

The Influence Of Sowing Dates And Norms On Technological Quality Indicators Of Rice Grain

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Abstract: As a result of the experiment, it was found that the technical quality indicators of rice varieties are 3.6-4.5% higher than the control. When comparing the varieties, it was observed that the technical quality indicators of the Taronas variety were higher. As a result of the observations, it was found that the earlier the plant is planted and completes the vegetation period, the more heat and light it absorbs into its body, the higher the vitreousness of rice.

Keywords: rice, sowing date, sowing norms, spikes, stems, grains, rice, quality.

Introduction

The demand for rice and rice products has always been high in our country. Therefore, in the cultivation of rice in our country, rice products have an important place in the daily consumption of our people. In Uzbekistan, pilov made from rice is considered a necessary dish for celebrations and weddings.

The increase in rice cultivation is directly related to the improvement of rice quality, if the huskiness and vitreousness of rice grains are reduced by 1%, the state will be able to obtain additional rice harvest [1, -80 p.]

The color of the axils of the spikes in the paddy field matches the color of the husk. The ratio of husk and husk to the weight of the spike is called huskiness. The degree of huskiness depends on the variety of rice, and the degree of huskiness of varieties grown in our country is 17-20% [2, -124 p.].

The greatest demand is placed on the quality of rice grain, which in turn affects its huskiness, the presence of full, valuable and well-ripened grain in the harvest, and the shine of the grain. These quality indicators performed well in our selected varieties.

The huskiness of unthickened rice (as a percentage of the weight of the husks and spikelets to the weight of the unthickened grain) varies greatly between 14-35%, and in the varieties grown in our country it is on average 17-20%. The grain of rice is completely shiny or has a slightly developed floury kernel inside. It occupies up to 60% of the grain cross-section [1, -28-29 p.; 3, -15 pp.].

Increasing rice production is directly related to improving rice quality. There is an opportunity to transfer additional rice to the state only when the huskiness of the grain is reduced by 1% and the vitreousness is increased by 1%. By improving other quality indicators of grain, reducing cracking, mixed red, yellow, unripe and other grains, the yield of additional rice increases [1, -28-29 p.]

When determining the huskiness of rice grain, the moisture content of rice grain was 14 percent, purity was 99 percent.

Along with raising the yield of rice, it is also important to pay attention to its quality. The quality of rice is affected by the combination of growing season and beneficial air temperature. Rice is characterized by high caloric content and quick digestion for the human body. Rice contains 75.2% carbohydrates (mainly starch), 7.7% protein, 0.4% oil, 2.2% pulp, 0.5% ash and 14% water. Food made from rice is very quickly digested and completely absorbed. The absorption coefficient of rice is 96%, its caloric value is 3594. Alcohol, a special kind of vodka (sake), beer and starch are made from rice bran. Rice starch is widely used in medicine, textile industry, perfumery, medicine. [4; 75-p.]

One of the objective indicators of the culinary and technological properties of rice varieties is the amount of amylose in the grain. It has been determined that 10-30% amylose and 70-80% amylopectin are present in the starch content of various plants. The amount of amylose is high in the samples with a higher grain vitreous and a longer vegetation period [5; 655-p]. In Uzbekistan, it is important to improve the technology

of cultivation based on the biology of field crops, to save water in rice cultivation, to provide the population with food, fodder for livestock, and raw materials for some industries [6; 10-21-p].

The place of rice products obtained from rice in the world market is incomparable. It is a daily food product of people. The technical parameters of rice (rice yield, whole rice yield, vitreousness, shell) are one of the important requirements of the present era.

Grain cultivation is one of the most developed industries in the world. It is one of the main food commodities for human existence. Rice is processed into rice and rice products, and rice is used to make rice flour, cereals, bread products and various types of pasta. Increasing its productivity is one of the most urgent tasks. Along with increasing productivity, the quality and technical indicators of the obtained product are considered to be one of the main issues. Determining the quality indicators of rice is carried out by the State Control Inspection. Cultivation of high-quality grain ensures the variety of products prepared from the harvest and the increase of types of production.

The technical quality indicators of the state standard rice products are evaluated by the methodology of GOST 10987-76 ¹.

Technical quality indicators of rice varieties studied in the experiment are given in Table 1.

The high vitreousness of rice can be recognized by the color of rice flour and semolina. White can be distinguished by its bright and clear color. A high protein content of rice reduces vitreousness, while a high starch content does the opposite. There are special varieties of rice grown in developing countries, precisely because of their high starch content and viscosity, and rice flour obtained from the same varieties is used to prepare their national bread and bakery products [7; 202-204-p].

