

THE INFLUENCE OF DIFFERENT WATER THICKNESS ON THE ECONOMIC EFFICIENCY OF THE GROWING OF RICE VARIETIES IN UZBEKISTAN

Khojamkulova Yulduzoy Jahonkulovna

Phd., Head of the laboratory Physiology and Biochemistry of Plants, Doctor of Philosophy in Agricultural Sciences, Scientific research institute of rice, Uzbekistan.

Email: xojamkulovayulduzoy@gmail.com

Khaitov Maqsadbek Yoldashboevich

Phd., Head of the Rice Genetics and Breeding Laboratory, Scientific research institute of rice, Uzbekistan.

Email: Ihlosbek79@mail.ru

Abstract: The article examines the effect of different water thicknesses on economic efficiency in the cultivation of rice varieties. Different thicknesses of water affected the development periods of rice. With the increase in the thickness of the water, depending on the varieties of rice, the development period was extended from 2 to 3-4 days. The highest yield was obtained when the water depth was 15 cm. The increase and decrease of water thickness has been observed to decrease the yield of rice.

Key words: variety, rice, water thickness, development periods, productivity, economic efficiency.

Introduction

Along with the growing world population, the demand for rice products is also increasing. Therefore, including the amount of rice cultivation, according to the data of the US Department of Agriculture (USAID), last year rice production was 496.40 million tons, and this year 503.17 million tons of rice were grown worldwide, or 6.77 million tons or increased by 1.36 percent. For this reason, effective use of irrigation water in rice cultivation, development of advanced, resource-saving, innovative agro-technologies for growing high-quality crops is urgent. In the countries of the world, on average, 14-16 thousand m³ of water is consumed per hectare, and in our Republic, 16-21 thousand m³ of water is consumed per hectare, depending on the soil-climate conditions and rice varieties. Therefore, reducing the amount of water in irrigation is one of the important issues.

A number of works are being carried out in our country to meet the demand of the population for rice products. Currently, 611,130 tons of rice are grown in our republic on an area of 129,400 hectares. Researches are being conducted on the development of agrotechnology to increase the efficiency of water use in the cultivation of high and quality rice crops, and to reduce the amount of water used for rice cultivation.

Taking into account that the development of rice farming is an urgent task, serious attention is being paid to this area in recent years, that is, efforts are being made to carry out both extensive and intensive ways of development. In order to form a unified system of rice cultivation and purchase, rational use of land and water resources, as well as to fill the domestic consumer market with high-quality products, the Cabinet of Ministers of the Republic of Uzbekistan dated October 27, 2017 "On measures to organize the purchase of rice for state needs" According to the decision of the President of the Republic of Uzbekistan dated February 2, 2021 "On Measures for the Further Development of Rice Cultivation" No. introduction, and 30 percent of them are set to plant rice seeds in modern seeders.

The level of study of the problem

In World Development, the selection of rice varieties at different water thicknesses, its influence on growth and productivity was studied, and a number of scientific and practical results were presented. In particular, scientists from foreign countries in the Krasnodar Territory: E.I. Svejakova, V. Nesterov, V.F. Shchupakovskiy, M.P. Sborshchikova, M.T. Kogay, U. Aitov, I. E. Belousov, V. A. Popov extensive research was conducted and certain results were achieved. S.Rikhsieva, G.A.Khodjamberganov, T.Asilov., T.Boboniyazov, H.U.Ormanova, R.Sh.Tillaev, G.N. Rahimov, Z.N.Djumanov, A.P.Egamnazarov, G.Djuraeva and M.A.Ergashev in the conditions of different regions of our Republic. , selection of salt-resistant varieties of rice plants, research on the effect on growth, development and yield of rice varieties was conducted.

The purpose of the study. It is to determine the effect of different water thicknesses on the growth, development and productivity of rice varieties in the conditions of the grassland-swamp soils of Tashkent region.

