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GROWING, STORAGE, PROCESSING OF AGRICULTURAL PRODUCTS AND FOOD TECHNOLOGIES

DEVELOPMENT PROSPECTS OF THE OIL PRODUCTION INDUSTRY IN THE REPUBLIC OF UZBEKISTAN AND FOREIGN COUNTRIES

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Abstract: High-performance mills equipped with modern equipment in the Republic of Uzbekistan. Technological processes in mills and flour mills in foreign countries do not fundamentally differ from technological processes used in factories in the Republic of Uzbekistan. Attention is paid to the quality of flour, which is compared with the constructions of machines used only in technological processes.

Keywords: Industry, nutrition, crushed shells, physiological function, protein, starch, minerals, particles, finely dispersed, buckwheat, oats, grain, nutritional value, rye, mills, hygroscopic, powdery, dose, flour, production.

Introduction. The development of the flour production industry is mainly a product that is produced during the milling process of grain, if it is obtained only from the inner part of the grain - the endosperm - this type of flour is called wholemeal flour when it is milled together with the husks and husks of the grain. Grains of wheat, rye, triticale, small amounts of oats, buckwheat, barley, corn and other crops are used for flour production. Flour is the basis for the preparation of food products. As a result of their consumption, a person satisfies the need for 30- 50% protein and 20-40% for various necessary biological substances.

The most valuable in terms of nutrition is simple ground flour, which contains many nutrients. In addition, flour contains fibrous substances due to crushed shells, which affect the release of various slags in the digestive tract and improve the physiological functions of the intestines. In modern mills, it is possible to develop different types of flour with increased and decreased content of protein, starch, minerals and vitamins.

In the Republic of Uzbekistan, there are high-efficiency mills equipped with modern equipment (mills with a capacity of 250 to 500 tons per day) and grain factories. Up to 75% high quality flour is obtained in these mills. Currently, small mills with a capacity of 50 tons are being built in our republic. Technological processes in mills and grain factories in foreign countries do not fundamentally differ from technological processes used in factories in the Republic of Uzbekistan. It differs only in the construction of machines used in technological processes.

One of the main directions of development in the field of flour weighing is the processing of grain to obtain new products, including the technology of obtaining flour and composite mixtures and its application. VNIIZ DIB developed the technology of making flour from oat, barley, millet, vitaminized, vitamin and mineral mixtures, in addition to which other cereal products - bran, fully ground grain and wheat bran are added. A big role in the expansion of the assortment is focused on the use of ingredients.

They make it possible to use grain with high quality, nutritional value, dietary and preventive treatment. It is known that in grain processing, there is a need to

adjust the quality of flour in order to satisfy the need for high and stable quality flour of bakeries and other enterprises. In foreign mills, for this purpose, wheat flour is added to improve the quality of bread, for example, an enzyme preparation containing 2-amylase.

In Russia, the use of improvers to increase feed value and ensure the production of flour meeting standard requirements is at the initial stage. Differences in soil-climatic agrotechnical and other conditions of grain development lead to considerable fluctuations in its quality, and this fact was confirmed when researching the harvest of recent years. Due to the different quality of grain batches, the problem of stabilizing the quality of weighing batches arises.

In addition, the quality of wheat grain has been decreasing in recent years. Yuqori tovar sifatiga mansub bug'doy amalda qolmayapti, tovarbop aksariyat qismi past (3-5) sinfga xos bo'lgan donlardir. According to the data of the state grain inspection, 65% of the wheat harvest in Russia in 2012 belonged to 3-4 classes, and 30-74% of it, depending on the region, was 4th class. The remaining 35% of commercial wheat grain is included in non-food grains. Russian flour mills process 80% per year fermented grains with low or unsatisfactory quality gluten, with high or low activity. urtle-like - mite, bruised, cold-hit, high-temperature dried grains are among them.

Materials and methods: One of the ways to improve the baking properties of flour is to use special processing technologies that allow to separate the defective diseased grains or anatomic parts that worsen the baking properties.

