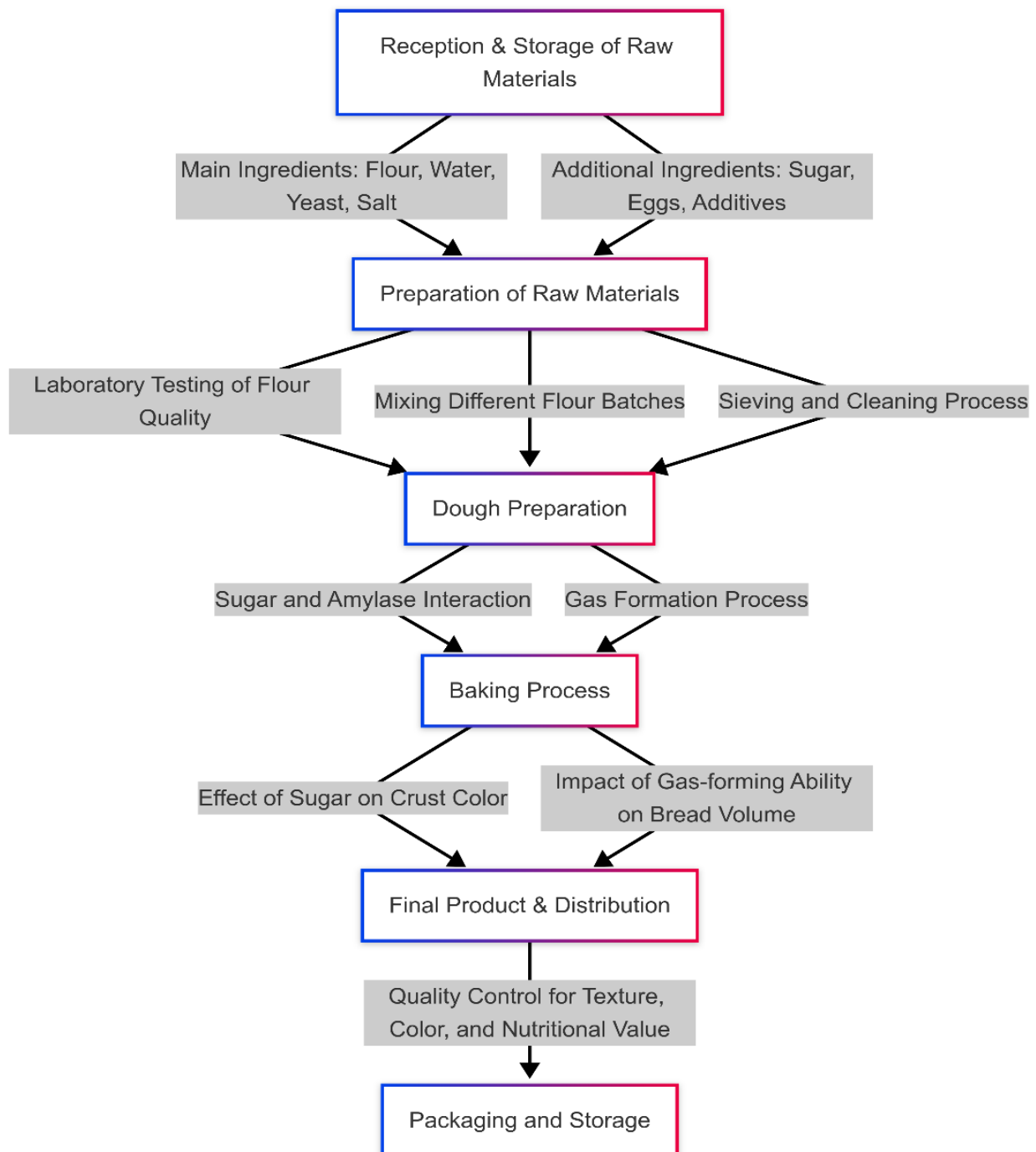
Bread is a food product obtained as a result of baking dough prepared with the addition (or without the addition) of flour, water, salt, sugar, butter, milk and other

products using yeast and yeast. Wheat and rye flour are mainly used for making bread. Sometimes corn, wheat, pea, soy or white oat flour is used as an additive. Bakery products with high nutritional value, excellent taste, unpretentiousness, good digestibility, ease of preparation, simplicity and stability of storage conditions are the main food of people on earth, and in some countries-the number one product in the diet.