Tasks of research

Determination of the effect of different water thickness on plant germination, growth and development and biometric parameters of rice during the period of operation in the soil and climate conditions of Tashkent region
determination of optimal water thickness for the yield of rice varieties and quality indicators of grain;
determination of high seed and rice quality indicators of rice varieties grown in different water thicknesses;

determining the economic efficiency of growing rice varieties in different water thicknesses;

The subject of the study is the germination, growth, development, length of the growing season, dry mass, biometric parameters of the crop, grain yield and technological quality indicators of rice in laboratory and field conditions at different water thicknesses.

Research methods

Placement of field experiments in scientific researches, all calculations and observations were carried out on the basis of "Methodological manual of the State Commission for testing varieties of agricultural crops", "Methods of conducting field experiments" (PSUEAITI). The vitreousness of rice is determined according to GOST 10987-76, the yield of rice and the amount of whole rice is determined according to GOST ISO 6646-2013. Calculation of paddy leaf level Vishnu.M. According to Bhan and H.K.Pande (IRRI), economic indicators were calculated according to V.N.Polozhii method, mathematical-statistical analysis using Microsoft Excel programs (B.A. Dospheh, 1985).

The scientific novelty of the research is as follows:

- for the first time in the conditions of the meadow-swamp soils of the Tashkent region, irrigation of early-early "Guljahan", mid-early "Ilgor", "Iskandar", late-early "Mustaqillik", "Lazurniy", "UzROS-7/13" varieties of rice at a thickness of 15 cm scientifically proven;

optimal irrigation standards of early rice "Guljahan", mid-ripening "Ilgor", "Iskander", late-ripening "Mustaqilik", "Lazurniy", "UzROS-7/13" varieties (16000 m³, 18500 m³, 21500 m³);

Scientifically based water thickness on the growth, development, productivity of rice varieties (75.4 s/h) and its positive effect on quality indicators were determined;

- water-saving, water thickness and high economic productivity (68.2%) were found in rice cultivation;

Practical results of the research

Germination of rice seeds at different water thicknesses, taking into account the biological characteristics of regionalized early-ripening "Guljahan", mid-ripening "Ilgor", "Iskandar" late-ripening "Mustaqilik", "Lazurniy", "UzROS-7/13" rice varieties in the conditions of grassland-swamp soils of Tashkent region, the impact on growth, development, biometric parameters of the crop, productivity, grain quality, rice content and economic efficiency was determined;

The seasonal irrigation rate was 21,500 m³/h when 20 cm of water was applied to rice varieties, and 3,000 m³/h of water was saved when 15 cm of water was applied. This water thickness improved the growth and development of varieties and ensured high productivity. 60.1 s/h of early "Guljahan" variety of rice was grown, the net profit was 4500108 soums/h, profitability level was 60.6%, and these indicators were proportionately 64.7 s/h in the medium "Ilgor" variety; 4667846 soums/h and 67.2%; 69.9 s/h in the medium "Iskandar" variety; 10831844 soum/ha and 63.2%; 66.2 s/h in "Lazurniy" variety; 10680112 soum/ha and 67.6%; 73.2 s/h in the evening "Independence" variety; 9514975 soums/h and 68.4%; 75.3 s/h in "UzROS-7/13" variety; 9514975 soums/h and 68.2%.

Reliability of research results

The practical results show that proven methods were used in laboratory and field experiments, mathematical processing of the obtained data, compatibility of theoretical and practical results, comparison of the research results with foreign and local experiences, the validity of the established laws and conclusions, the obtained results were evaluated by highly qualified experts, the fact that positive conclusions were given, research results were discussed at republican and international scientific conferences, recommendations were widely implemented in production, and scientific articles were published in scientific publications recognized by the Higher Attestation Commission show the reliability of this dissertation work.

Scientific and practical significance of research results

The scientific significance of the research is the germination of early-early "Guljahan", mid-early "Ilgor", "Iskandar", late-early "Independence", "Lazurniy", "UzROS-7/13" varieties of rice depending on the thickness of water, growth and development, accumulation of dry mass, formation of the leaf surface, as well as the degree of clustering, the structure of the crop and the effect on the technological quality indicators of the grain are explained by the scientific basis.

