

**EGGPLANT PRODUCTS GROW IN UZBEKISTAN IN UNHEATED GREENHOUSE  
APPROPRIATE SOWING TERMS AND SCHEME**

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**Abstract:** *The article describes the effect of different planting times on the production of early, high-yielding and export-oriented crops of eggplant varieties in unheated greenhouses. Planting seedlings of eggplant varieties from January 20 to February 1 leads to an earlier formation of the elements of the crop, as well as fruit weight and 1 m sq. The possibility of obtaining high yields from the field is scientifically based.*

**Key words.** *Eggplant, prospect, soil, hybrid, variety, yield, flowering, fertile, planting, field.*

**Introduction.** Greenhouse vegetable growing is one of the main branches of agriculture and plays an important role in providing the population with fresh, vitamin-rich vegetable products in the off-season. Uzbekistan is not far behind the developed countries in terms of per capita production of vegetables and melons. However, in greenhouse conditions, their type is rare in the country, in particular, the existing greenhouse crop areas are occupied by tomatoes, cucumbers and greens.

In addition, a complete diet should include a variety of products rich in vitamins, the source of which is vegetables. and there is a popular saying that “this is very reasonable” [1; 3]. Also, in the off-season, the demand for eggplant in the domestic and foreign markets is growing from year to year. In particular, it is imported in foreign countries during the off-season.

Eggplant is one of the most valuable vegetable crops and is one of the most widely grown agricultural crops in the world. Today, the world's largest producers of eggplant are China (1.6 million tons), the United States (613.3 thousand tons), Iran (409.6 thousand tons), Turkey (215 thousand tons), Mexico (159.5 thousand tons) and Ukraine (127.2 thousand tons) from the CIS countries. However, in protected vegetable growing, eggplant is one of the least common vegetable crops, occupying only about 1% of the area [1, 4].

Eggplant is one of the most promising crops in Uzbekistan in expanding the range of greenhouse vegetable crops. This is due to the fact that it is not only a raw material for the canning industry, but also rich in vitamins in ensuring food security of the population in early spring.

This makes it possible to grow the earliest eggplants in the soil and climatic conditions of Uzbekistan, especially in greenhouses with unheated film. However, the technology of growing eggplant in unheated greenhouses in the country is not scientifically based.

**Research method.** The study compared the planting dates of eggplant varieties in the greenhouse on January 20, February 1 and February 10. Aurora, Chyornaya shark varieties and Aydin G'1 hybrids of eggplant were used in the research, and Aurora variety was obtained as a standard (st) variety. Each planting period is 2 rows of 4 rows, the length of the rows is 7.15 m and the total area is 10 sq.m. formed. The plants were formed into a stalk and the wire was tied.

The studies compared 60 × 30, 60 × 40 and 60 × 50 cm eggplant planting schemes in greenhouse conditions. Aurora, Chyornaya shark and Aydin G'1 hybrids of aubergine were used in the research.

In all experiments, phenological observations, biometric and productivity measurements were performed

**Research results.** In the cultivation of early, high-yielding and export-oriented crops of eggplant in unheated greenhouses, in particular, the growth of eggplant plants at different planting periods showed a shorter growth period of Chyornaya shark than other varieties. This allowed the elements to form earlier and the eggplant to enter the market earlier.

However, in comparison with other varieties of eggplant cultivar, which compares the morphological characteristics of the planting dates of plants, on January 20, when the plant height was 4.6 cm and a diameter of 0.8 mm and the number of leaves was 8, the number of side branches was the same. formed

(Table 1).

Morphological features of plants of eggplant cultivar specimens at different planting times in unheated greenhouses (2018-2020)

Variety samples	Sowing dates	Plants		Number of side branches, pcs	Number of leaves, pcs	Yield elements, pcs
		height, cm	diameter, mm			
Aurora (st)	20/I	34,2	6,8	2	50	3,3
	1/II	31,1	4,8	2	48	2,7
	10/II	30,0	4,0	2	32	2,5
Black shark	20/I	38,8	7,6	3	58	3,5
	1/II	34,2	6,3	2	47	3,2
	10/II	33,2	5,0	2	35	2,8
Aydin F'1	20/I	33,2	6,3	2	45	2,5
	1/II	31,0	5,0	2	50	2,5
	10/II	30,1	4,1	2	37	2,8

However, the morphobiological traits of the Aydin F'1 hybrid of eggplant were found to be closer to those of the standard Aurora (st) navigator.

The number of fruits in eggplant varieties at different planting times in unheated greenhouse conditions also varied. 3.5; 3.2 and 2.8 units, respectively. However, Aydin F'1 hybrid was characterized by a lower number of fruits than Aurora (St) navigator.