The yield of whole rice from paddy grain depends on sowing dates and sowing rates. The reason is that, as rice is a heat-loving plant, the more heat and light it receives from the external environment, the more it goes through the growing season, the more it is fed with mineral fertilizers according to the phases,

Table 1
The influence sowing dates and norms on technological quality indicators of rice grain, 2022 y

sowing dates	sowing norms	rice yield, %	whole rice yield, %	vitreousness, %	huskiness, %,
Tantana					
5 V	4 mln	68.5	88.3	89.4	17.4
	5 mln	69.9	89.9	88.5	17.7
	6 mln	68.5	89.4	87.4	18.2
15 V	4 mln	68.6	89.1	88.7	17.6
	5 mln	69.5	90.7	87.9	17.8
	6 mln	68.8	90.7	86.4	18.2
25 V	4 mln	69.3	91.0	87.5	17.4
	5 mln	70.8	91.2	86.7	17.8
	6 mln	69.3	91.7	85.3	18.6
5 VI	4 mln	65.8	85.7	85.1	16.2
	5 mln	64.5	85.1	84.5	16.5
	6 mln	63.0	84.5	82.5	17.0
Tarona					
15 IV	4 mln	70,4 _	90.8	93.9	17.4
	5 mln	71.2	91.9	93.5	17.6
	6 mln	71.5	92.2	91.8	18.1
5 V	4 mln	70.8	91.2	92.9	17.5
	5 mln	71.1	91.7	91.5	17.5

¹ GOST 10987-76. "Zerno. The method of determining glass thickness»

	6 mln	70.7	92.0	90.3	17.8
15 V	4 mln	70.9	92.3	92.2	16.9
	5 mln	71.5	93.1	91.5	16.9
	6 mln	70.9	93.0	90.1	18.0
25 VI	4 mln	68.4	88.3	89.4	16.1
	5 mln	67.0	88.1	88.5	16.7
	6 mln	65.9	89.5	86.7	17.1
Ilgor					
5 V	4 mln	69.7	89.8	92.8	17.5
	5 mln	69.1	90.3	92.0	17.5
	6 mln	68.9	89.5	91.5	18.2
15 V	4 mln	69.5	90.0	91.5	17.2
	5 mln	69.9	90.4	90.7	17.6
	6 mln	68.7	90.3	89.5	18.4
25 V	4 mln	69.2	90.3	91.1	17.4
	5 mln	69.8	91.9	90.3	17.6
	6 mln	68.7	91.0	89.4	18.1
5 VI	4 mln	67.0	87.5	87.9	16.8
	5 mln	65.5	86.7	86.3	16.8
	6 mln	64.9	86.7	86.2	16.9

the more its vitreousness increases, as a result, the resistance to agrotechnical processes (harvesting in a combine harvester, transportation to drying areas by machinery, drying in a mill) increases, technical indicators of rice will be of high quality.

The experimental results show that the technical quality indicators of our newly zoned rice varieties are 3.6-4.5% higher than the control. When we compared the varieties, the technical quality indicators of the Tarona variety were higher. If we compare according to sowing dates and norms, 4 mln. vitreousness of varieties was high in the variant planted with germinating seeds, Tantana was 89.4%, Tarona was 93.9%, Ilgor was 92.8%. The lowest figure is 6 million in the period of June 5. 82.5% of Tantana, 86.7% of Tarona, and 86.2% of Ilghor showed the degree of vitrification in the variant planted on units/ha. It was found out in the experiment that the earlier the plant is planted and completes the vegetation period, the more heat and light it absorbs into its body, the higher the vitreousness of the rice will be.

The total yield of rice depends on sowing standards, the more sparsely planted, the higher the accumulation, therefore, the grain of manure on the side branches is smaller than the grain of manure on the main stem.

The best indicator is 6 mln, which has 91.7% in the Tantana variety in the option of sowing seeds/ha, 93.1% in the Tarona variety in the option of sowing 6 million pieces/ha of fertile seeds on May 25, 91 in the Ilgor variety in the option of sowing 6 million pieces/ha of fertile seeds on May 15, made up 9%.

The results of the conducted experiments show that the technical indicators of the newly created rice varieties were found to be 2.6-3.3% higher in total rice yield and 3.6-4.5% more vitreous than the control.

Conclusion

As it can be seen from the data, it was observed in the experiment that it is necessary to choose optimal sowing dates and norms so that the plant shows high results in terms of its development and all parameters, including technical quality indicators.

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