The practical significance of scientific researches is the optimum irrigation rate of early-ripening "Guljahan", mid-ripening "Ilgor", "Iskandar", late-ripening "Independence", "Lazurniy", "UzROS-7/13" varieties of rice in the conditions of grassland-swamp soils of Tashkent region and its. The practical importance of the research is that the amount of water consumed per unit area can be saved, productivity and economic efficiency can be achieved through irrigation at different water thicknesses.

Implementation of research results

The results of the research on determining the effect of different water thicknesses on the growth, development and productivity of the newly regionalized varieties of rice (early "Guljahan", "Ilgor", "Iskandar", late "Independence", "Lazurniy", "UzROS-7/13") based on:

- "Recommendation on the efficient use of water in rice cultivation" for farmers and homesteads specializing in rice cultivation was approved (Reference No. 02/021-2296 of the Ministry of Agriculture dated May 29, 2021).

This recommendation is used in rice farms

- the most optimal agrotechnological measures for the cultivation of early-early "Guljahan", mid-early "Iskandar", "Ilgor", late-early "Lazurniy", "Independence" varieties of rice on 64 ha at the farm "Umida marjona fayz", Bekobod district, Tashkent region, experience at the Rice Research Institute 120 ha in the Khorezm branch of the Rice Research Institute, 72.9 ha in the Khorezm branch of the Rice Research Institute, and 39.5 ha in the farm "Kumtepa bulogi" of Jalakuduq district, Andijan region, in a total area of 296.4 ha (No. 02 of the Ministry of Agriculture dated May 29, 2021 / reference No. 021-2296). As a result, 1500 m³/h of water was saved per hectare compared to the control variant when the water thickness was 15 cm (16800 m³/h) and 20 cm (18300 m³/h) in the early rice variety "Guljahan" (66.1 s/h), and 3 , 1 s/h of additional rice harvest was obtained and 5876.5 thousand soums profit was obtained due to water consumption savings, the profitability level was 33.8 percent.

The middle-ripening "Iskandar" variety of rice (76.4 s/h) with a water thickness of 15 cm (16,800 m³/h) compared to the control version with 20 cm (19,950 m³/h) saved 3150 m³/h of water per hectare, and in return 7120, A profit of 0 thousand soums was obtained and 3.8 s/h of additional rice was harvested, and 37.0 percent profitability was achieved.

When the evening rice variety "Lazurniy" (77.5 s/h) was cared for when the water thickness was 15 cm (18,500 m³/h), compared to the control option with 20 cm (21,500 m³/h), 4.1 centners of additional rice was obtained per hectare. 3000 m³/h water saved. 7284.2 thousand soums/h profit was obtained in exchange for saving water consumption, and the level of profitability was 37.4 percent.

When the evening "Independence" variety of rice (73.2 s/h) is maintained and the water thickness is 15 cm (19050 m³/h), compared to the control 20 cm (21500 m³/h) option, 2450 m³/h water is saved per hectare, in which 4.09 s/h, an additional rice crop was grown and 7255.8 thousand soums profit was obtained due to saving water consumption, and the rate of profitability was 42.2 percent.

"Conditions and methods of conducting the research" describes the soil and climatic conditions of the place where the research was conducted, the methods of conducting the research, and the agrotechnical measures used in the field experiments. Scientific researches were carried out in the experimental fields of the Rice Research Institute based on the approved program. In the research, early-early "Guljahan", mid-early "Iskandar", "Ilgor" late-early, "UzROS-7/13", "Independence", "Lazurniy" varieties of rice were carried out in 4 returns at a water depth of 5, 10, 15, 20 cm. Field experiments consist of 24 variants, length 20 m, width 2.8 m, and surface area 56 m², so the area of the entire layer is 56 m² x 24 = 1346 m², and together with the protection areas, it is 1500 m². placed.

The driving layer of the soil of the experimental area (at 0-30 cm) has a physical clay content of 50.1% and a pH of 7.15. It was determined that humus-1.92%, nitrogen-22.31 mg/kg, phosphorus-59.2 mg/kg, and potassium content is -158 mg/kg in the driving layer of the soil.

