



Productive And Prospective Varieties Of Peaches

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ABSTRACT

Due to the new, promising varieties, peach orchards provide an opportunity to expand their fields, dramatically increase yields, and increase product exports. New peach gardens can be built at the expense of the varieties of the hairless peach with a high internal capacity, "Oqluchchak-3", "Superlola", from the feathered "Krasnaya Moskva", "Vostok", "Champion", "Elbert-1".

Keywords:

Variety, leaf blight, blight, flower, disease, fungus, durable, susceptibility, yield, hairy, hairless, peach, garden, indoor opportunity.

Introduction

It is known that peach is one of the most delicious fruits on earth (mango, orange, peach). Different varieties and forms of peach are widespread in Fergana region. In particular, various varieties of "luchak" peaches have been grown in this country since ancient times. But in the following years, among the factors limiting the peach harvest, diseases are taking a decisive place. One of the most damaging diseases of peach orchards is leaf blight, the causative agent of which is a fungus. Fungal spores hibernate in branch cracks, buds, and begin to damage peach tree leaves in spring. White or brown, reddish-brown swellings appear on the leaves, covered with dust, the leaf begins to curl. The disease later affects one- and two-year-old branches.

This article focuses on leaf blight disease, which has a strong impact on peach yield and fruit quality. It is also mentioned about high-yielding varieties of peach, which are considered promising for the Fergana Valley.

Materials And Methods

The researches were carried out in 2018-2020 in accordance with current scientific methodology in the collection garden of the Fergana Scientific Experiment Station, located 600 meters above sea level, on a low-fertility, stone-gravel land [1].

In researches, damage of peaches by leaf blight fungus was evaluated in the following points:

0 points-leaves are absolutely healthy (immune); 1 point - up to 10 percent of the leaves are damaged, only the tips of one-year branches are covered by dust (resistant); 2 points - 11-25 percent of leaves are damaged, a quarter of young branches are covered with powdery mildew (moderately resistant); 3 points - 26-50 percent of the leaves are damaged, or half of the branches are covered with dust (propensity), 4 points - more than 50 percent of the leaves are damaged, the branches are severely damaged, and the tips begin to dry (high tendency).

Results

Among the most important characteristics that determine peach yield and fruit quality, resistance to diseases and adverse weather conditions is a decisive factor for adaptive varieties. They are required to be superior in terms of disease and frost resistance and fruit quality and yield compared to existing zoned varieties.

Therefore, it is necessary to constantly renew and fill the orchards with local and foreign varieties that meet the requirements of adaptive farming in terms of their resistance to biotic and abiotic stress factors, yield, quality, and biochemical composition (Smagin, 2012).

It was found that there are no varieties of the peach collection that are not affected by leaf blight, and all varieties are affected differently (Table 1). But it was found that hairless varieties of peaches are more damaged than hairy ones. The benchmark for hairless cultivars, "Muyassar" cultivar, was rated as resistant with a score of 1 because more than 11 percent of leaves were damaged.

Compared to the reference variety, "Superlola" variety showed disease tolerance. "Superlola" variety was evaluated with 1 point and recognized as a durable variety. Among the hairless, medium tolerance trait (2 points) was determined in "Lola" variety. However, among "Luchchak" varieties, "Rishton lyuchchak", "Margilan lyuchchak", "Oq lyuchchak", "Qora lyuchchak" varieties were noted to be impatient and prone to leaf blight (3 points).

As mentioned above, it was noted that hairy varieties are relatively less affected by leaf blight compared to hairless ones. In particular, "Elbert 1", the standard for hairy, had less than 10 percent damage (1 point), showing tolerance to leaf blight. Also, "Elbert 2", "Champion", "Rannyaya gala", "Vostok" varieties were evaluated with 1 point in terms of resistance, and it was noted that they are resistant to leaf blight disease.

Therefore, it is recommended to plant Superlola, Lola, Muyassar from hairless varieties of peaches, Elbert 1, Elbert 2, Champion, Vostok from hairy ones as varieties resistant to leaf blight disease.

