

DETERMINING THE POSSIBLE SOWING TIMES FOR MORNING PUMPKIN GROWING

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ABSTRACT

With the world's growing population and limited land areas, agricultural officials will have a major role to play in ensuring food security in the future. Increasing the volume of agricultural products requires increasing the yield per hectare, not by increasing the area under crops, but by increasing the yield from two to three times a year. It is known that the sustainable development of any country depends in many respects on the fact that the population of the country is provided with food. In our country, there are sufficient conditions for the cultivation of abundant and high-quality, low-cost vegetables and melons. The contribution of pumpkin plant in these products is incomparable.

KEYWORDS: *Eggplant, Variety, Seed, Hybrid, Sample, Thermostat, Temperature, Forgetfulness, Tumor, Heat, Drought.*

INTRODUCTION

In addition to its nutritional value, pumpkin product contains many valuable trace elements and has a positive effect on the human body. It contains vitamins A, C, E, K, T, PP, as well as vitamins B1, B2, B5 and B6, which improve digestion and strengthen immunity. Pumpkin contains beta-carotene, which is converted into vitamin A in the body and improves vision, as well as helps to better absorb light. Pumpkin seeds have a healing effect on heart problems, it lowers blood pressure and regulates blood sugar levels. It also dilates blood vessels and improves blood circulation, increases the amount of hemoglobin by removing toxins from the body, and normalizes heart function by improving the metabolic process. Pumpkin is a leader in medicinal products, the fleshy part of the pumpkin is useful in the treatment of asthma, anemia, varicose veins, pneumonia and colds. Pumpkin seed oil is rich in omega-3 fatty acids, potassium, calcium, magnesium and iron, and is effective in preventing many serious diseases.

According to the latest data from FAOSTAT (2019), world production of pumpkin fruits is 246 million tons. Leading countries in pumpkin production are China (7.1 million tons) and India (4.9 million tons), Russia (0.9-1.1 million tons) and the third largest producer. The average yield of squash in the world is 200 ts / ha. Russia ranks 11th in Europe with an average yield of 200-210 ts / ha. The Netherlands (650 ts / ha), Spain (more than 480 ts / ha), Austria, Finland and Poland (over 300 ts / ha) are the top pumpkin growers.

One of the factors that ensures the early ripening of vegetables, melons, and high yields is the optimal planting times of the plant. In a set of agro-technical measures aimed at obtaining high and guaranteed yields, it is very important to determine the optimal sowing dates for seeds. Seeds are sown at different times, depending on the biological characteristics of melons, primarily on temperature and duration of the growing season, soil, climate, weather conditions, as well as the production plan and the purpose for which the product is grown. In addition, the seeds can be sown at different times to prolong the period of consumption of the product.

For many years, a number of researchers have studied the biological properties of pumpkin vegetable crops, their cultivation technologies, varieties in the conditions of our republic [2; 4; 6; 7;], in the CIS countries [3; 8; 9;] and expressed different opinions. The weather and soil climate of the country is changing from year to year. This requires our scientists to conduct research on the selection, creation and improvement of technologies for the cultivation of new vegetables and melons in accordance with the climatic conditions of the country, to determine the optimal planting dates, increase productivity and meet the population's demand for vegetables and melons throughout the year.

Research style and methods

In the study to determine the most optimal planting dates for squash for early maturation, April 4: 01-; 10-; (Control variant 20) and on the 30th experiments were carried out on local varieties Shirintoy and Palov kadi. Tashkent region was selected on April 20 as a control, taking into account climatic conditions. Egat length 12 m, planting scheme (280 + 70) / 2 × 70 cm. Each option was placed in 3 returns. Each option area is 40 m². The total area of the experiment is 960 m². [1; 5;].

Research results

At different times, from the date of sowing the seeds of the Shirintoy variety of squash to the emergence of the paternal flowers, the control variant of the Shirintoy variety (April 20) required an average of 62 days for plants and 68 days for the emergence of maternal flowers. It took the plants 74 days to flower and 112 days to bear fruit. In the variant planted on April 10, the plants required 61 days shorter paternal flowers, 66 days maternal flower emergence, 72 days fruit set and 110 days before fruit ripening compared to plants planted at other times. Experiments showed that in the fourth (April 30) term, the late planted variant of the sweet variety had 63 days later than the control variant (April 20), 69 days for the mother flowers, 75 days for fruiting and 115 days for the fruits to ripen.

In the rice kadi variety control (April 20) variant, the days from sowing the seeds to the emergence of the paternal flowers were 57 days, and the emergence of the maternal flowers was 62 days. It took 74 days from germination to flowering to fruiting and 101 days to the biological ripening of the first fruits. In variants planted 10–20 days earlier than the control variant (April 1;

April 10), the emergence of paternal flowers was 56 days shorter than that of the control variant, and the emergence of maternal flowers required 63 days. It took 73 days from the day the plants sprouted, while it took 99 days for the first fruits to reach biological maturity. In the fourth variant (April 30), which was planted the latest, the control period was lower than in 59 days, and the mother flowers bloomed in 59 days. In this variant, the time from germination to fruiting was 76 days and the biological ripening of the first fruits was 103 days. At different times, biometric measurements were made on the length of the main stem, number of side branches, number of leaves and leaf surface of a single plant of squash cultivar samples (Table 1).

