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Research Article

SELECTING DROUGHT-RESISTANT APRICOT VARIETIES

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ABSTRACT

Among local and introduced apricot varieties, it is aimed to isolate the varieties with valuable biological and economic properties, and to breed seedlings of the selected variety, to increase apricot groves by selecting varieties suitable for desert regions based on promising drought-resistant high-yielding varieties.

KEYWORDS

Hardy, selection, native, garden, introduction, shaping, climatic conditions, economic traits, apricot, drought, biological characteristics, prolific, promising.

INTRODUCTION

Apricot seedlings are one of the valuable fruit trees that have been cultivated in Central Asia for a long time. Fresh apricots contain 8.4-19.0% sugar, 0.3-1.7%, various (mainly malic, citric and salicylic) acids, 0.1-1.6% pectin, vitamins A and C. . Pickles contain 80% or more sugar. It is a sweet-tasting fruit that contains a complex of nutrients necessary for humans.

In areas with insufficient water supply, the lack of moisture in the soil in newly established orchards slows down or stops the growth of fruit plants, and then there is withering of leaves and early shedding. As a

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result, the function of development in the generative organs of the crop branches will decrease next year, and the number of fruits will decrease, and the quality will deteriorate.[1].

Due to the increased water demand of perennial fruit trees, the root system of fruit trees grows deep into the soil, young orchards and nurseries are less affected by drought than young orchards and nurseries. Therefore, it is necessary to irrigate the land in winter, when there is little precipitation in autumn, when the soil moisture dries up.[2].

According to the authors who studied the drought resistance, the adaptation of the leaves of the lower layer of the branch to the dryness of the soil was significantly higher than that of the leaves of the upper layer. As a result of the observations, it was concluded that the more a plant reduces its water consumption in the event of a water shortage, the more it is resistant to drought [3].

Apricot varieties are second only to almonds in terms of drought and heat resistance. In summer, in July, the average air temperature is higher than 30 0C, and it grows well even when the maximum temperature rises to 45-47 0C.[4].

It should be noted that the system that provides plants with productivity indicators in drought conditions is carried out under the influence of the accumulation of active substances produced in the process of photosynthesis on the growth of the root system in deep layers. Temperature reduction in plant leaves has been evaluated as an important biological feature that determines the water absorption and drought resistance of the environment and soil composition. [5, 11].

It has been observed that one of the methods of increasing the resistance of cultivated plants is related to the induction of traits that help to increase stress resistance in wild species. However, wild species have high adaptability to natural conditions, and at the same time, the selection of cultivated plants has led to the improvement of variety productivity and yield quality. [6, 11].

Research methods. Field and laboratory experiments, testing and application of the results of scientific developments were carried out according to generally accepted methods in fruit growing [7, 8, 9].

Research results. Studied native and introduced Nadjimi, Subkhani Zarya, Rughi djuvanon miona and Sarvari in apricot varieties, the branch layers are fully supplied with light and sunlight, and in order to properly shape the trees, they are given a vase shape in order to increase productivity and fruit quality, and annual strongly growing branches15 sm, 30 sm and 45 sm. We made observations on the development of the trees and the quality of the fruits. As a result of our observations, it was observed that the trees used more diffused light than direct light. Because it passes through the branches from all sides of the tree and the sunlight spreads to most of the leaves. In addition, it was shown that diffused light had a greater effect on leaf size, color, fruit quality and good tree development than direct light, and that the length of daylight is of great importance.

It was shown that wind-like movement of air is of great importance in the studied apricot varieties. The effect of the wind on the plant is different, depending on its high speed (per second 10 meters and when it is faster) as a result of the effect, the fruit nodes and leaves of the plant were damaged by 10-15%. It was found that strong winds interfered with pollination of flowers by insects and damaged flowers and young buds by 15-

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20%. It was observed that when the wind speed is 20-25 m/s, tree branches break and they are completely damaged. It was found that damage was significantly reduced in the trees that were given the shape.

Apricot varieties suitable for soil-climatic conditions were studied in the conducted researches, promising varieties were selected for the cultivation of quality fruit products based on the climatic conditions of the region.Kashkadaryasummer in the region is hot and dry, and winter is cold, the average annual air temperature is 13.8 0C, the hottest temperature is 32.90C in July, and the coldest is -7.2 0C in January. The highest temperature in June rises to 50 0C and in January and February the temperature drops to -14 0C. The sum of useful temperatures during the season reached 2400-2800 0C. The average duration of frost-free days is 240 days. It was observed that spring cold days lasted until the third decade of February, and in some years until April. Accordingly, the vegetation phases of the studied apricot varieties were studied.