"Effect of different water thicknesses on duration of developmental phases and growth period of rice cultivars". In particular, based on this data (Table 1), the difference between the options during the period of accumulation was 4.6 cm, and the difference between the first and fourth options was 2.1 cm. By the time of tuber growth, the difference in the height of rice was clearly visible, the difference between the first and fourth options (5-20 cm) was 6.5 cm, and the difference between the first and third options (5-15 cm) was 7.7 cm.

It was found that the difference between the variants decreases even more during wax ripening. It was observed that the difference between the first and fourth options is 3 cm, and the difference between the first and third options (5-15 cm) is 6 cm. Even in the period of full ripening, the regularity of the period of wax ripening was almost preserved, it was observed that the difference between the first and fourth options was 1.3 cm, and the difference between the first and third options (5-15 cm) was 2.3 cm. In "Guljahan" variety, rapid growth between growth periods was observed, mainly in the periods of budding and wax ripening (daily growth of 1.2-1.3 cm). The height growth rate in the growth periods of the "Ilgor" variety was measured ten days after the full germination period and, like the result observed in the "Guljakhan" variety, the difference between the varieties of the "Ilgor" variety was almost not noticeable.

It was observed that the difference between the options was 5.6 cm during the period of complete accumulation, and the difference between the first and fourth options was 2.3 cm. In the growth of rice during the tuber period, the difference between the variants was clearly visible. According to it, the difference between the options was 5.5 cm, and the difference between the first and fourth options was 3.4 cm.

In "Iskandar" variety, the difference between the four variants was observed to be 7.3 cm in the period of budding, 7.6 cm in the tuber period, 7.3 cm in the wax ripening period, and 4.5 cm in the period of full ripening. In "Iskandar" variety, rapid growth of the plant was observed between growth periods, mainly during the periods of budding and wax ripening (daily growth of 1.1-1.3 cm). In the "Lazurniy" variety, by the time of full flowering, the difference between the options was 7.9 cm, and the difference between the first and fourth options was 1.3 cm. The difference between the variants was clearly visible in the height growth of rice by the time of tillering. The difference between the first and fourth options (5-20 cm) was 4 cm, the difference between the first and third options (5-15 cm) was 6 cm.

It was observed that the growth of rice continued during wax ripening and full ripening periods. It was determined that the daily growth rate decreased compared to the period of accumulation and tuberization. It was observed that the influence of water thickness on the growth of "Independence" and "UzROS-7/13" varieties is lower compared to other studied varieties, especially the water resistance of the "Independence" variety. In the

"Guljahan" and "Iskander" varieties, the difference between the variants (5-15 cm) was 7.7-7.6 cm, while in the "Independence" and "UzROS-7/13" varieties, the difference between the first and third variants was 4. It was observed that it was 9- 6.3 cm.

"Rice yield and quality parameters". It is stated that the productivity of early-early "Guljahan", mid-early "Ilgor" and "Iskandar" varieties of rice is calculated only on the basis of the harvest from productive stems and grains in the furrow. In general, it was determined that the difference between the options in terms of the number of grains in the rumen and the weight of the grains was almost insignificant.

However, there is a large variation in the number of grains in a furrow among the varieties, the number of complete grains in one furrow is 154 in the "Guljahan" variety, 162 in the "Ilgor" variety, 168 in the "Iskander" variety, 166 in the "Lazurni" variety, 215 in the "Mustaqilik" variety and "UzROS- 7/13" was found to be 125. One of the main factors determining the productivity is the weight of 1000 grains, and the difference between the variants in all studied varieties was on average 0.1-0.3 g.

