

THE EFFECT OF PLANTING SCHEME AND FEEDING AREA ON THE YIELD OF EARLY POTATOES

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ABSTRACT:

In this article the impact of the planting scheme on the growth and development of early maturing varieties of potatoes Marfona are describes. The planting scheme has a positive effect on the viability of seedlings and their resistance to various diseases.

KEYWORDS: potato, tuber, weight, planting scheme, seedling, net yield, commodity quality.

INTRODUCTION:

The Presidential Decree of the President of the Republic of Uzbekistan dated March 14, 2019 No PP-4239 "On measures to develop agricultural cooperation in the field of fruit and vegetable growing" is signed. Based on the above decision, it is necessary to meet the population's demand for potatoes, plant varieties that are resistant to diseases and pests, easy to send and store in promising remote areas, especially to get high yields, quality, marketability.

Increasing potato cultivation can make a significant contribution to providing the population with food, including protein. Potato chips contain 75% water and 25% dry matter. 70-80% of the dry matter is starch, in the end its content is 13-20%, protein 2-3%, klechatka 1%, fat 0.2-0.3%, sugar 1%, ash 0.8-1.0%. [3].

It is described that the planting scheme and feeding area can increase the yield of

potatoes by 3.0-3.4 tons and have a positive effect on its quality [1].

Potatoes are of great importance as a food in the national economy. The area under cultivation and the gross yield from it are increasing year by year. In 2018, 97,000 hectares were planted in the country, yielding a total of 2.4 million tons.

One of the resources to further increase the yield of potatoes is the planting of the cultivar in the feeding area at the level of biological demand. There is insufficient scientific evidence on the scheme of planting early and early-middle potato varieties included in the state register of 2018 in the feeding area.

METHODOLOGY:

Based on the above information, we have selected the Marfona (Dutch) potato variety at a distance of 70 cm in 5 different distances: 70x20, 25, 30 (naz), 35 and 40 cm in February at the State Unitary Enterprise "Center for Innovative Developments and Consulting in Agriculture" of the Andijan branch of Tashkent State Agrarian University. planting experiments were conducted in the third decade.

The experimental method was placed in 4 repetitions with a length of 10 m according to the current method manual [2]. Other phenological, biometric observations made at the experimental site yielded the following results.

RESULTS:

Planting scheme-feeding area did not significantly affect the timing of the first (10%) and complete (75%) germination of seed tubers, as well as the amount of error. However, during the growth of seedlings had an impact on their viability. That is, 4.2% of seedlings grown in the 70x20 cm (0.14 m²) scheme were found to die during the growing season. In this variant, the number of dead seedlings was found to be 50.0% higher than the number of seedlings killed during the growing season in the control planting scheme. The mortality of seedlings grown in the second, fourth, and fifth feeding areas of the experiment did not exceed 1.8–1.9%.

The planting scheme had a different effect on the length of the main stem and the level of leaves formed in each bush and hectare. Among the tested planting schemes, the longest (74.9 cm) stems compared to the control planting scheme plants were formed in plants grown in a feeding area of 0.14 m².

However, 70x35 cm, (0.44 dm²) and 70x40 cm schemes (0.46 dm²) plants dominated the plants in other tested schemes in terms of forming a large leaf surface in each bush. It should be noted that the length of the stem of the last two schemes plants was short

(55.1; 50.8 cm), but caused an increase in the leaf surface in the bush due to the fact that the buds formed a lot of branches.

The tested planting schemes also had a certain reduction in the susceptibility of potatoes to various viral diseases. 33.9% of seedlings grown in 0.14 m² feeding area were infected with viral diseases. Of these, 18.4% were leaf blight, 9.8% were wrinkled mosaics, 5.2% were road mosaics and other diseases. The rate of infestation of seedlings in this planting scheme was 12.4% higher than the incidence of plants in the control planting scheme. This is due to the lack of nutrients in the soil and insufficient use of solar energy due to the thick growth of plants. Among the studied planting schemes, seedlings grown in a feeding area of 0.175 m² were 8.0% less affected by rickets than control variant plants.

Planting scheme-feeding area affected not only the growth of the potato plant surface area and various lesions with various diseases, but also its yield and yield quality-Table 1. The potato planting scheme affected the consumption of seed tubers per hectare, the total yield per hectare and net yield, the net yield, and the average weight of commodity tubers (Table 1).

Table 1. The effect of planting scheme on the yield and quality of early potatoes

Planting scheme	Number of tubers planted per hectare, thousand	Seed consumption, t / ha	Actual number of plants per hectare, thousand bushes	Total yield		Yield		Commodity yield,%	Average weight of marketable nodes, g	Amount of non-commodity yield,%
				In 1 bush, g	In 1 ha, t	t/ha	In relation to control, %			
70x20 cm	71428	4,5	64928	430	27,9	23,4	100,5	86,7	72,0	13,7
70x25 cm	57143	3,71	52743	570	30,1	26,4	126,2	95,9	98,1	4,1
70x30 (the)	47620	3,1	44144	590	26,4	23,3	100	97,0	101,4	3,0
70x35	40816	2,65	37632	610	22,9	20,3	87,2	98,1	110,1	1,9
70x40 cm	35714	2,3	33000	645	21,3	19,0	81,6	98,9	112,1	1,0

Among the tested sowing schemes, the largest number of seeds (4.5 t / ha) compared to the control (70x30 cm) was sown in the first variant of the experiment, and its amount was found to be 45.2% higher than that planted in the 70x30 cm scheme.

Seed consumption in the last two schemes of the experiment (70x35, 70x40 cm) was found to be 0.8 ... 2.2 t less than in the control and the first (70x20 cm) sowing scheme.

The potato planting scheme had an impact on the consumption of seed tubers per hectare, the total yield per hectare and per hectare, the net yield, and the average weight of commodity tubers (Table 1).

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The small or large size of the feeding area had a different effect on the yield and its quality, which is formed in each bush and hectare. In the first planting scheme (70x20 cm) seedlings grown on average 430 g per bush. and 27.9 tons per hectare. It was found that 86.7% of the yield of this variant is commodity tubers, and 13.7% is non-commodity. At the same time, the average weight of the commodity tubers of this variant was 72.0 g. The average weight of the commodity nodes of this variant was 29.4 g less than the control. Due to the total and net yield of seedlings grown in the feeding area of 0.14 m² and the number of commercial tubers and their average weight, significantly lower than the control, in our opinion, does not fully use light energy and insufficient moisture and

nutrients in the soil. Among the tested planting schemes, seedlings grown in the 70x25 cm scheme of the experiment yielded the highest yield per hectare (26.4 t / ha, net-23.3 t / ha) compared to the control. Experiments have shown that the total and net yield of seedlings of this variant is 26.2% higher than the yield obtained from the controlled feeding area (0.21 m²).

The yield of seedlings collected from seeds sown in the 70x35 and 70x40 cm schemes of the experiment was 20 and 55 g higher than the yield obtained from each tuber of the control sowing scheme. However, the amount of commodity yield (98.1; 98.9%) and the average weight of commodity tubers were 110.1 and 112.1 g.

It should be noted that the gross and net yield per hectare depends not only on the yield formed in each bush, but also on the number of plants per hectare. Therefore, the gross yield from the last two variants of the experiment was 12.8 and 18.6 percent lower than the yield from the control variant.

CONCLUSION:

Early planting of "Marfona" type early varieties of potato in the 70x25 cm scheme-0.175 m² feeding area for high and high-yield yields ensures high and high-quality yields, forming seedlings resistant to various diseases of the disease.

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