The production process of bakery products consists of the following stages: reception and storage of raw materials; preparation of raw materials for production; dough preparation; dough cutting; storage and transfer of pastries and pastries to the retail network. Each of these stages, in turn, consists of separate production processes that are performed sequentially. As an example, it would be appropriate to familiarize yourself with the process of making a loaf, the recipe of

which, in addition to wheat flour of the first grade, includes water, pressed yeast and salt. To simplify the example, it was

assumed that the dough is prepared single-phase (without sourdough) in a way in separate sections.



1-Pic. Bread production process

Reception and storage of raw materials. This stage consists in the

acceptance of the main and additional types of raw materials of cha entering the bakery,

and placing them in containers and warehouses. Examples of the main raw materials are flour, water, yeast and salt, and additional raw materials are sugar, foods, eggs and other products included in the recipe of bakery products.

From the obtained raw materials, first of all from it, the laboratory staff of the enterprise selects a sample to check compliance with quality standards and baking properties. Preparation of raw materials for production. Laboratory with separate categories of flour (batches) available at the enterprise, it is recommended to prepare flour mixtures in proportions that meet the requirements of the bakery.

Mixing of certain categories of flour in specified proportions is carried out in special flour agitators, from which the mixture is pumped to a control sieve, and then to a magnetic cleaner. Then the mixture is transferred to the consumable silos, which are removed to prepare the required amount of dough.

In the baking of the dough, both the flour's own sugars and the sugars formed during the splitting of starch are involved. The specific sugar of flour becomes

noticeable only at the initial stage of dough maturation.

Gas formation at the end of kneading the dough, at the stages of kneading and baking provides high-quality enrichment of bread. Gas formation at this stage is mainly closely related to the ability of flour to form sugar. Generally speaking, the gas-forming ability of flour is determined by its carbohydrate-amylase complex.

Conclusions And Results

In a dough made from flour with a low gas-forming ability, the flour's own sugar is consumed for baking already in the first hours of the baking process. The low gas-forming ability of flour does not allow for the availability of sufficient sugar at the end of kneading the dough, at the first stage of kneading and baking. Bread made from such dough has a small volume and low porosity.

The color of the crust of wheat bread significantly depends on the amount of sugar remaining in the cheese. The baked dough interacts with sugars, protein breakdown products, which remain intact as a result of heating the crust-forming surface of the product, forming yellowish -

brown substances-melanoidins.

1-Table: Key Aspects of Functional Flour Production from Wheat Grain

Category	Description
Raw Material	Wheat grain, wheat flour, pea flour, soy flour, white oat flour
Importance	Searching for new resource sources for economic development
Production Process	Reception & storage → Preparation → Dough preparation → Baking
Key Factors	Gas-forming ability, sugar content, color & texture
Economic Aspect	Resource efficiency, demand-oriented production
Quality Control	Laboratory testing of flour's gas-forming ability
End Product	Functional flour and bakery products with improved properties

This provides a dark golden color of the bread crust, which is appreciated by consumers. To get evenly colored, evenly colored crusty bread, the amount of sugars remaining in the dough during baking is relative to the amount of dry matter 2...At

least 3%. Too little residual sugar makes the dough saturated due to the fact that the crust of bread turns white even after prolonged baking at high temperature.

It should be noted that for current inspections there is no need to check the gas-forming ability of the dough made from 100 g of flour. For a dough made from 10-25 g of flour. At the same time, not only flour is saved, but also the space occupied by the equipment in the laboratory.

At such a moment, the results of the determination should be calculated in relation to the dough prepared from 100 g of flour. To measure the gas-forming ability of flour, various devices are used, which are divided into two groups: volumetric - devices that determine the volume of carbon dioxide formed, and manometric - devices that determine the pressure of the carbon dioxide formed. In the laboratories of bakeries, the gaseous capacity of flour is mainly determined by volumetric method, that is, by the volume of carbon dioxide formed.

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