Table 1
Length of growing season in rice varieties, in days

Option	Growth period, day				
	Germination	Congestion	Tubing	Wax ripening	Fully ripening
Guljahan variety					
5 cm	13	54	93	110	123
10 cm	14	55	98	112	122
15 cm	15	58	100	116	126
20 cm	14	56	99	113	125
Ilgor variety					
5 cm	13	47	95	110	118
10 cm	14	48	96	110	120
15 cm	15	53	100	115	124
20 cm	14	50	98	113	122
Iskander variety					
5 cm	13	56	99	114	124
10 cm	14	60	103	118	125
15 cm	15	63	106	121	129
20 cm	14	60	103	118	126
Lazurniy variety					
5 cm	13	52	98	110	118
10 cm	14	53	90	112	120
15 cm	15	60	103	116	124
20 cm	14	54	100	114	122
Mustaqillik variety					
5 cm	13	64	106	122	131
10 cm	14	67	109	124	133
15 cm	15	69	111	126	137
20 cm	14	66	108	124	134
Uz-Ros 7-13 variety					
5 cm	13	64	107	122	130
10 cm	14	67	109	124	132
15 cm	15	70	113	127	134
20 cm	14	68	110	126	131

According to the results of the conducted research and experiment, the productivity of varieties under the influence of different water thicknesses is almost the same, and the difference between the fourth variants of "Guljahan" 10-20 cm is 2.3 s/h, and the difference between 10 and 15 cm thicknesses is 0.8 s/h. (Fig. 1).

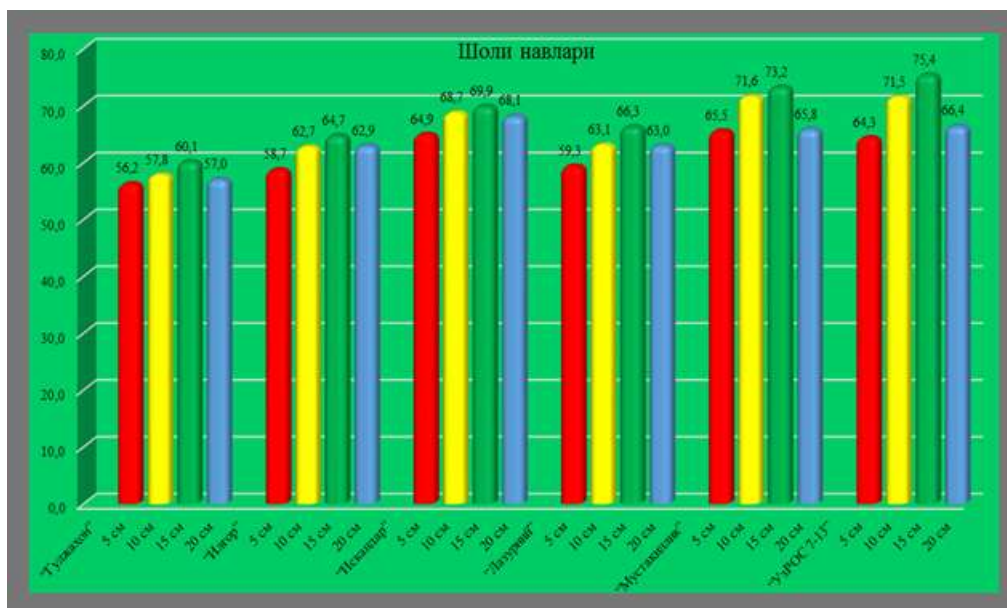


Figure 1. Rice of different water thicknesses impact on productivity, s/h.

In "Ilgor" and "Iskander" varieties, the above law is preserved, and high productivity is recorded in the fourth variant. In our experiment, compared to the recommended water thickness of 10 cm for all varieties, a higher yield of 2.0 s/h was recorded in the fourth option. In our research, the effect of different water thicknesses on the productive characteristics of rice varieties was observed. The highest result was observed in the "Independence" variety of rice. The number of whole grains in the furrow was 195 pieces (15 cm), 1000 pieces, grain weight was 34.8 g (15 cm). 7 (15 cm) 1 m², the number of seeds before harvesting is 195 grains (15 cm), in "Guljahan", "Ilgor" varieties, the number of productive stems is 294 grains (15 cm), in the "Iskander" variety, the weight of the furrow is 3.2 g (15 cm), "Iskandar", "Lazurniy", "UzROS-7/13" and "Independence" varieties were found to be high.