TABLE 1 THE LENGTH OF THE MAIN STEM, NUMBER OF SIDE BRANCHES, NUMBER OF LEAVES AND LEAF SURFACE (2020-2021) OF PUMPKIN VARIETIES PLANTED AT DIFFERENT TIMES IN THE PLANT

Planting terms	The length of the main stem		Number of side branches		The number of leaves in a bush		Leaf size, cm	
	cm	relative to control, %	thing	relative to control, %	thing	relative to control, %	height	width
Shirintoy								
April 1	465	104,4	6,2	101,6	527	100,7	15,1	19,2
April 10	481	108,0	6,4	104,9	536	102,4	15,3	19,6
April 20 (control)	445	100,0	6,1	100,0	523	100,0	15,0	19,5
April 30th	428	96,1	5,8	95,0	519	99,2	14,7	19,1
Rice pudding								
April 1	585	101,0	4,5	104,6	496	101,0	17,0	20,1
April 10	571	98,6	4,1	95,3	481	97,9	16,6	19,5
April 20 (control)	579	100,0	4,3	100,0	491	100,0	16,9	20,0
April 30th	576	99,4	4,2	97,6	486	98,9	16,8	19,8

In the control variant of the Shirintoy variety, the length of the main stem was 445 cm, in the 2nd period the length of the main stem (481 cm) was 108%, and in the 4th period, the opposite (428 cm) was 96.1%. In the control variant of Shirintoy variety, the number of side branches was 6.1. In the variant planted on April 10 (6.4 units), the control variant differed by 104.9%. In the fourth variant, which was planted on April 30 at the latest, the figure was 5.8, down 5 percent.

The number of leaves per bush of the sweet variety (April 20) was 523 in the control variant, compared to 102% in the variant planted 10 days earlier (April 10).

In the control variant of the pilaf kadi variety (April 20), the length of the main stem was 579 cm, while in the 1st variant (585 cm) planted earlier, it was 101 percent. In variant 2, which was planted 10 days earlier than the control variant, the length of the main stem (571 cm) was 98% shorter.

When studying the number of lateral branches of plants in the pilaf kadi variety, the number of lateral branches of control (April 20) variant plants was 4.3, while in Option 1 planted 20 days

earlier it was 4.5, an increase of 4%. In variant 4, planted late (April 30), the opposite (4.1 units) was 3% less. When calculating the number of leaves per plant in the rice paddy variety, the number of leaves per bush plant was 491 in the control (April 20) variant, compared to 496 in the 1st variant planted 20 days earlier. When the Shirintoy variety of squash was planted at different times and the size of the biologically ripe fruit was measured, the control variant planted on April 20 was 25.9 cm long and 11.6 cm wide. In variant 2, planted 10 days later than the control variant, the figure was 26.2 cm; 12.0 cm, which was 0.3 cm longer and 0.4 cm wider than the control variant fruits. In the 4th variant, planted on April 30, the fruit was 25.5 cm long and 10.9 cm wide, which was 3% smaller and 7% wider than the control variant. In the variant planted on April 1, the fruit was 25.9 cm long and 11.0 cm wide, and although the control variant was not much, it was 2-6% smaller, respectively.

When examining the thickness of the flesh of the cut fruit, the control variant was 1.8 cm. The highest rate was 1.9 cm or 105 percent of the 2nd variant planted on April 10. In variant 4, planted on 30 April, the contrast was 1.6 cm, which was 12 per cent lower than in the control variant (88 per cent). Compared to the latest variant planted on April 30, the flesh thickness of the fruits in the variant planted on April 10, 20 days earlier, was 18 percent higher.

In the case of rice kadi, when planted at different times, the length of the fruit in the control variant was 29.8 cm, and the width was 18.1 cm. In variant 1, planted 20 days earlier than the control variant, the figure was 30.1 cm; 18.5 cm, not more than 1-2% higher, and 28 cm in variant 2, planted on April 10; 17.7 cm, was 7% smaller in height and 2% smaller in width. In the variant planted late on April 30, the length of the fruit (28.9 cm) was 4% of the fruit of the control variant, and the width (17.9 cm) was 99%. Fruit length was 104 percent and width was 103.3 percent higher in Option 1 than in April 1, the earliest planted variety, and April 30, a month later (Table 2).

