



## **PRODUCTION OF NUTRIENT-RICH BAKERY PRODUCTS FROM LOCAL INGREDIENTS**

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### **ABSTRACT**

*Research has been carried out on the production of bakery products from local raw materials grown in Khorezm region. We learned the bread content and the quality of the bread.*

**KEYWORDS:** *Wheat flour, rice flour, mash flour, salt, water, dough*

### **DISCUSSION**

Among the urgent problems of the food industry of the Republic of Uzbekistan the problem of guaranteeing the population of our country with nutrient-rich food products is insufficiently resolved. To solve these problems, there is a need to increase the production of semi-finished culinary products in public catering enterprises, to produce high-quality bread and bakery products, to develop new technologies, and to achieve optimum nutrient optimization by combining traditional and non-traditional ingredients. [1]

It is found that wheat varieties do not produce high yields due to high gluten content in Uzbekistan's climatic conditions. That is why the necessity for purchasing high quality bread, pasta, and confectionery products from neighboring countries in the northern regions still remains.

In order to solve these problems in a comprehensive way, the public sector has set a number of following objectives:

- to increase the production of semi-finished and ready-made culinary products

- to reduce the amount of imported food or its components
- to create, develop and implement technologies that can replace imported food products which are produced by local ingredients. [2]

Kazakhstan and Russian flour, which is currently being used in the production of high-quality bakery products, is being replaced by small quantities of local ingredients and vitamins, such as peas, mash, rice, beans and pumpkin that allow improving rheological properties of the dough and provides good quality products.

Rice and mash can be grown as a second crop instead of wheat. As a result, grain independence will be achieved.

The purpose of the work is to improve the rheological properties of the dough, improve the nutritional and biological value of the bread, due to the nutrients contained in peas, mash, rice, beans and pumpkin.

The following table compares the average chemical composition of leguminous grains. [3]

**Table 1**  
Chemical composition of legumes,%

Grain	Moisture	Protein	Fat	Mono-saccharides	Starch	Gluten	Ash
Pea	14,0	20,5	2,0	4,6	44,0	5,7	2,8
Mash	14,0	23,5	2,0	3,8	42,4	3,8	3,5
Bean	14,0	21,0	2,0	3,2	43,4	3,9	3,6
Rice	14,0	10	2,5	2,2	65	1,3	1,5
Pumpkin	12,0	0,6	2,0	4,1		0,9	2,6

The purpose of the study is to further improve the physico-chemical and organoleptic properties of bread, improve biological and nutritional value of bread. At the same time, the essential parameters (porosity, taste, odor,

consistency) will be positive. As a result, bread will become of high quality, satisfying the demand of the population.

The bread recipe enriched with rice flour is given in Table 2.

**Table 2.**

No	Ingredient	Amount, gr.
1.	Wheat flour (1st grade)	400
2.	Rice flour	10
3.	Pressed yeast	2
4.	Salt	2
5.	Water	280 ml

The recipe for the bread enriched with mash is given in Table 3.

**3-жадвал**

No	Ingredient	Amount, gr.
1.	Mash flour (1st grade)	400
2.	Rice flour	10
3.	Pressed yeast	2
4.	Salt	2
5.	Water	280 ml

Influence of rice and mash flour on the quality of bread

From the first years of independence, the achievement of grain independence of our country has been the main task and measures for its gradual implementation are being developed. We have experimented with the technology of baking bread enriched with local ingredients. Technological experiments were carried out with the addition of 2% rice flour to the recipe of wheat flour made in accordance with GOST 27842-88. After adding less

than 2% of rice flour, there was no significant change in the baking process and the quality of bread. Experiments including rice and mash flour in the bread making process required us to use that recipe due to the fact that during the process the dough has increased significantly, while the dough in the piling process has failed to meet the standard requirements for the shape and color of baked bread [4].

The analysis of Table 4 shows that the addition of rice and mash flour has a significant effect on the amount of bread per 100 g.

**Table 4**  
Qualitative indicators of rice and mash added flour

No	Product	Output, (ml / g)	Relative volume of bread, ml / g	Porosity, %
1.	Ordinary Bread (according to GOST)	546	4,15	82
2.	Rice bread	581	4,43	75
3.	Bread from mash flour	573	4,29	75



Product made of dough that contains rice and mash leads to changes in the ratio of height and diameter. Bread deformation increases significantly with respect to the sample. This indicates that the rate of gas formation is also increasing as a result of the positive impact of rice and mash on the activity of yeast.

The organoleptic analysis of the product shows that the outer part of the bread is smooth, golden, and is of the highest grade. The porosity is moderately flat to the center, thin-walled. Thus, the addition of a small amount of rice flour to wheat produced in Uzbekistan will improve the physical performance of the dough and the organoleptic value of the bread.

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