"Effect of different water thicknesses on quality parameters of rice cultivars". Information on the content of amylase, starch and protein in rice. In our experiments (Table 2), the effect of rice care on amylase, starch and protein content in different water thicknesses (5, 10, 15 and 20 cm) was determined. - 68.9%, protein - 8.6%, and amylase - 18.9%, starch - 69.3%, protein - 9.0% in 10 cm water thickness. At a water depth of 15 cm, amylase - 19.0%, starch - 69.0%, protein - 9.3%, and at a water depth of 20 cm, amylase - 19.0%, starch - 69.1%, protein - 9.6%. It was observed that the content of amylase was 17.9%, starch - 69.2%, and protein - 8.9% when the medium-ripe "Ilgor" variety of rice was maintained in a water thickness of 5 cm.

At a water depth of 10 cm, amylase was 19.0%, starch - 69.6%, protein - 9.3%, and at a water depth of 15 cm, amylase was 19.2%, starch - 70.4%, protein 9.6% and amylase was 19.1%, starch - 69.8%, and protein 9.6% at a water depth of 20 cm. At a water thickness of 5 cm, amylase, starch, and protein were 20.2%, 69.8%, and 9.6%, respectively, in the late-ripening "Independence" variety of rice.

Table 2
 Amount of amylase, starch and protein in rice grain, %

Varieties	Amounts relative to water thickness %											
	5 cm			10 cm			15 cm			20 cm		
	Amylase	Strach	Protein	Amylase	Strach	Protein	Amylase	Strach	Protein	Amylase	Strach	Protein
Guljahan	17,9	68,9	8,6	18,9	69,3	9,0	19,0	69,0	9,3	19,0	69,1	9,6
Ilgor	17,9	69,2	8,9	19,0	69,6	9,3	19,2	70,4	9,6	19,1	69,8	9,6
Iskander	18,6	69,9	9,9	19,2	70,8	9,9	19,1	69,8	9,9	19,1	71,0	9,6

Lazurniy	20,9	68,6	10,6	21,4	70,3	11,2	21,4	69,9	11,2	21,3	70,0	11,2
Mustaqillik	20,2	69,8	9,6	20,9	70,9	9,9	21,0	70,9	10,3	20,9	70,9	9,9
UzRos 7/13	20,0	69,8	9,2	20,7	70,3	9,6	20,6	70,8	9,4	20,5	70,3	9,3

The amount of amylase in rice of medium-ripe "Iskandar" variety was 18.6%, starch - 69.9%, protein - 9.9%. When the water thickness was 10 cm, the amount of amylase was -19.2%, starch -70.8%, protein - 9.9%, while at the water thickness of 15 cm, amylase - 19.1%, starch - 69.8%, protein -9.9% and amylase - 19.1%, starch - 71.0%, protein - 9.6% at a water thickness of 20 cm. When the late-ripening rice variety "Lazurniy" was grown in 5 cm of water, the amount of amylase in rice was 20.9%, starch - 68.6%, and protein - 10.6%. When the water thickness was 10 cm, the amount of amylase was 21.4%, starch - 70.3%, and protein - 11.2%. When the water thickness is 15 cm, the amount of amylase is 21.4%, starch is 69.9%, protein is 11.2%, and when the water thickness is 20 cm, amylase is 21.3%, starch is 70.0%, and protein is 11.2%. organized (Table 2).

In the experiment, the amylase content of rice is 20.0%, starch is 69.8%, protein is 9.2%, and the amount of amylase is 20.7% when the water thickness is 10 cm. %, starch - 70.3%, protein - 9.6%, amylase amount - 20.6%, starch - 70.8%, protein - 9.4%, and amylase - 20 in 20 cm water thickness .5%, starch - 70.3%, protein -9.3%.

In the research, the amount of protein in the grain of late-season rice "Mustaqilik" is -10, compared to all studied rice varieties of rice "Guljahan", "Ilg'or", "Iskander", "Lazurniy", "Mustaqilik" "UzROS-7/13" at different water thicknesses. 3%, starch -70.9%, amylase -21.0%. The amylase, starch, and protein content of Ortapishar "Ilg'or" rice variety was 19.2%, 70.4%, and 9.6% when the water depth was 15 cm. Among the rice varieties, it was observed that the amylase, starch and protein content of late-season "Lazurniy" variety was 21.4, 69.9 and 11.2% higher than other varieties.

