

THE INFLUENCE OF THE PLANTING TIMES OF THE "SHIRIN- PECHAK" AND "ZARGULOB" MELON VARIETIES ON THE GROWTH AND DEVELOPMENT OF PLANTS

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Abstract:

In this scientific article, the results of experiments on the dependence of planting dates of melon varieties on plant development phases, the duration of periods and growth-development in the conditions of Khorezm region: as well as germination, the formation of the first true leaf, pruning, flowers the information about their appearance and their mutual relationship was studied and relevant results were obtained.

Keywords: Melon varieties, phenological phases, planting dates, pruning, male and female flowers, fruiting and ripening.

Introduction

It is known that currently, special attention is paid to the organization of a healthy diet that meets the daily consumption needs of fruits and vegetables worldwide. Melon is one of the main crops among melon crops, and it is important to increase its production and improve product quality.

One of the ways to reduce the costs of growing melon, one of the main melon crops, is to properly organize the use of advanced technologies that save labor, water, mineral fertilizers and other resources [2,3]. The use of agrotechnical methods (sowing time, increasing the number of seed flowers, ripening fruits, and other methods), the complex bio-ecological characteristics and properties of each crop allow creating diverse varieties and increasing their productivity [5].

Material and Methods. The research was conducted on the basis of the methodological manuals "Methodology of field experiments in vegetable growing

and horticulture” [1] and “Methodology of physiological and biochemical studies in vegetable growing and horticulture” (1987), “Methodology of experiments in vegetable growing, melon growing and potato growing” (2002). Statistical analysis of the research results was carried out on the basis of the dispersion method presented in B.A. Dospekhov’s “Methodology of field experiments” (1985) [4] using Microsoft Excel.

The objects of the research were the mid-ripening Shirin-pechak and mid-ripening Zargulobi melon varieties.

The total field area for the study is 0.06 hectares. The experiments were conducted in 5 variants: (April 16, April 21, April 26, April 30 and May 5), with 4 replications. April 26 was taken as the control variant. Biometric observations and analyses were conducted during the research work.

Results and discussion. In phenological observation, the timing of the onset (16%) and full (66%) of the phases of germination, 1st cotyledon development, budding, male and female flower formation, fruit set and ripening was observed, and the duration of the interphase periods was calculated.

According to the data obtained, germination was recorded on May 11-13 for the mid-ripening Shirin-pechak variety, and on May 17-19 for the mid-ripening Zargulobi variety, and accordingly, on days 19-20 and 22-23 after sowing.

The first bud burst was recorded in the mid-ripening Shirin-pechak variety on May 23-24, in the variety on May 15-19, and in the mid-ripening Zargulobi variety, germination was observed on days 14-17 and 16-19. That is, it was found that it occurred 2-3 days later in the mid-ripening varieties.

Other developmental phases (budding, male and female flower formation) were also observed to be 1-3 days later. In particular, the “fruiting-ripening” period was observed to be extended by 2-10 days, from 86-96 days in late-ripening varieties to 95-100 days in mid-ripening varieties (Table 1).

1-Table The duration of the interphase periods of development in the studied melon varieties (2023-2024)

Options	Duration of interphase periods, in days							
	Sowing-germination	Germination-1st true leaf	1st debarking-combing	Flowering - the formation of male flowers	The formation of male and female flowers	Female flower production-fruitletting	Fruiting-ripening	Growth period
Shirin-pechak navi								
16- april	9	16	10	5	6	4	32	88
21 – april	8	15	12	6	6	5	30	85
26- april (s)	7	16	11	5	6	4	30	83
30- april	7	15	12	6	5	4	33	85
5-may	6	16	11	6	6	5	29	82
Zargulobi navi								
16- april	8	15	12	6	7	6	42	89
21 – april	8	15	12	6	6	5	40	90
26- april (s)	7	16	11	5	6	6	41	86
30- april	7	14	12	5	5	7	44	88
5-may	8	15	13	4	6	3	45	87

Observations showed that the growing season for the studied Shirin-pechak variety was 82-88 days, and for the mid-ripening Zargulobi variety, it was 86-90 days.

To study the growth dynamics of the studied melon varieties, the main stem, side branches, main stem length, leaf number and leaf level of the 2 selected varieties were measured on 22-28.05, 10-15 and 25-30.06 and 10-15.07. The effect of planting melon varieties at different times on their morphological characteristics, growth and development is presented in Table 2.

The 1-table shows that in both varieties obtained, the morphological indicators of melon varieties planted on April 10 were higher than the control.

As can be seen from biometric measurements, at the optimal planting date, the number of main stems, side branches, and main stem length of melon plants differed sharply at the beginning of the growing season (measured on 22-28.05) (Table 2).

