

PRODUCTIVITY AND ECONOMIC EFFICIENCY OF POTATO VARIETY-SAMPLES

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ABSTRACT

The research provides an economic analysis of the most profitable varieties of potatoes.

INTRODUCTION

A number of laws have been implemented to develop the industry, including; Resolution of the President of the Republic of Uzbekistan No. PQ-4704 of May 6, 2020 "On measures to expand potato growing and further development of seed production in the country" to increase consumption and production of seed potatoes in the country. Particular attention is paid to the creation of value chains in the industry, meeting domestic market demand, expanding its exports, cultivating super-elite and elite generations of seed potatoes in 50% of arable land, the widespread introduction of advanced technologies, innovative solutions and scientific advances. Potatoes are the main food of our people throughout the year, and they contain all the nutrients necessary for the human body - starch, protein, sugar, fiber, various vitamins and minerals. Potatoes are one of the most important crops in the world after wheat, rice and corn. Potatoes are the second largest crop by area. That is why it is rightly called the "second bread." The finished biochemical composition consists of 75% water and 25% dry matter. 70-80% of the dry matter is starch, the content of which is 13-20%, protein - 2-3%, fiber - 1%, fat - 0.2-0.3%, sugar - 1%, ash - 0.8%-1.0%. It is also a source of vitamins (S, B1, B3, PP, K and carotenoids) and mineral salts, useful elements.

Especially young, unripe tubers store up to 40 mg of vitamin S or ascorbic acid. The amount of vitamin S decreases during ripening and storage. Mineral elements (calcium, iron, iodine, sulfur, phosphorus, potassium, etc.) play an important role in keeping the bones and muscles of a young person strong. Potato protein contains a lot of essential amino acids (lysine, leucine, valine, tyrosine, isoleucine, methionine, tryptophan) and is more biologically important than other plant proteins. If egg protein is



100% absorbed by the human body, 64% of wheat protein and 85% of potato protein are absorbed. It was found that the end of the potato contains 26 elements of the Mendeleev periodic table.

Therefore, fried potatoes in vegetable oil, according to medical scientists, increase the body's resistance to heat. It is used in more than 500 dishes and is the second bread [4]. Productivity depends on crop variety, soil and climatic conditions, place of cultivation, planting scheme, irrigation scheme and technology. Each new variety or technology was first evaluated by its effectiveness. Productivity and crop quality are the basis of this effect. Potato yield is determined by the number and mass of tubers in each tuber [1]. Ecological and agro-technological conditions have a significant impact on seed quality. Therefore, it should never be forgotten that quality seeds are formed only in productive plants [1].

When we analyzed the yield variance from the results of our research in 2021, we obtained the following. (Yield in Table 1 was calculated in full according to the planting scheme).

Table 1 Analysis of yield variance of potato varieties (2021year)

Variants	By iterations (X)				V-sum	Average
	I	II	III	IV		
1. Sante (St.)	31.6	32.4	32	31.9	127.9	31.9
2. Arizona	50.2	51.5	51.4	50.6	203.7	50.9
3. Evolution	49.2	47.2	45.6	45	187	46.7
4. Picasso	34.6	35.8	34.8	35.5	140.7	35.1
5. Bogizagon	41.7	40.	41.	41.7	164.4	40.9
Sum, R	207.3	206.9	204.8	204.7	$\Sigma X = 823.2$	41.1

An important task of variance analysis is to assess the reason for the difference between group averages. At the same time, all agro-technological processes were carried out in the same way in the local and imported varieties, as in Table 1, in the variants and iterations. Low yields compared to other varieties are variant 1 in the Sante variety (31.6; 32.4; 32.0; 31.9 in repetitions) and 4 in the Picasso variety (34.6; 35.1; 34.8; 35.5;) was observed. The highest yields were in Arizona (203.7s), Evolution (187s) and Bogizagon (163.9s).

It is known that during the storage of potatoes, they are exposed to various fungal and bacterial diseases, which lead to many deaths. These diseases are especially dangerous when storing seed potatoes in piles, sometimes causing the whole potato to rot. Wet rot is especially

dangerous and widespread among rot. In our experiment, both types of rot were considered separately. Among the studied varieties, both rot-resistant varieties were observed in Bogizagon variety. For example; Wet rot was only 0.4% in the Bogizagon variety, while dry rot was not observed.

Similarly, the Picasso variety had a wet rot of 1.2% and a dry rot of 0.5%, while the Arizona variety had a wet rot of 1.4% and a dry rot of 1.7%. Sante and Evolution varieties have a rate of 1.2-0.5% and 0.6-1.8%, respectively. Seed stems of the studied varieties were stored for 6 months. Seeds of Bogizagon (92.8%) and Picasso (90.0%) were stored for more than 90%. In the standard Sante, Arizona, and Evolution varieties, the rate was 89.2-88.0%.

Table 2 Preservation indicators of studied potato varieties (2021 y)

№	Varieties	Natural fading%	Tumor formation, %	By illness		total loss	Consumption of healthy standard ends after storage, %
				wet rot %	dry rot, %		
1	Sante (st)	7.7	1,2	0,4	0,7	11,0	90.0
2	Arizona	7.7	1,2	1,4	1,7	9,0	88.0
3	Evolution	8.6	0,8	0,6	1,8	10,8	88,2
4	Picasso	7,6	1,5	1,2	0,5	10,8	89,2
5	Bogizagon	5.6	0,8	0,4	0	7,2	92.8

When the study is evaluated as an economic efficiency indicator, it becomes clear that it is an effective variety or measure. Therefore, we set ourselves the goal of determining the cost-effectiveness of growing potato varieties based on our field experiments. In practice, all work were done in time: land preparation, planting, care, digging, etc. The following indicators were used to determine the effectiveness.

When we analyzed the data in Table 3, it became clear that the biggest net income among the studied varieties was obtained from the cultivation of seeds of the Arizona (84,750,000 soums) Picasso variety (83050,000 soums) and the local Bogizagon (76,600,000 soums) variety. When the same varieties are planted, the highest is 202.6%, 196.6% and 173.5%, respectively.

It was also found that planting Evolution and Picasso varieties can provide high economic efficiency.

Table 3 Economic efficiency of growing different varieties of potatoes (2021)

Nav nomi	Total cost per hectare, in 1000 soums	Average yield per hectare, s / ha	Cost of 1 centner of potatoes, soums	Selling price of 1 centner of potatoes, soums	The cost of potatoes sold per hectare in 1000 soums	Net profit from 1 hectare, in 1000 soums	Profitability rate, %
Sante (st)	28000,0	303,5	90614	250,000	75875,000	47875,000	170,9
Arizona	28000,0	339,0	82595	250,000	84750,000	56750,000	202,6
Evolution	28000,0	332,2	84337	250,000	83050,000	55050,000	196,6
Picasso	28000,0	275,3	101818	250,000	68825,000	40825,000	145,8
Bogizagon	28000,0	306,4	91383	250,000	76600,000	48600,000	173,5

CONCLUSION

The study found that the Arizona and Evolution varieties had the highest net returns (56,750,000 and 55050,000) due to their high yields. This, in turn, led to high levels of profitability (202.6 and 196.6%). When we determined the degree of preservation of the specimens, wetting by cultivars was 1.2% in the Picasso variety and 1.7% in the Arizona variety, with the highest losses being observed in the Evolutionary and Picasso varieties at 10.8%. The conservation rate and yield of sown stalks in the bozoga variety was found to be 92.8%, which is higher than in other studied varieties.

As a result of experiments, we recommend the local Bogizagon variety in terms of conservation, and Arizona and Evolyushen varieties in terms of high yields.

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