"Effect of economic performance of different water thicknesses on rice cultivars".The factors used in our scientific experiments and the economic effectiveness of agrotechnical measures in the care of rice varieties are presented. The average yield of "Guljahan" variety of rice in 5, 10 and 15 cm water thickness is 56.2-60.1 tons/ha and the total income is 11.1-11.9 million, respectively. soums, including net income of 3.9-4.5 mln. soums, and the total cost is 7.2-7.4 mln. soums or the level of profitability was 54.4-60.6% according to the options.

Importantly, depending on the condition of the water thicknesses, it was observed that the yield was at a lower or higher level.

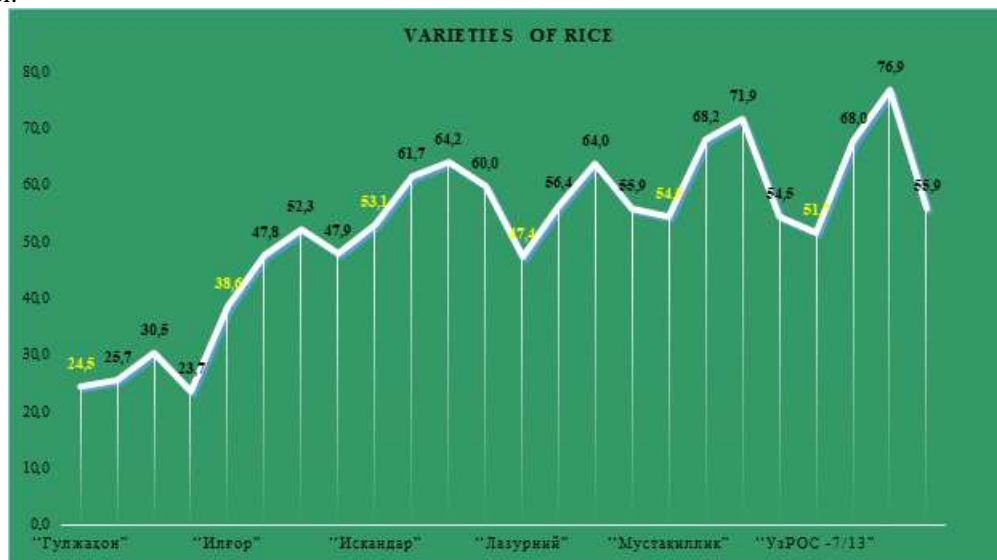


Figure 2. Effect of different water thicknesses on the yield level in the cultivation of rice cultivars

The average productivity of the "Lazurniy" variety at 5, 10 and 15 cm water thickness is 59.3; Total expenses are 15.7 and 15.7 million soums, respectively, in the case of 63.0 and 66.2 s/h, the amount of net income is 7.9; 9.4 and 10.6 million soums in terms of profitability, 50.1; If it was 59.5 and 67.6%, these indicators are 65.5, respectively, average yield in "Independence" variety; 71.6 and 73.2 s/h, total costs 13.9 million soums, net profit 7.0–9.5 million soums. soums, and the level of profitability was found to be 50.7 to 68.4%.

Conclusions and Suggestions

1. As a result of scientific research, "Guljahan" (98.1%) and "Iskandar" (98.5%) varieties achieved the highest indicators of rice seed germination.
2. There was no significant difference between cultivars in terms of field fertility, while fertility decreased with increasing water thickness.