These phenological phases were observed in the studied apricot varieties as follows. In 2017-2019, in the Nadjimi variety of apricot varieties planted in 2009, the swelling of buds was observed on March 4-11, in the given form, this indicator was observed on average on March 6-14. the recording of buds was determined on March 7-14, and it was found that in the given forms it lasted on average from March 9-18. The beginning of the flowering phase was observed on March 9-17, and in the given forms, this indicator lasted until March 10-20. Flowering of cyggos was observed on March 13-21 in unshaped trees, and on average it lasted until March 14-25 in shaped variants, and the end of the flowering phase was observed in unshaped trees on March 21-26, and in shaped variants it lasted until March 22-30. The beginning of ripening of the fruits continued from May 25 to June 5, and in the given forms, on average, it was observed from May 21 to June 3. The beginning of the hazron line began on October 9-22, and in the given options, this indicator began on average on October 14-27. It was found that the end of the hazon line was observed on November 5-17 in the non-formulated variants, and continued until November 8-20 in the formed variants. It was found that the vegetation period lasted up to 246-251 days in unformed variants, and 248-255 days in formed variants (Table 1). It was found that the end of the hazon line was observed on November 5-17 in the non-formulated variants, and continued until November 8-20 in the formed variants. It was found that the vegetation period lasted up to 246-251 days in unformed variants, and 248-255 days in formed variants (Table 1). It was found that the end of the hazon line was observed on November 5-17 in the non-formulated variants, and continued until November 8-20 in the formed variants. It was found that the vegetation period lasted up to 246-251 days in unformed variants, and 248-255 days in formed variants (Table 1).

Table 1

Phenological observations of apricot varieties

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Varieties	Years	Bud bulge	Budding	Flowering			Complete leaf release	The fruit begins to ripen	Leaf yellowing	Hazonrezglik			Vegetation period (days)
				The beginning	In full bloom	The end				The beginning	Full spillage	The end	
Nadjimi	2017	11/ III	14/ III	17/ III	21/ III	26/ III	10/ IV	5/ VI	30/X	19/X	2/XI	13/XI	247
	2018	4/ III	7/ III	9/ III	13/ III	21/ III	5/ IV	25/V	10/X	9/X	24/X	5/XI	246
	2019	11/ III	14/ III	16/ III	19/ III	25/ III	11/ IV	5/ VI	3/XI	22/X	5/XI	17/XI	251
Subkhani Zarya	2017	12/ III	15/ III	18/ III	22/ III	27/ III	12/ IV	24/ VI	29/X	11/X	25/X	13/XI	246
	2018	4/ III	8/ III	10/ III	13/ III	21/ III	2/ IV	9/ VI	14/X	8/X	26/X	5/XI	246
	2019	9/ III	12/ III	14/ III	17/ III	23/ III	7/ IV	16/ VI	4/XI	14/X	29/X	15/XI	251
Rughi juvanon miona	2017	11/ III	15/ III	18/ III	22/ III	26/ III	12/ IV	11/ VI	6/XI	25/X	9/XI	16/XI	249
	2018	3/ III	7/ III	10/ III	14/ III	20/ III	6/ IV	5/ VI	7/X	22/X	8/XI	18/XI	260
	2019	6/ III	10/ III	12/ III	15/ III	21/ III	7/ IV	9/ VI	8/X	19/X	6/XI	15/XI	254
Sarvari	2017	11/ III	15/ III	18/ III	22/ III	27/ III	14/ IV	20/ VI	1/XI	19/X	9/XI	16/XI	249
	2018	4/ III	8/ III	10/ III	12/ III	17/ III	5/ IV	8/ VI	16/X	5/X	17/X	5/XI	246
	2019	6/ III	10/ III	12/ III	15/ III	20/ III	9/ IV	14/ VI	4/XI	16/XI	7/XI	15/XI	254

When drought resistance, the close relationship between water regime processes and environmental factors, and high adaptability characteristics are studied,Nadjimi in the variety, these parameters were observed in the leaves of large leaves up to 48.0±0.03 cm2, and in small leaves up to 29.3±0.02 cm2. Subkhani Zarya in the variety, the average leaf area was 40.7±0.03 cm2 in large leaves and 21.3±0.02 cm2 in small leaves. Rughi juvanon miona variety was 58.3±0.03 cm2 in large leaves and 32.7±0.2 cm2 in small leaves. Sarvariy in the variety, the level of large leaves was up to 56.3±0.04 cm2, and the average of small leaves was 40.0±0.03 cm2.

