



THE ESSENCE OF BREAD PRODUCTS MADE FROM RYE FLOUR

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ABSTRACT

One of the important problems facing the bakery industry at present is the organization of functional and safe nutrition of aholi[1]. The industry has a high demand for the production of high-quality and wide range of food products using both traditional and non-traditional raw materials. Rye is the second largest agricultural crop after wheat, widely used in the food industry and the production of livestock feed. Its medicinal properties are also high.

KEYWORDS

Flour, Yeast, Salt, Water, Sugar, dairy products, margarine, malt, starch, edible fats, eggs

INTRODUCTION

Bakery products are made from rye and wheat flour of different varieties. Bakery products include products weighing from 0.5 kg and above. Bread is baked in special molds and oven pans. Their recipe is simple and includes flour, water, salt and yeast. Some types of bread contain small amounts of added sugar, fat, malt, molasses and flavorings. The composition of bakery products includes products weighing 0.05-0.5 kg. In addition to the main raw materials, their recipe includes sugar, fat and other ingredients.

Bread is the main food product. Bread is mainly a carbohydrate food that does not meet the required optimal ratio (4:1). The nutritional value of bread is estimated by its caloric content, digestibility, content and content of protein, vitamins and minerals. The nutrients contained in bread are not fully digested by the human body. The digestibility of bread is influenced by its porosity, taste, appearance, grade and other factors. The higher its grade, the better its nutrients are absorbed, especially protein. 1 kg of bread contains 70-80 g of protein, which covers a person's protein needs by about 30%. The total content of minerals in bread is 1-2%. The lower its grade, the more minerals are contained in its bread. There are more vitamins in ham flour than in premium flour. Take, for example, rye and wheat. PN jaydari the amount of 550 g of flour bread fully satisfies the needs of the human body in vitamin RR, 2.3 parts of vitamin V1 and 1.6 parts of vitamin V2.

Bakery and bakery products organoleptic (appearance, taste, smell, condition of the crumb) and physico-chemical (humidity, acidity, porosity, fat and sugar content) quality indicators are paramount,

since when the product is recognized as low-quality by organoleptic indicators, the product is considered defective (unusable) and further analyses are not carried out.

The moisture content of bread is an important indicator indicating its quality. The color of the product, the condition of the crumb, the amount of bread coming out and its safety will depend on its humidity. Humidity standards will be set for each product. Currently, more than 300 types of products are produced at the enterprises of the baking industry of the republic. In recent years, medicinal, dietary bakery products with the addition of various additives to bakery products have been produced in our republic in order to improve the diet of the population. These include bread made with the addition of vegetables, fruit juices, iron, protein substances, bran, oatmeal, rye, whey, improvers and other additives.

The raw materials used in the preparation of bread and bakery products are divided into two: basic and additional raw materials. The main raw materials include flour, water, yeast and salt.

Additional raw materials include sugar, butter, products, raw materials specified in the egg milk recipe.

Wheat flour is a powdered ingredient that is obtained by weighing wheat grains in a mill. When preparing bakery products, flour of the highest, I and II grades is used, all types of dough are made from such flour. Its humidity is of great importance both for its preservation and for the preparation of products from it. According to the standard, the moisture content of flour should not exceed 14.5%. Sour cream recipes are designed for this humidity.

1. Properties of flour in bread baking;
2. Changing the color of flour and color in the process of baking bread;
3. Real dough derivatives, flour strength, gluten quantity and quality;
4. Water absorption capacity of flour;
5. Flour gas formation tensor;
6. Autolytic activity of flour;

The color of the flour varies depending on the type of flour. As the flour grade becomes lower, the color becomes darker. The color of the flour is determined by the soft part of the bread.

The strength of flour, which is a conditional term, is characterized by the gluten of the dough. The rheological properties of the dough include: elasticity, plasticity, hardness and viscosity (viscosity). Depending on this, flour is called strong, medium and weak. Strong flour contains a lot of protein. The proteins gliadin and glutenin form gluten.

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A master's student of the Faculty of Biology of Samarkand State University, Marhabo Mahramova, conducts a scientific study on the topic "some physiological indicators of annual rye". To date, about 10 of his articles on this topic have been published in international and national publications. Marhabo is a prize-winner of the Republican Olympiad in Natural sciences. His main scientific activity was focused on the study of the physiological properties of the rye plant.

- Although the countries of Asia Minor, Central America, Iran, the Caucasus, and South Africa are considered the homeland of rye, it is mainly sown a lot in European countries, - says Marhabo Mahramova, - Western countries occupy leading positions in the world in the export of rye grain. Currently, the scientific community pays great attention to the ongoing research to increase the gross yield of rye and the creation of its new varieties. Currently, together with my supervisor, associate professor of the Department of Plant Physiology and Microbiology Sirozhiddin Zhorokov, we are conducting an experiment on planting rye varieties Vakhsh-116 and Shalola on the territory of the Ulug Baraka farm in the Jomboy district on an area of 20 acres. The experiments study the germination of rye seeds, the duration of growth, the peculiarities of water exchange, photosynthetic activity, transpiration intensity, water retention capacity and productivity indicators by development phases. Also, one of the research goals is to create high-quality and productive rye varieties resistant to diseases and pests.

It is well known that the Uzbek people are an “unloved” nation. Along with wheat bread, there has always been a high demand for other types of bakery products in our markets. Rye is imported into our country mainly from abroad. While it can be easily grown on our land. In addition, it is much cheaper than importing from abroad.

Rye is the second largest agricultural crop after wheat, widely used in the food industry and the production of livestock feed. Its medicinal properties are also high. Rye grains contain vitamins A and PP, macro- and microelements, amino acids, proteins, carbohydrates, organic acids and mineral salts that improve blood circulation. These substances ensure the growth and regeneration of tissues in the human body. In medicine, the rye plant is used for the manufacture of drugs against various oncological diseases, arthritis, arteriosclerosis, bone inflammation, cardiovascular diseases, diabetes mellitus, bronchial asthma, skin diseases, thyroid diseases. In addition, rye flour products are useful for patients suffering from the problem of excess weight. The reason is that rye flour contains less lipids than wheat flour. It is rich in calcium, provides strengthening of bone tissue, as well as the normal functioning of the nervous system. The presence of iron and magnesium in the composition of the product normalizes the blood composition. The substance thiamine, often found in rye, promotes the active splitting of food, improves the digestive system. Regulates the level of cholesterol in the blood. This in itself can help solve the problem of excess weight.

In world agricultural practice, to increase soil fertility, the rye plant is used as a siderate, that is, a “green fertilizer”. In agriculture, the term “green fertilizer” is applied to crops that are planted to increase soil fertility. In agronomy, rye is widely used as a “green fertilizer”. At the same time, rye is first planted in the fields from which the harvest is harvested. Then, in the spring, the main crop is plowed, adding to the soil before planting. Growing young rye stalks are absorbed into the soil composition, improving its physical properties, enriching its composition with organic matter and nitrogen, as well as increasing soil fertility. This undoubtedly contributes to a sharp increase in the number of crops. It seems that rye is a plant with a “mine benefit” for agriculture, as well as for the food industry and medicine in terms of efficiency.

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