A three-year study on the yield of peach varieties revealed the inherent potential of different varieties (Table 2). Among the varieties of hairless peaches, "Superlola" (32.7 kg), "Lola" (28.2 kg), "Oq lyuchchak" 3 (26.5 kg), "Muyassar2", "Muyassar 3" (26.5 kg), hairy among peaches, "Vostok" (36.3 kg), "Champion" (35.3 kg), "Elbert 2" (32.2 kg) varieties showed a significant superiority over other varieties. The above law was also confirmed by the yield indicators of the varieties. "Superlola" (163 ts/ha), Lola (153 ts/ha) from the hairless peach yield

Table 1
Characteristics of resistance to leaf blight disease in different peach varieties (2019-2020)

№	Variety	Disease level (leaf, branch, flower)		endurance
		2019	2020	
Hairless varieties				
1	Sufficient (control)	2	2	MD
2	Margilan lyuchak	3	3	P
3	Rishton luchchak	3	3	P
4	White luchchak-3	2	2	MD
5	Black luchchak-2	3	3	P
6	Lola	2	2	MD
7	Super tulip	1	1	R
8	Good-2	2	2	MD
9	Good-3	2	2	MD
10	Zargaldok-2	3	3	P
11	Nectarine	3	3	P
Hairy				
1	Elbert 1 (control)	1	1	R
2	Elbert 2	1	1	R
3	Champion	1	1	R
4	Ranyaya Gala	1	1	R
5	Krasnaya Moscow	2	2	MD
6	Farkhod	1	1	R
7	Start	2	2	MD
8	Krymskaya	2	2	MD
9	Vostok	1	1	R
10	Ogonto	2	2	MD
11	Gowsey	3	3	P

Note. R-resistant to the disease; MD- moderately durable; P-prone.

Table 2
Productivity in different peach varieties

№	Variety	Fruit yield on 1 bush				Yield per hectare, ts/ha				Difference compared to the control, ts/ha			
		2018	2019	2020	average	2018	2019	2020	average	2018	2019	2020	average
Hairless													
1	Competent (control.)	28	22,8	20	23,6	140,0	114,0	136,0	130,0	0	0	0	0
2	Margilan luchkak	25,6	25,8	26,2	25,9	128,0	129,0	129,2	128,7	-12,0	15,0	-6,8	-1,3
3	Rishton luchchak	18,4	19,0	19,0	18,8	83,0	95,0	95,0	91,0	-57,0	-19,0	-41,0	-39,0
4	White	23,0	28,0	28,4	26,5	115,	140,	142,	132,3	-	26,0	6,0	2,3