2- Table The effect of planting dates of melon varieties on plant growth and development (2023-2024)

Options	Measurement period	Number of main stems, pcs.	Number of side branches, pcs.	Main stem length, cm	Number of leaves per bush, pcs.	Leaf area, dm ²
Shirin-pechak						
16- april	22-28.05	4,5	4	67±1,0	70	635
	10-15.06	2	2	120±2,0	131,8	1383
	25-30.06	3	2	212±2,5	200	2205
	10-15.07	4	3	233±2,0	222	2593
21- april	22-28.05	5	4,2	68±1,0	72	635
	10-15.06	2,3	2,4	121±3,0	132,5	1384
	25-30.06	3,5	3,8	214±3,0	201	2209
	10-15.07	5,1	3,6	235±1,0	223	2595
26- april (s)	22-28.05	3,5	3,5	65±2,0	68,4	634
	10-15.06	1,9	1,8	120±2,0	130,6	1380
	25-30.06	2,5	1,7	210±2,5	197,3	2202
	10-15.07	3	2,6	229±2,0	218,2	2590
30- april	22-28.05	3,2	2,8	66±1,5	69,1	631
	10-15.06	1,8	1,6	118±2,0	128,9	1380
	25-30.06	2	1,7	211±2,5	198,1	2201
	10-15.07	2,4	2,2	228±2,0	218	2589
5-may	22-28.05	3	3,1	64±2,5	66	630
	10-15.06	1,4	1,5	217±3,0	127,3	1378
	25-30.06	1,5	1,6	209±3	187,5	2200
	10-15.07	2	2	226±2,7	217	2587
Zargulobi						
16- april	22-28.05	4	3	77±1,5	84	770
	10-15.06	6	5,9	141±2,0	170	1530
	25-30.06	7	8	244±2,5	244	2642
	10-15.07	8	12	258±1,6	280	2821
21- april	22-28.05	4	3,2	78±1,5	85	770
	10-15.06	6,4	6	142±3,0	170	1529
	25-30.06	7,7	8,1	245±2,5	245	2641
	10-15.07	8,6	13	259±2	280	2822
26- april (s)	22-28.05	3,8	2,9	75±2	82,6	767
	10-15.06	5,7	5,5	140±1,1	169	1527
	25-30.06	6,2	7,3	242±3	243,2	2640
	10-15.07	7	11,4	257±2,4	276	2820
30- april	22-28.05	3,6	2,7	75±1,0	81	765,1
	10-15.06	5,5	5,2	391±1,6	167,8	1526,4
	25-30.06	6	7,0	242±2,0	242	2640,3
	10-15.07	7,1	11,2	256±2	275,3	2819,5
5-may	22-28.05	3,5	2,4	74±2,3	80	764
	10-15.06	5,4	5	138±3,0	166,8	1523
	25-30.06	5,7	6,6	240±2,9	241	2638
	10-15.07	6,8	10,9	256±1,3	275	2818

That is, the Shirin-Pechak variety had 5 main stems and 4.2 lateral branches, and the length of the main stem of the plant was 68 cm. The Zargulobi variety had 4.0 and 3.2 branches, respectively, and a relative advantage of 78 cm.

Rapid plant growth was observed on 10-15 and 15-20.07. During the last measurement (10-15.07), growth slowed down, and the plant height was 5.1 in the Zargulobi variety, 3.6 in the number of side branches, and the length of the main stem of the plant was 235 cm, and in the Shirin-pechak variety, 8.6 and 13 in the number of branches, 259 cm, respectively.

The tallest, most branched and branched tree was Zargulobi (8.6 and 13 trees, 259 cm).

The foliage and leaf weight of the tested melon varieties were analyzed by harvesting the Shirin-pechak and Zargulobi varieties on June 5-6, 10-15, and June 2-4, and July 10-15.

In addition, up to 100 cm² (50 pieces) of leaves were taken from the leaves, weighed on a scale, and the leaf weight was determined.

The data obtained show that the foliage of the studied melon varieties differed sharply from the first measurement (22-28.05), with the number of leaves per bush being 72 in the Shirin-pechak variety and 85 in the Zargulobi variety.

The foliage of the plant changes during the growing season, with intensive leaf formation observed on 10-15 and 25-30.06, and a decrease was noted in the last measurement (10-15.07), and the number of leaves per bush was determined from 223 (in the Shirin-ivchak variety) to 280 (in the Zargulobi variety).

The most leafy variety was the Shirin-ivchak variety (280 pieces).

It was noted that there was a positive correlation (connection) between the changes in plant foliage and leaf level of the studied melon varieties, and the above pattern was also repeated in the dynamics of changes in plant leaf level.

The leaf area of the plant, measured at the beginning of the growing season (22-28.05), ranged from 635 (Shirin-pechak variety) to 770 dm² (Zargulobi) depending on the variety, but it rapidly increased during the growing season and reached 2595 (Shirin-pechak) to 2822 dm² (Zargulobi) at the last measurement (10-15.07).

Conclusions

1. It was found that the studied melon varieties Shirin-pechak and Zargulobi, when planted on April 16, sprouted on days 7-8 and 7-9 compared to the control, and the

first leaf sprouting was observed on days 13-16 and 15-18 after germination, and occurred 2-3 days later in the mid-ripening varieties.

2. The growing season of the Zargulobi melon variety was 86-90 days, while the mid-ripening variety was 95-100 days, and was extended by 2-10 days. It was found that the growing season of the studied (Shirin-pechak) variety was 82-88 days, and the mid-ripening variety was 91-107 days.

3. The foliage of the plant changes during the growing season, with intensive leaf formation observed on 10-15 and 25-30.06, and a decrease was noted in the last measurement (10-15.07), and the number of leaves per bush was determined from 223 (in the Shirin-ipechak variety) to 280 (in the Zargulobi variety).

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