3. The highest fertility rate of rice varieties at different water thicknesses is 61.0% in the "Independence" variety with a water thickness of 5 cm.
4. At 10 cm, 51.4% of "Independence" and 51.6% of "Ilghor" varieties, 40.6% of "Independence" at 15 cm, and 39.8% of "Independence" at 20 cm were found.
5. Number of productive stalks by rice varieties (units) "Guljahan"
6. It is observed that in 5 cm water thickness (285 units) it is higher in 10 cm, (282 units), 15 cm (298 units) and 20 cm (276 units) options, in which the optimal indicator is determined in 15 cm water thickness, and the level of preservation in 15 cm water thickness (63.9%), it was observed in the "Lazurniy" variety, which showed a high result in terms of the accumulation coefficient (1.52%). The highest indicator of the number of plants before harvesting was 196 bushes per 1 m² in the "Iskander" variety.
7. The growth and development of rice varieties at different water thicknesses and the effect on the leaf surface were observed, and it was found that the highest leaf surface was 385.0 cm² in the "Lazurniy" and "Independence" varieties at a water thickness of 15 cm.
8. When the water thickness exceeds 20 cm, the number of empty grains in the furrow of the studied varieties increases, and the tendency of the stem to lie down leads to a decrease in productivity.
9. In rice, the highest result in terms of biometric indicators is the number of grains in the furrow of the "Independence" variety is 195 grains (15 cm), the weight of 1000 grains is 34.8 g, the degree of agglomeration is 1.5 grains, and the degree of agglomeration is 1.7 (15 cm) in the "Lazurniy" variety) and it was found that the number of plants per 1 m² before harvest was 155.
10. With the increase of different water thicknesses, conditioned seeds and rice yield increased in rice varieties, in "Independence" variety 5 cm (70.1%) 10 cm (79.8%) 15 cm (80.1%) 20 cm (80.0%)) conditioning seeds and rice output 70.1, 75.2; 72.1; Making 72.0%, it was determined that the most optimal option is a water thickness of 15 cm.
11. During the growth and development of rice varieties, it was noted that the quality indicators in rice increased due to the effect of water thickness, and the highest result was 21.4% of amylase in the "Lazurniy" rice variety at a water thickness of 15 cm; starch was 69.9% and protein was 11.2%. It was found that with the increase in water thickness, the conditioned output of all studied varieties was also higher.
12. It was found that almost all varieties (60.1; 64.7; 69.9; 66.2; 73.2; 75.3 s/h) of rice yield at a water depth of 15 cm were high. Accordingly, the productivity of "Independence" (73.2 s/h) and "UzROS-7/13" (75.3 s/h) varieties and the profitability level were 68.4 and 68.2%, respectively.
13. In order to grow a high-quality rice crop and achieve high economic efficiency in the conditions of meadow-swamp soils of the Tashkent region, it is recommended to plant rice varieties "Independence", "UzROS 7/13" and water them with a depth of 15 cm.

References

1. Khojamkulova.Yu.J., Khodjakulov.T. Irrigation mode and yield of rice varieties. "Agriculture of Uzbekistan" magazine, Tashkent, 2018. #7. Page 28. (06.00.00.№1).Khojamkulova.Yu.J., Khodjakulov.T. Irrigation mode and yield of rice varieties. "Agriculture of Uzbekistan" magazine, Tashkent, 2018. #7. Page 28. (06.00.00.№1).
2. Khojamkulova.Yu.J., Ergashev.M.A., Abibullaev.A.I. Effect of water level on the growth and development of rice varieties. "Agriculture and water management of Uzbekistan" magazine. Tashkent, 2019. #4. 39 pages. (06.00.00.№1)
3. Khojamkulova Yu. J. The effect of different water thicknesses on the growth rate of rice (oriza sativa). Actual Problems of Modern Science®" Russia, No. 4 (121) p. 94-97. 2021 Issn 1680-2721. (06.00.00. No. 5).
4. Khojamkulova Yul.J. In rice (oriza sativa) varieties the plant grows at different water thicknesses, water consumption during development periods, m3. Kyiv, Ukraine International Scientific and Practical Conference Remote Opportunities and Achievements of Science (May-June, 2021) tt Kyiv 2021. p- 6-8.
5. Khojamkulova.Yu.J., Khodjakulov.T.H., Sattarov.M.A., Ergashev.M.A., B.G. Kadirov. Recommendations on the efficient use of water in rice cultivation, Tashkent, "Innovative Development Publishing House", 2021. Printing plate 2.0. 32 pages