	luchchak-3					0	0	0		25,0			
5	Black luchchak-2	22,6	26,0	26,4	25,0	150,0	130,0	132,0	137,3	10,0	16,0	-4,0	7,3
6	Lola	23,4	30,6	30,6	28,2	127,0	153,0	153,0	144,3	-13,0	39,0	17,0	14,3
7	Super tulip	33,0	32,6	32,6	32,7	165,0	163,0	163,0	163,7	25,0	49,0	27,0	33,7
8	Good-2	26,4	26,6	26,6	26,5	132,0	133,0	133,0	132,7	-8,0	19,0	-3,0	2,7
9	Good-3	26,0	26,6	27,0	26,5	130,0	133,0	135,0	132,7	-10,0	19,0	-1,0	2,7
10	Zargaldok-2	23,0	22,8	23,0	22,9	115,0	114,0	115,0	114,7	-25,0	20,0	-21,0	-8,7
11	Nectarine	24,6	23,0	23,4	23,7	123,0	115,0	117,0	118,3	-17,0	1,0	-19,0	-11,7
Hairy varieties													
1	Elbert 1(ed.)	31,0	30,6	30,6	30,7	135,0	153,0	153,0	147,0	0	0	0	0
2	Elbert-2	29,8	31,4	35,4	32,2	140,0	157,0	177,0	158,0	5	4	24,0	11
3	Champion	36,0	36,8	33,2	35,3	182,0	184,0	166,0	177,3	47,0	31,0	13,0	30,3
4	Ranyaya Gala	25,8	28,4	28,4	27,5	129,0	142,0	142,0	137,7	-6,0	-11,0	-11,0	-9,3
5	Red Moscow	26,6	26,8	27,2	26,9	133,0	134,0	136,0	134,3	-2,0	-19,0	-17,0	-12,7
6	Farkhod	28,0	28,6	26,2	27,6	140,0	143,0	131,0	138,0	5,0	-10,0	-22,0	-9,0
7	Start	27,0	27,2	27,2	27,1	135,0	136,0	136,0	135,7	0,0	-17,0	-17,0	-11,3
8	Krymskaya	24,6	24,8	20,8	23,4	123,0	124,0	104,0	117,0	-12,0	-29,0	-49,0	-30,0
9	Vostok	36,6	38,0	34,4	36,3	189,0	190,0	172,0	183,7	54,0	37,0	19,0	36,7
10	Ogonto	24,2	25,0	25,8	25,0	121,0	125,0	129,0	125,0	-14,0	-28,0	-24,0	-22,0
11	Gowsey	17,8	18,2	18,2	18,1	89,0	91,0	91,0	90,3	-46,0	-62,0	-62,0	-56,7

Table 3
Fruit quality in different varieties of peach

No	Variety	1 fruit weight, gram	fruit taste, score	sugar content, percent	fruit quality, score	gram taste,	fruit	score content,	sugar	percent total fruit quality	score

		201 8	201 9	202 0	avara ge	201 8	201 9	202 0	201 8	201 9	202 0	avara ge	201 8	201 9	202 0
Hairless															
1	Competent (control)	146,8	139,4	143,4	143,2	4,5	3,5	4,5	12,4	12,2	12,6	12,4	4,5	3,4	4,5
2	Margilanchukak	76,2	76,2	76,4	76,3	3,5	3,4	3,6	12,0	10,2	12,0	11,4	3,6	3,1	3,5
3	Rishtonluchchak	60,0	64,2	67,4	63,9	3,6	3,2	3,5	9,6	8,4	8,6	8,9	3,5	3,1	3,5
4	White luchchak-3	94,2	87,2	87,4	89,6	3	3,2	3	12,0	10,0	12,6	11,5	3,6	3,1	3,5
5	Black luchchak-2	67,0	78,8	78,8	74,9	4,5	3,2	3,4	10,0	10,1	9,6	9,9	4,5	3,1	4,5
6	Lola	79,8	80,0	80,2	80,0	3	3,2	4	13,4	10,8	13,0	12,4	3,2	3,2	4
7	Super tulip	69,4	68,4	62,6	66,8	3,4	3,2	3,5	12,3	9,2	12,3	11,3	3,3	3,2	3,5
8	Good-2	136,6	137,0	137,0	136,9	4,3	3,5	4,4	12,0	11,3	12,0	11,8	4	3,1	4
9	Good-3	141,6	141,8	142,0	141,8	4	3,6	4	12,5	11,0	12,5	12,0	3,6	2,8	3,5
10	Zargaldok-2	72,2	72,4	72,8	72,5	3	3	3,5	10,5	9,1	10,5	10,0	3	3	3,4
11	Nectarine	66,6	66,4	66,6	66,5	3	3,2	3	12,0	8,6	12,0	10,9	3,6	3	3,6
Hairy varieties															
1	Elbert 1(ed.)	161,0	161,2	161,2	161,1	3	3,4	3,2	13,0	12,2	13,0	12,7	3,6	3,4	3,6
2	Elbert-2	143,6	144,0	144,2	143,9	3	3,3	3,2	12,5	11,3	12,5	12,1	3	3	3
3	Champion	168,0	168,6	148,6	161,7	5	3,5	5	12,5	12,6	12,6	12,6	5	3,7	3
4	Ranyaya Gala	74,0	72,8	73,0	73,3	3,6	3	3,7	12,5	8,5	9,5	10,2	3,8	3	3,8
5	Red Moscow	115,0	115,0	115,2	115,1	3,6	3,2	3,7	12,0	10,2	10,0	10,7	4,5	3,1	4
6	Farkhod	151,8	153,0	151,0	151,9	3	3,1	3,4	10,6	10,2	11,9	10,9	3,5	3	4,5
7	Start	102,4	102,6	102,6	102,5	3	3	3,5	10,0	9,2	11,3	10,2	3,6	3,1	4
8	Krymskaya	97,2	97,4	97,4	97,3	3	2,7	3	9,5	8,3	9,0	8,9	3	2,9	3,5
9	Vostok	127	128	128	128,1	4	3,7	3,5	12,	11,	9,5	10,9	4,5	3,5	3

