

An Important Factor Determining The Quality Of Seed Potatoes

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Abstract: *The quality of seed potatoes depends to a certain extent on the quality of the starting material from which they are grown. Studies have established that with an accelerated scheme of primary seed growing of potatoes, the selection of starting material during the spring planting dates and testing the clones of the first year contribute to the cultivation of high-quality seed potatoes.*

Keywords. *Potatoes, seed material, starting material, viral diseases, tubers, selection, timing of selection, etc.*

1. INTRODUCTION

The seed quality of agricultural crops is directly related to the type of raw material used for it. [3]. Depending on the soil and climate conditions of Uzbekistan, potatoes are grown in two seasons, spring and summer. Therefore, early ripening potato varieties [1]. a scheme to double the acceleration of primary seeding has been developed [2].

Proper selection of healthy plants, which serve as the starting material in seed production, is one of the key factors determining the quality of seeds and, consequently, the yield of edible potatoes [4] is one of the current issues of crop seed production.

The purpose of the study. The purpose of the study was to determine the effect of timing of healthy initial material selection for virus-free potato seed on potato seed qualities.

The objectives of the study were:

- Determination of the degree of viral infection of selected potato clones in spring crops;
- Evaluation of the degree of viral infection of selected potato clones in the plots grown in the summer;
- Determine the reaction of varietal characteristics to the duration of selection of healthy plants.

Object and methods of research. The object of field experiments were selected clones of seed potatoes of spring varieties Kuvonch 1656 m, Bakhro-30 and Hamkor-1150, grown in spring and summer. was carried out.

Infection of plants with obvious viral diseases was determined visually based on the detection of normal color, wrinkled color, leaf torsion and stolbur marks in them, and latent infection of plants with X, S, M and U viruses was determined by serological analysis during flowering and flowering.

Scientific research is carried out on the basis of "Methods of field experiments" (1985), "Methods of field experiments" (2007), the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, agricultural research and production centers of Uzbekistan

(1995-2000). In our field experiments, the samples were placed in 3 turns in one tier. The results of the study were statistically processed by B.A. Dospekhov (1979).

In order to determine the effectiveness of the selection, serological tests were performed on the next generation of selected plants.

It is of great importance to study the effect of planting times on the infection of potato plants with viral diseases. Because these diseases can reduce productivity by an average of 30%, depending on the type of disease, crop type and growing conditions, this figure can be reduced by 50-70%, and sometimes even more. Experiments have shown that the incidence of viral diseases (9.6-14.7%) of all cultivars studied in the spring period was much higher than in the summer period (4.8-7.5).

It should be noted that the varieties have shown specific characteristics depending on the degree of infection with viral diseases. For example, in both periods the plants of Kuvonch - 1656m and Hamkor - 1150 varieties were mainly affected by leaf torsion, while in Bakhro-30 varieties more leaf wrinkling was observed in the spring period.

Table - 1
 The effect of planting times on viral infestation of plants.

Varieties	Viral diseases					
	The general	Leaf shrinking	Simple mosaic	twisted mosaic	Striped colouring	Leaf twist
During Spring						
Kuvonch-1656m	12,4	-	0,2	0,8	1,6	9,8
Bakhro-30	9,6	5,3	-	-	1,3	3,5
Hamkor-1150	14,1	3,1	1,0	-	2,1	7,9
During Summer						
Kuvonch-1656m	7,5	-	-	-	0,8	6,7
Bakhro-30	4,8	2,8	-	-	0,2	1,8
Hamkor-1150	6,3	1,4	-	-	0,9	4,6

Normal mosaic and twisted mosaic diseases were not observed in the plants grown during the summer period, and the “relationship” of the varieties to these diseases was largely preserved. Among the studied varieties, the lowest morbidity rate was observed in both periods of Bakhro-30 cultivars.

The impact of viral disease on varieties on both plant yields, subsequent generation, plant growth and development, and latent virus infection rates is being studied.

Based on the results obtained, it can be concluded that plants grown in the spring period were more susceptible to viral diseases than those grown in the summer period. Given that the origin of the seeds used for the experiments is the same, it can be initially concluded that the intensity of the spread of viral diseases in plants goes faster when grown in the spring. This may be due to the fact that the weather is hot.

Serological analyzes of elite field plants to determine sampling efficiency showed that selections in superelite fields planted in spring were more likely to select healthy plants than those recommended so far in the summer. These data are presented in Table 2.

Table-2
 The effect of selection period on the contamination of potatoes with viruses in the next generation.

№	Varieties	Plant infection with viruses,%				
		total damage	viruses			
			X	S	M	Y
Plants selected in the spring						
1	Kuvonch-1656m	14,2	4,2	3,8	1,3	5,0
2	Bakhro-30	16,3	6,0	4,1	3,4	2,8
3	Hamkor-1150	20,0	7,5	5,3	4,0	3,2
Plants selected in summer (control)						
1	Kuvonch-1656m	18,1	6,2	4,0	1,5	6,4
2	Bakhro-30	20,4	7,6	4,2	4,2	4,4
3	Hamkor-1150	23,2	9,0	5,8	4,4	4,2

The data in the table showed that the selection of healthy plants for seed is an effective crop when grown in the spring period. The fact that the results of species infestation with some viruses are particularly high compared to X and Y viruses suggests that this is an interesting and studyable issue. The efficiency of selection in the spring period is related to the fact that the period of growth of plants when planted in this period coincides with the warm period of the weather. Because such conditions lead to a strong manifestation of the symptoms of the disease. This, in turn, increases the chances of increasing selection efficiency. Therefore, we believe that healthy plants should be selected from areas planted in the spring, and their offspring should be tested during the summer planting period.

2. CONCLUSIONS

In the accelerated primary sowing of early maturing varieties of potatoes, it is advisable to select a healthy starting material from the fields sown in the spring, and test the offspring during the summer sowing.

3. LIST OF USED LITERATURE:

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