RESISTANCE OF TOMATO SPECIMENS TO VIRAL MOSAIC LEVEL ASSESSMENT

PhD assistant Ismoilov A.I.,
The scientific research institute of vegetable groups and potato studies in Samarkand scientific - experimental station
Assistant Bekmuradova X.K.
Samarkand institute of veterinary medicine

Abstract.

The resistance of crop varieties to diseases and pests in agricultural production is one of the main requirements for varieties, and viral diseases of tomatoes are one of the main factors that reduce its yield. The fight against these diseases has its own difficulties, this problem can be solved by creating varieties of tomatoes that are resistant to viral diseases, and this solution, in turn, allows you to reduce the cost and increase productivity. At the same time, the research carried out in this direction is relevant.

Keywords:

Vegetable production, yield, variety, source material, selection.

Introduction. Tomato is one of the main vegetable crops with high nutritional value, useful and loved by our people.

It is known that diseases and pests are one of the main reasons for the sharp decline in yields and product quality from vegetable crops.

In recent years, the prevalence and damage caused by tomato viral diseases has increased significantly. In particular, viral mosaic diseases of tomatoes (Tomato mosaic tobamovirus) are among them. Methods of combating these diseases have their own difficulties, so the creation of new varieties resistant to diseases and pests in order to provide the population of the republic with quality tomato products will reduce costs and increase profitability. Research in this area of tomato selection is in turn the most relevant.

Objectives and tasks of research. The evaluation and selection of resistance of tomato mosaic tobamovirus (Tomato mosaic tobamovirus) studied from the samples of tomato varieties consists in the use of selected resistant specimens and hybrids in the process of hybridization and selection to create tomato varieties and hybrids resistant to these diseases.

Research methods. Phenological observations, biometric measurements and determination of productivity according to the method "Methodical instructions on selection of varieties and hybrids of tomatoes for open and dried soil (M., 1986), the degree of morbidity and damage Fadeeva (M. 1977) method, mathematical processing is carried out on the basis of the method of field experiments Dospekhov (1985).

Expected results and their analysis. In the first year, in addition to visual assessment of the incidence of samples, the Department of Virology of the Institute of Genetics and Experimental Biology of UzFA diagnosed tomato mosaic virus by indicator plants, and tomato varieties and samples were selected based on the results. Evaluation work was continued on the samples taken overnight.

In order to artificially infect the plants of the studied varieties and hybrids, the seeds of tomato varieties and hybrids were soaked in serum from the juice of the diseased plant leaves, and the germinated seeds were planted under the film.

Plants of tomato hybrids were damaged at the beginning of the flowering phase by spraying with whey extracted from the juice of the diseased plant leaf and by damaging the plant body and leaf using tools (scalpel, scissors) processed on the affected plant.

Determining the effect of ToMB on the yield of tomato varieties studied in the collection nursery showed that the infestation of Sevara variety with ToMB was low (7.2%), the total yield was 41.2 t / ha, of which the yield was 81.2%. formed. Similarly, in the Sultan G1 hybrid, it was 9.1%, 61.5 t / ha, and 83.3%, respectively.

Of the other tomato cultivars studied in the collection nursery, Darkhan, TMK-22, Finish, Agro and Tvenid cultivars and Lodgein G1 and Perst G1 hybrids were not found to be contaminated with ToMB. The highest yield of this variety was in the Lodge G'1 hybrid - 67.2 t / ha, which was 30 tons per hectare more than the standard Volgograd 5/95 (st) navigator.

The effect of ToMB on the yield of tomato varieties studied in the collection nursery (2019)

Variety samples	Damage rate with ToMB,%	General yield, t / ha	Commodity harvest	
			t / ha	%
Volgograd 5/95 (st)	14,9	37,2	40,6	71,0
Darxon	-	45,0	37,5	90,0
Sevara	7,2	41,2	29,7	81,2
TMK-22	-	48,6	39,6	86,6
Finish	-	44,0	37,0	84,1
Agro	-	42,0	30,2	81,0
Twain	-	41,0	45,8	75,1
Sultan G1	9,1	61,5	46,2	83,3
Lodge F1	-	67,2	55,7	88,2
Perst G1	-	44,3	37,8	77,9

In determining the effect of viral mosaic infestation on samples of tomato varieties studied, viral infestation in Sevara was low (7.2%), yield was 41.2 t / ha, and commodity yield was 81.2%. Similarly, in the Sultan hybrid under study, viral infestation was low at 9.1%, with a yield of 61.5 t / ha and a commodity yield of 83.3%. However, the high yield in this hybrid led to a high level of profitability. Virus infestation was not observed in other cultivars studied, including Darkhan, TMK-22, Finish, Agro, Twain, Lodge, Perst. The highest yield was in Lojayin hybrid (67.2 t / ha), which was 44 t / ha in Finish hybrid and 45 t / ha in Darkhan variety. The highest yield of this variety was in the Lodge G1 hybrid - 67.2 t / ha, which was 30 tons per hectare more than the standard Volgograd 5/95 (st) navigator.

Conclusions. Research is underway to create new varieties of tomatoes resistant to viral mosaic diseases (tomato mosaic tobamovirus) and sweet pepper against whiteflies (aleyrodidae hemoptera) to create new varieties in the Samarkand region. In subsequent experiments, the samples of tomatoes Darkhan, Sevara,

TMK-22, Finish, Sultan F1, Agro, Tvenid, Lojayin F1, Perst were considered disease-resistant, and selection work on these samples can be continued.

References.

1. 1. Akhatova A.K., Jalilova F.S. Protecting vegetable crops from disease. Moscow. 2006. p. 29. / 116
2. Kurgan N.V. Source material for the selection of open ground tomatoes. Actual directions of development scientifically relevant directions of development of scientific research of vegetable growing. Kainar, 2008, p.192 - 194.
3. Mukhin V.D. Vegetable growing. M., Kolos 2000.
4. www.vegetables.su/jour/article