TABLE 2 INDICATORS OF FRUIT LENGTH, WIDTH AND FLESH THICKNESS OF PUMPKIN VARIETIES PLANTED AT DIFFERENT TIMES (2020-2021)

Sowing dates	Biologically ripe fruits					
	length		width		the thickness of the flesh	
	cm	relative to control,%	cm	relative to control,%	cm	relative to control,%
Shirintoy						
April 1	25,6	98	11,0	94	1,7	94
April 10	26,2	101	12,0	103	1,9	105
April 20 (control)	25,9	100	11,6	100	1,8	100
April 30th	25,5	98,4	10,9	93	1,6	88
Rice pudding						
April 1	30,1	101	18,5	102	2,3	115
April 10	28,0	93	17,7	98	1,8	90
April 20 (control)	29,8	100	18,1	100	2,0	100
April 30th	28,9	96	17,9	99	1,9	95

When measuring the thickness of the flesh of ripe fruit kadi planted at different times and cut the ripe fruit (April 20) in the control variant was 2.0 cm, the highest rate was 15% in the fruits of plants planted on April 1 (2.3 cm). was high. In the variant planted on April 10, on the contrary (1.8 cm) was 10% lower. The variant planted late on 30 April was 5 per cent lower, though not more than the control variant. The variant planted on April 1 was found to be 27.7% higher than the variant planted on April 10.

The following results were obtained when the local varieties of squash Shirintoy and Palov kadi were planted in spring on different dates of April (1-10-20-30) and plant growth, development, number of fruits in the bush, weight and yield were determined. Shirintoy was planted on April 20 (control) and the number of fruits per bush was 1.8, with an average weight of 2.1 kg per fruit. The yield from 1 bush was 3.8 kg. Although the number of fruits in the variant planted 10 days late on April 30 did not differ from the control variant, the weight of the fruit was less than 100 grams and the yield per bush was 5.3% lower (Table 3).

TABLE 3 COMMERCIAL FRUIT WEIGHT OF SQUASH VARIETIES PLANTED AT DIFFERENT TIMES AND THE NUMBER OF FRUITS PER PLANT (2020-2021)

Sowing dates	During the ripening of fruits							
	the number of fruits per plant		the average weight of a single fruit		yield from a single plant		Overall productivity	
	дона	%	кг	%	кг	%	т/га	%
Shirintoy								
April 1	1,9	105,5	2,2	104,7	4,2	110,5	34,2	110,3
April 10	2,0	111,1	2,3	109,5	4,6	121,0	37,5	120,9
April 20 (control)	1,8	100,0	2,1	100,0	3,8	100,0	31,0	100,0
April 30th	1,8	100,0	2,0	95,2	3,6	94,7	29,3	94,5
Rice pudding								
April 1	1,6	106,6	3,0	115,3	4,8	123,0	39,1	122,9
April 10	1,5	100,0	2,8	107,6	4,2	107,6	34,2	107,5
April 20 (control)	1,5	100,0	2,6	100,0	3,9	100,0	31,8	100
April 30th	1,4	93,3	2,5	96,1	3,5	89,7	28,5	89,6

In the earliest planted variant on April 1, the number and weight of fruits in the bush were 10.5 percent higher than the control variant, although the yield per bush was 5.5 and 4.7 percent higher, respectively. Option 2, planted 10 days earlier than the control variant, showed a 5.5-11.1% increase in the number of fruits, an average fruit weight of 4.5-15.0%, and a yield of 9.5-27.7% per bush. turned out to be high. Yield per hectare of sweet variety was 31.0 t / ha in the planted (control) variant on April 20, which is 5.5% higher than in the variant planted on April 30, and 10 per hectare higher than in the variant sown on April 1. Was down 3 percent. The yield per hectare in our variant sown on April 10 was 37.5 t / ha, which is 20.9% higher than in the control variant, and 28.0% higher than in the variant sown on April 30.

It was determined that April 10 is the best time to plant the Shirintoy variety of squash in the spring for tomorrow.

The number of fruits obtained from one bush of rice variety (April 20) in the control variant plants was 1.5, the average weight of one fruit was 2.6 kg and the yield from one bush was 3.9 kg. Although the number of fruits per bush in the variant plants planted on April 10 did not differ from the control variant, the average weight of the fruit was 7.6 percent, and the yield per bush was 7.6 percent higher, respectively. In the variant sown on April 30, the number of fruits in the bush was 6.7% lower than in the control variant, the weight of the fruit was 3.9% lower and the yield per bush was 10.3% lower. In the earliest planted variety of rice on April 1, the average yield of 1.6 grains per bush was 6.6% higher than the control variant, the average weight of the fruit was 15.3% higher and the yield per bush was 23.0% higher. The earliest planted variant varieties on April 1 were 14.3, respectively, from the variant varieties planted on April 30, one month later; 20; Which was as high as 37.2 percent.

When sowing the seeds of the Pilaf kadi variety of squash in the morning on April 1, it was found to be the most favorable period, from 14.3% to 37.2% higher than all variants.

CONCLUSIONS

In the study, the best time to sow the seeds of the local Shirintoy variety of squash in the field on April 10 was 1-20 controls and 20.9-28.0% higher than the options sown on April 30.

In our variant sown on April 1, the variety of pilaf was 14-20-37.2% higher than in the variant sown on April 30 and 30, and the optimal time for sowing the seeds of pilaf on April 1 was determined.

The local Shirintoy variety of squash (280 + 70) / 2 × 70 cm is grown in the climatic conditions of farmers and farms of Tashkent region. in the planting scheme on April 10, we recommend planting the Pilaf kadi variety on April 1.

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