The use of baking quality improvers is one of the convenient ways to control the quality of flour and bread. This situation allows control and forecasting with sufficient accuracy. Unfortunately, this thing is used in practice only in baking enterprises.

Currently, importance is attached to the use of complex enhancers. They affect different substances of flour at the same time. The improver should have a certain size, powdery, no larger than the size of flour particles, well sprinkled for exact dosing and finely dispersed nature that can mix well with flour. Its moisture and hygroscopicity is low, its color is light, it does not change the color of the flour, and its shelf life should not be less than that of wheat flour. Although the enhancer is relatively cheap, its use should be economically feasible. One of the important moments of choosing an improver is to take into account its properties and characteristics, checking its compatibility with the quality of concrete flour.

As a result of the annual analysis of the harvest, it was found that the main reason for the deterioration of the marketability of wheat grain is the low amount of gluten. Even in wheat grain of the 3rd class, the amount of gluten is at a lower level and does not exceed 23%. Flour produced from 3rd class wheat does not always meet the requirements of GOST 26574-85. Dry wheat gluten is added to the low gluten content to improve its baking properties. It meets the requirements of flour production. Dry wheat gluten exhibits a finely dispersed, light-colored powder, has low moisture, flows well, allows to correct the common defects of low-quality flour without worsening the organoleptic indicators of flour. Dry gluten is a natural substance and its amount is not limited when used as an additive. Flour mills in

France, the USA and other countries add dry wheat gluten to flours that are already low in protein. In European countries, adding dry wheat gluten to the weak, expensive wheat improver saves money. In Russia, dry gluten is mostly added to bakery improvers. This makes it possible to increase the water absorption capacity of the dough, to improve its physical properties, to increase the quality indicators of bread, including the structural-mechanical properties of the core, the yield

and shelf life of bread-loaf products. VINIIZ DIB multi-faceted studies were conducted by, in which a number of cardinal problems regarding dry gluten were solved. In particular, technological properties of different dry gluten samples are analyzed, evaluation of the quality of flour enriched with dry wheat gluten, as well as studies of the properties of dough and baked bread were carried out. An express and objective method has been developed at the institute to assess the quality of dry wheat gluten using the mechanized NOC system. With its help, dry wheat enriched with gluten is checked for changes in the amount and quality of gluten, as well as the dose of dry gluten.

Results. In our work, we experimentally added dry wheat gluten obtained from wheat grain of the 4th grade "Starshina" to it, and the amount of wet gluten in each dose of dry wheat gluten was 1 We found that it increased by 6-2% (Table 1).

It is enough to add 2-4% of dry wheat gluten to bring the quality of flour obtained from class 4 grain to the level of TSh requirements or to the level of GOST 26574 standard. The volume of the high grade bread increased by 90 cm3, and that of the 1st grade increased by 116-118 cm3. The increase in the shape of bread obtained from it of the first grade reached from 0.34 to 0.37-0.38.

Table 1

Changes in the baking properties of flour due to the addition of dry wheat gluten

No	Event named	The result achieved
1	In each added percentage of dry wheat gluten	Flour gluten increased by 1.6-2%
2	Add dry wheat gluten in the amount of 2-4%	The quality of the flour obtained from the 4th grade grain met the requirements of GOST 26574
3	Add dry wheat gluten in the amount of 2-4%	the volume of the flour loaf is 90 cm3 1n. the volume of the flour loaf has increased to 116-118 cm3
4	Maximum added dose of dry wheat gluten	Not more than 4%
5	Addition of dry wheat gluten in the amount of 3-4%	The quality of flour gluten It ensures the transition from the IIIunsatisfied weak group to the IIsatisfied weak group.

Conclusion. When adding dry wheat gluten, the physical properties of dough made from weak flour reached the level of strong dough. Adding more than 4% dry wheat gluten does not improve the baking properties of the flour muchTherefore, it is recommended to add 3-4% dry wheat gluten to the baking flour.

As a result of adding dry wheat gluten in a dose of 3-4%, it is ensured that the quality of gluten changes from III-unsatisfactory weak group to II-weakly satisfactory group.

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