

Selection of Pepper Varieties Suitable for Cultivation in Greenhouses with Unheated Film

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Annotation

The article reveals the importance of sweet pepper, the total yield and crop yield of productivity that grown in the world as well as in our country.

Here is also highlighted the selection of sweet pepper varieties, the yield and quality as well as their resistance to fusarium wilt for growing in unheated greenhouses

Key words: variety, seedlings, disease, fruit elements, yield.

INTRODUCTION

Vegetable growing is one of the leading branches of agriculture in our republic. In our country, special attention is paid to providing the population with food products, especially fresh, high-quality vegetables that are rich in vitamins.

One of these vegetables is sweet pepper. Sweet pepper ranks the first among vegetables in providing humans with vitamin C, which has antioxidant properties.

More than 1 million sweet peppers in the world is cultivated on 656,000 hectares of which 24 mln. 27,000 tons of gross product will be produced.

The average yield makes up 14.5 t/ha (Kimsanbaev Kh.Kh. Sulaymonov B.A., Zuev V.I.)

The area under sweet pepper in Uzbekistan and the gross product from it are not taken into account, as it is not considered a staple vegetable. However, our population consumes fresh and technologically processed fruits of fresh pepper.

Because it produces a lot of vitamin C (ascorbic acid), which has antioxidant properties – the raw and ripe fruit contains of it 64,5-289,4 mg % (Balasev N.N., Zeman G.O., 1981; 259 et el.)

According to the recommendations of the authorities, a person should consume 2,0-2,6 kg of sweet pepper fruit per year.

At present, the sown area of sweet pepper in Uzbekistan is about 8-9 thousand hectares, the gross harvest is 180-185 thousand tons, the yield does not exceed 20-22 t/ha.

This produced product is not at the level of demand of 33 million, of our population. One of the resources for increasing the gross yield from sweet pepper is to plant seedlings in the spring-summer period in unheated film greenhouses.

Based on the foregoing, in the first ten days of March 2020, the field experiments were carried out in a film greenhouse of the Research Institute of Vegetable, Melons and Potatoes.

Created in an experiment for growing in the open field, 50-day-old seedlings of sweet pepper varieties

Dar Tashkent (control), Nargiza, Tong, Zumrad and Zarya Vostoka were planted in an unheated greenhouse in the third decade of March. The plants under consideration were planted in four replicates on four rows of furrow 10 m long according to the scheme 70x25 cm. The planting area of each cultivar was 28 m², and the total area occupied by five cultivars was 140 m².

The phonological, biometric and other observations were carried out on the basis of the approved program at the experimental site, and the following results were obtained, table 1.

From the figures given in table 1, it was found that the germination (error rate) of the tested varieties was in the range of 3,1, 61% regardless of all conditions.

Table 1
Phenological indications

Variety samples	The amount of error, %			Infection with fusarium wilt, %
	10 days after planting	Died during the growth	Total	
Dar Tashkent (control)	4,6	4,5	9,1	3,2
Nargiza	3,1	4,9	8,0	4,3
Tong	4,2	5,1	9,2	2,2
Zumrad	5,7	6,2	11,9	5,3
Zarya Vostoka	6,1	6,8	12,9	5,6

Among the tested sweet pepper varieties, the largest number of errors was recorded in the area sown with the Zumrad and Zarya Vostoka varieties. The error rate of these varieties was 2,8 -3,8% higher than the error rate of the control Dar Tashkent variety. The error rate of Nargiza variety was 1,1% less than that of control variety, this indicator of Tong variety, control variety was close to Dar Tashkent. It is possible that the tested varieties Zumrad and Zarya Vostoka have a large error-one of the characteristics of these varieties.

It was found that the studied varieties are affected in different ways by Fusarium wilt. On other words, of the studied varieties, the disease affected 3,2% of the control variety in Tashkent and 2,2% of the Tong variety per hectare.

Plants of varieties Nargiza, Zumrad and Zarya Vostoka respectively; Fusarium wilt affects 4,3; 5,3 and 5,6% of plants. The infestation of these varieties with Fusarium wilting was 1,1-2,2 % higher than that of the control varieties. This means that the degree of susceptibility of the studied sweet pepper varieties to Fusarium wilt varies depending on whether each of the studied varieties is more or less resistant to this disease. Sweet pepper varieties differed from each other not only in greater or less resistance to fusarium wilt, but also in the number of fruit elements formed in each plant.

Control before the first harvest (25 V) in the Dar Tashkent variety, the number of fruit elements in each plant was 14,9 pieces of which 3,6 pieces were fruits.

During this period, the fruit elements were identified of Nargiza variety were 2,5 pieces less than that of the control variety and the fruits were 0,4 pieces more, the Tong variety had 1,7 less, the 0,2 pieces more, the Zumrad variety had 3,1 pieces less, 0,5 pieces more, in the Zarya Vostoka it was 2,8 pieces less, 0,3 pieces more. When this observation was repeated 30 days after the first harvest, the regularity of the first harvest was found to be maintained.

The tested varieties of sweet pepper differed from each other, both in yield and in the quality of the formed on each plant and hectare, table 2.

Table 2

The productivity and quality of tested sweet pepper

Variety samples	Yield		With regard to crop control, %	The average weight of a marketable fruit, g, %	The amount of marketable fruit in the harvest, %
	From 1 piece, g	From 1 ha, t			
Dar Tashkent (cont)	559,4	28,6	100	80,3	97,3
Nargiza	546,6	27,8	97,2	81,1	85,7
Tong	468,1	24,1	84,3	76,7	74,2
Zumrad	431,0	21,7	75,9	89,2	92,4
Zarya Vostoka	399,4	20,2	70,6	54,4	79,9

It was found that the yield of all varieties of sweet peppers from each plant ranges from 559,4 g to 399,4 g.

The yield from each plant was 12,8 g less than in Nargiza, 91,3 g. in Tong variety, 128,4 g in Zumrad and 160 g Zarya Vostok compare to the yield of control variety of Dar Tashkent.

Of the tested varieties of pepper, the Dar Tashkent variety gave a yield of 2,2-9,4% per hectare higher than that of other varieties.

The yield of Nargiza was close to the control- and made up of 27,8 t/ha.

Of the tested varieties Zumrad (21,7 t/ha) and Zarya Vostoka (20,2 t/ha) yielded 24,1 – 29,4 % less per hectare than the control variety.

CONCLUSION

Based on the results of experiments carried out in the spring-summer of 2020, the following conclusions can be drawn:

1. The cultivation of Dar Tashkent, Nargiza and Tong varieties in unheated greenhouses in spring and summer produces long- stemmed, leafy and petiole heavy plants.
2. The Dar Tashkent, Nargiza and Tong varieties produce elements and fruits more in comparison with, Zumrad and Zarya Vostoka varieties.
3. The varieties Zumrad and Zarya Vostoka infected 2,1 - 2,2 % more to fusarium wilting than the variety of Dar Tashkent.

Dar Tashkent varieties and Nargiza give the highest yield per hectare (28,6...27,8 t) as well as marketable yield(97,3...85,7 %).

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