		,8	,2	,4					0	3					
10	Ogonto	116,2	116,2	112,2	114,9	4,5	3,5	3,2	11,0	10,1	12,5	11,2	4	3	4
11	Gowsey	114,4	126,6	114,6	118,5	4,5	3,5	3	12,0	9,1	11,5	10,9	4,5	2,7	4,5

“Oq lyuchchak 3” (132.3 s/ha), “Muyassar2”, “Muyassar 3” (132.7 s/ha), feathery “Vostok” (183.7 s/ha), “Champion” (177.3 s/ha), “Elbert-2”, It was found that “Elbert-1” (158 s/ha) varieties have high internal potential.

So, among hairless varieties, the highest yield, 163.7 centners, was recorded in “Superlola” variety, and 33.7 centners of additional yield per hectare was obtained compared to the standard “Muyassar variety”.

The highest yield of feathered varieties was 183.7 quintals, “Vostok” variety, 36.7 quintals additional yield compared to “Elbert 1” variety was obtained.

According to the research conducted on the quality indicators of peach fruit, the superiority in weight of one piece of fruit was found in “Muyassar” varieties from hairless (136.9-143.2 g), “Elbert-1”, “Champion” (161.1-161.7 g) from hairy varieties. (Table 3).

“Muyassar”, “Margilon lyuchak”, “Oq lyuchak” -3 (3.5-4.5 points) from hairless ones, “Elbert-1”, “Champion”, “Ogonto” varieties from hairy ones were evaluated with high points (3.5-5 points).

Relatively low indicators of fruit taste are Nectarin (3.0-3.2 points), “Oq Lyuchak” 3 (3.0-3.2 points), “Zargaldok-2” varieties among hairless peach varieties, and “Krimskaya” (2.7-3.0 points), “Farkhod” (3.1-3.4 points) varieties were recorded.

The results of determining the sugar content of the fruit showed a high content of sugar in the fruit of hairless “Muyassar 1”, “Muyassar 2”, “Oq lyuchchak” 3 (12.0-12.6 percent), hairy “Champion”, “Elbert 1”, “Ogonto” (12.5-13.5 percent).

But in the conditions of productivity, low stone-gravel land, relatively low indicators of total sugar content compared to other varieties are “Rishton lyuchkak” (8.9 percent), “Kara lyuchchak” - 2 (9.9 percent), and “Krymskaya”,

“Start” among hairy peach varieties. (8.9-10.2 percent) was recorded in varieties.

Conclusions

In short, the expansion of the area of peach orchards at the expense of new varieties provides an opportunity to dramatically increase productivity and increase the export of peach fruit. Peach areas can be expanded due to the hairless peach varieties “Muyassar-2;3”, “Oklyuchchak-3”, “Superlola”, which have a high internal potential for productivity, and hairy varieties “Krasnaya Moskva”, “Vostok”, “Champion”, “Elbert-1”.

High-yielding (163.7 s/ha), high-quality (4.5 points) fruits of “Luchchak peach”, resistant to leaf blight disease (1 point), “Superlola” variety is recommended for planting new peach orchards and reconstruction of ineffective

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