The natural weight of the leaves was measured under laboratory conditions and then measured after complete drying for 360 minutes in drying cabinets to determine the water content of the leaves. As a result, the amount of water in the leaves was determined, and the varieties' resistance to drought was studied. In this regard Nadjimi in the variety, the average weight of the large leaves was 1.29±0.09 mg, and in the small leaves, this value was 0.57±0.08 mg. The weight of these leaves after drying was found to be 0.46±0.003 mg to 0.19±0.002 mg, and the water content was 0.83±0.003% to 0.38±0.002%. Subkhani Zarya The natural weight of the leaf in the variety is 0.80±0.07 mg in large leaves, and 0.50±0.04 mg in small leaves and the weight after drying is 0.24±0.001 mg and 0.18±0.001 mg respectively. and it was determined that the content of water is 0.56±0.003% to 0.32±0.002%.

Rughi juvanon miona the average weight of the large leaves of the variety was 1.18±0.8 mg, and the average weight of the small leaves was 0.72±0.6 mg. The weight of these leaves after drying was 0.54±0.002 mg and 0.20±0.001 mg, respectively. It was determined that the amount of water in the composition is

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0.64±0.003% by 0.52±0.003%.Saravri The average weight of the large leaves in the variety was 1.31 ± 0.9 mg to 0.61 ± 0.5 mg in the small leaves. The weight of these leaves after drying was 0.40±0.002 mg and 0.22±0.001 mg, respectively. It was determined that the content of water is 0.91±0.004% to 0.39±0.002%. (Figure 1)

During the vegetation period, the degree of water supply of the leaf tissues, water storage properties, and the ability to carry out starch synthesis even in the hot summer showed drought resistance. Nadjimi and Subhani Zarya drought resistance of the varieties was mainly distinguished by the fact that their trees and leaves are small compared to the studied varieties, and that they have the ability to retain enough moisture even in unfavorable conditions of nature. The number of leaves, leaf surface and water content of the studied apricot varieties were determined in field and laboratory conditions. (Table 2)

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Table 2

The number of leaves of trees in apricot varieties in 2017-2019,

natural and dried weight dimensions (planted in 2009)

No	Varieties	Year	1 is the number of leaves on a bush	Leaf level (cm2)	of the leaf naturally weight	of the leaf dry weight	The amount of water in the leaf mlg%
1	Nadjimi	2017	12260±162.62	42±0.03	1.22±0.06	0.41±0.002	0.81±0.003
		2018	11384±151.23	52±0.02	1.36±0.09	0.49±0.003	0.87±0.004
		2019	12053±159.72	50±0.03	1.30±0.8	0.48±0.002	0.82±0.003
2	Subkhani Zarya	2017	11640±145.34	39±0.02	0.76±0.04	0.22±0.001	0.54±0.002
		2018	10875±126.78	41±0.03	0.81±0.03	0.25±0.002	0.56±0.002
		2019	11128±131.98	40±0.02	0.82±0.04	0.24±0.001	0.58±0.002
3	Rughijuvanonmiona	2017	5876±45.67	57±0.03	1.11±0.07	0.53±0.003	0.58±0.008
		2018	4960±37.65	60±0.03	1.23±0.9	0,56±0.003	0.67±0.006
		2019	5164±41.88	58±0.25	1.19±0.7	0.54±0.003	0.65±0.005

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4	Sarvari	2017	6088±56.90	56±0.04	1.30±0.8	0.40±0.002	0.90±0.007
		2018	5960±55.87	57±0.04	1.32±0.9	0.42±0.002	0.90±0.009
		2019	6204±56.15	56±0.04	1.30±0.8	0.40±0.002	0.90±0.008

Figure 1. Leaf water content was determined under field and laboratory conditions

Figure 2. Pruning of annual growing branches of apricot in different parameters.

CONCLUSION

Nadjimi, Subkhani Zarya, Rughi juvanon miona and Sarvari, cultivars differed from other cultivars in the experiment in terms of their resistance to drought due to the small size of the leaf surface and rather short branching. According to the observations made Nadjimi and Subhani Zarya annual growing branches of

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varieties 45 cm. leaving and Saravri and Rughi juvanon miona in varieties, the annual growing branches are 30 cm. In comparison with the remaining options, the average yield was 7 to 12 kg per bush(Figure 2).

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