According to the results of a comparative study of eggplant varieties at different planting times in unheated greenhouse conditions, the heaviest fruit weight in the Aurora (st) variety was at the time of sowing on February 1. (216 g), while on January 20 and February 10, fruit weights were 181.4 and 163 g, respectively. Also, Aurora (st) cultivar can be grown in greenhouse conditions at different planting times for 1 m. The yield per square meter varies, January 20 - 6.2 .... 8.7 kg / m2, February 1 - 5.2 .... 5.6 kg / m2 and February 10 - 4.1 .... 4.7 kg / m2 (Table 2).

The eggplant cultivars studied in the study were compared to the Aurora (st) cultivar by 1 m 2 at different planting times. The average yield on January 20 - 2.8, on February 1 - 3.8 and on February 10 - 3.2 kg higher. Also, the studied Aydin F'1 hybrid yielded more than 0.6 kg / m2 on February 1 - 0.4 and February 10 - 0.6 kg / m2 compared to the Aurora (st) navigation. This is due to the fact that during these periods the Aydin F'1 hybrid was heavier in fruit weight (232 and 178.6 g).

(Table 2).

Influence of different planting times in unheated greenhouses on the yield of eggplant varieties (2018-2020)

Variety samples	Sowing time	Fruit weight, g	Yield, kg / m <sup>2</sup>			
			2018 year	2019 year	2020 year	average
Aurora (st)	20/I	181,4	6,2	8,7	8,5	7,8
	1/II	216,0	5,6	5,2	5,4	5,4
	10/II	163,0	4,1	4,4	4,7	4,4
Black shark	20/I	623,5	10,5	10,8	10,5	10,6
	1/II	224,4	9,0	9,5	9,1	9,2
	10/II	422,2	7,3	7,8	7,7	7,6
Aydin F'1	20/I	264,0	6,5	6,9	6,4	6,6
	1/II	232,0	5,6	5,8	6,0	5,8
	10/II	178,6	4,6	5,1	5,3	5,0
<b>P%</b>		105,2	1,2	1,1	1,3	1,0

Eggplant cultivar samples compared in unheated greenhouses. The plant growth and development in different planting schemes, in particular, the difference between budding, flowering and fruiting periods was 2-3 days, plant height and diameter, as well as the number of leaves. Chyornaya shark cultivar 60 × 40 cm when planted in the scheme was found to be the highest compared to other varieties and planting schemes (plant height - 34.2 cm and diameter - 6.8 mm, the number of leaves - 57.3 pieces). However, the lowest rate was 30.7 cm, 5 mm and 35.2 pieces, respectively, when planted in the standard Aurora variety 60 × 40 cm planting scheme (Table 3).

Table 4.13

Morphological features of eggplant varieties in different planting schemes in unheated greenhouses (2018-2020)

Examples	Planting schemes, see	The plant		Number of side branches, pcs	Number of leaves, pcs	Leaf surface, sm <sup>2</sup>
		height, cm	diameter, cm			
Aurora (st)	60×30	114,5	1,1	3	40,0	3554,2
	60×40	110,1	1,4	4	40,5	3225,4
	60×50	109,0	1,6	5	45,2	3219,1
Black shark	60×30	121,0	1,3	4	40,0	3715,5
	60×40	114,5	1,6	6	57,3	3620,9
	60×50	111,4	1,8	5	45,3	3229,3
Aydin F'1	60×30	141,0	1,6	3	37,0	3650,7
	60×40	133,0	2,0	4	44,0	3380,2
	60×50	129,1	2,2	4	50,2	3245,9

In the cultivation of early, high-yielding and export-oriented crops from unfavorable greenhouse conditions, in particular, the placement of eggplant varieties in different planting schemes also varies the number of fruits, Aurora (st) variety in the planting scheme 60 × 30 cm - 1.8 pieces, 60 × 40 cm - 4, 3 pcs., 60 × 50 cm - 2.5 pcs., 2.5 in the Aydin G'1 hybrid; 4.1

and 2.9 units, respectively. However, the Chyornaya shark species was characterized by a lower number of fruits than the Aurora (St) navigator.

According to the results of comparison of different planting schemes in the cultivation of eggplant varieties, the weight of the largest fruit in the variety Aurora (st) in the 60 × 50 and 60 × 40 cm schemes, it was 277.8 and 181.4 g, respectively, in the 60 × 50 smek scheme (264 g). Also, when the Aurora (st) variety is placed in different planting schemes, 1 m. The yield per square meter varies, in the planting scheme of 60 × 30 cm - 4.6 .... 5.3 kg / m<sup>2</sup>, 60 × 40 cm - 6.2 .... 8.5 kg / m<sup>2</sup> and 60 × 50 cm - 6.4 .... 6.9 kg / m<sup>2</sup>.

**Conclusion.** In conditions of unheated greenhouses in the country, the optimal sowing period is the sowing of eggplant varieties such as Chyornaya shark and Aydin F'1 hybrid from January 20 to February 1.

Placement of varieties and hybrids of eggplant, such as Chyornaya shark and Aydin G'1, in the 60 × 40 cm planting scheme in unheated greenhouse conditions allows for early formation of yield elements and high yields.

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