ASSESSMENT OF OLIVE PLANT TOLERANCE TO WINTER COLDS IN THE CONDITIONS OF FERGANA VALLEY.

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Annatatsiya. The article is devoted to the adaptation and phenology of acclimatized olive varities to the soil and climatic conditions of the republic.

Key words: *olea europaea l*, varieties, biological features, productivity, agriculture technology methods, yield capacity.

Introduction. According to the results of studies on cold resistance of olive varieties, olive leaves die at temperatures of 10-120C, and branches at temperatures of 17-220C. When the air temperature exceeds 220 C, all above-ground branches of the olive plant die. If 14-17 0C frost is short-term, the tree will not be damaged much, if the frosts are long-term and at 17-220C, the above-ground part of the tree will completely die. But the underground part remains.

Some olive branches were damaged in experiments at 13-150C, temperature

When it reached 17-200 C, it was observed that the roots were frostbitten. The authors note that not only winter frosts are dangerous for olives, but also spring frosts, and sometimes in spring, in the second half of March (when the movement of aphids begins in the cells), severe frosts occur, and olive trees are damaged by frost.

In our field experiments, protection of olive varieties from frost was carried out in 4 ways: researching the frost resistance of olive varieties branches in the laboratory, for this purpose, the branches prepared from them were kept in a cold room for 24 hours at different low temperatures;

- olive seedlings were wrapped with polyethylene films in November-

February (without heating);

- olive seedlings were dug 1.0 meters deep and planted in trenches;

- seedlings were left in the open field.

Laboratory analyzes showed that the Izumrud variety stood out with the most resistance of its leaves to artificial cooling. A temperature below 10 °C was required for its leaves to be completely frostbitten. At this time, the leaves of the control Gaziantep cultivar died completely at -10 °C (see Table 1).

Table 1

Cold resistance of acclimatized olive varieties, 2020-2022

Weld tag type	The degree of resistance to various low temperatures, %					
	0 °S	-2 °S	-4 °S	-6 °S	-8 °S	-10 °S
In the leaves						
Izumrud	1,2	6,7	25,6	58,9	88,6	94,2
Qorako‘z	1,3	7,8	27,8	60,2	90,3	95,6
Gaziantep – naz. 1	1,8	11,3	35,9	75,8	97,5	99,8
In the branches						
Izumrud	-	1,7	6,1	19,3	33,5	41,2
Qorako‘z	-	2,3	7,2	20,5	35,8	44,8
Gaziantep – naz. 1	-	3,4	8,5	24,8	39,7	52,6

A similar situation was noted in the Karakoz variety. The degree of preservation of the leaves of this acclimatized cultivar at the lowest studied temperature, i.e. -10 °C, was 95.6%, which is 3.0% higher than this indicator of the control cultivar (98.6%). means

The data in the table show that the frost resistance of the branches of acclimatized olive varieties was better than the control options. In this case, the lowest studied Izumrud variety, i.e., 41.2%, was 41.2%, which is 11.4% higher than the control - Gaziantep variety (52.6%). It's done.

Such a situation regarding cold resistance of olive branches was also noted in the Karakoz variety. The lowest studied preservation level of the branches of

this variety at 10 °C was 44.8%, while this indicator of the control variety reached 50.1%. It can be seen that the frost resistance of the acclimatized Karakoz variety branches is 6.3% higher than the control option.

In the field experiments, 25 leaves and 5 one- and two-year-old branches were cut from each variety of olive during the winter. The cells of the obtained leaves and branches were cut and viewed under a microscope, and glycerin was dripped on the cut place for better visibility. In this case, the affected leaf tissue turns brown, on the contrary, the leaf tissue that has not been hit by cold does not lose its color.

The degree of frost damage of olive leaves and branches was determined on a 5-point scale.

In order to determine the degree of frost damage to the above-ground and below-ground parts of plants, a special sharp knife was taken, and the lower necks of 3-5 trees were cut and it was found that they were damaged:

that the trunk of the tree was not damaged by frost when it was cut, but 5-10% of the leaves showed signs of frostbite;

low damage - a slight crack in the skin of the olive trunk was noticed when it was cut;

- 20% damage was detected in the trunk barks of trees;

- it was observed that the bark, cambium and wood were completely damaged when it was heavily damaged.

Cold resistance of olives was determined in the field in winter: after frosts.

To determine the frost resistance of olives, 10 trees of each variety were taken and studied on a 5-point scale. The degree of frost damage by olive varieties: in the Karakoz variety, 1 tree out of 10 trees, according to years, 1 tree 1 point, 1 tree

3 damaged on a scale of 2 points, 2 trees in 2020, and 2 trees in 2020-2022 (see Table 1.2).

Table 2

Frost damage of acclimatized olive varieties, 2020-2022

Olive varieties	Years	Damaged trees according to the following scores, pcs				
		1 ball	2 ball	3 ball	4 ball	5 ball
Izumrud	2020	1	1	1	-	-
	2021	-	1	1	1	-
	2022	2	2	-	-	-
Qorako‘z	2020	1	2	1	-	-
	2021	1	1	1	-	-
	2022	1	1	1	-	-
Gaziantep	2020	2	3	1	1	-
	2021	2	2	1	-	-
	2022	1	2	1	-	-

There was no degree of frost damage with 4-5 points in the acclimatized blackberry variety. In the acclimatized emerald variety, only in 2020, 1 tree was damaged by frost with a score of 4, and frost damage with a score of 5 was not observed in this variety either. However, in the Izumrud variety, frost damage with a score of 2 was recorded in 3 trees in 2020 and in 2 trees in 2021-2022. Among the studied olive varieties, the most frost damage was observed in the Krymskaya 172 variety, out of 10 trees studied in 2020 5 of them: 1 of them was affected by frost with 1-2 points, 2 with 3 points, and 1 with 5 points. It was noted that these laws were also observed in 2021-2022.

In the first year of 2021, 5 grains of the Gaziantep variety were damaged by frost, 2 of them with 1 point, the remaining 3 with 2-4 points, and in the next 2-3 years, 4 grains were damaged with 1-3 points. The results of the study of the degree of frost damage of olive varieties show that the newly introduced Izumrud and Karakoz olive varieties in our republic are more resistant to cold than the Gaziantep varieties, and ripen 5-11 days earlier.

In the winter of 2021, seedlings of more than 100 olive varieties in the experimental area overwintered outdoors. The height of some seedlings is 156-167 cm, some of them are around 56-100 cm, and it was observed that these seedlings are resistant to winter frosts.

In the Gaziantep variety, the leaves on the upper part of the stem were not affected by frost, but the leaves on the second branch were found to be 90% damaged by frost. However, in these olive varieties, it was noted that the peels on the body part were not damaged by cold. It was found that if the olive varieties are in the dormant period, frosts are not dangerous, and the temperature drop to -12-14 0C when plant cells wake up is harmful for branches and leaves.

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