

Effect of Mother Plant Placement Schemes on Seed Yield of Cherry and Plum Grafts

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Abstract: In order to meet the demand of modern horticulture for planting material in clone grafts, increasing the amount of standard cuttings can be achieved not only by increasing the area of nurseries (mother and seed nurseries), but also by improving the technology of their cultivation by increasing the output of standard cuttings and mechanizing plant care. Cherries are one of the most famous and loved grain fruits in the world. They love it for its unique taste and sweetness. Also, cherry has many useful properties, so it is not for nothing that scientists have included it in the ranks of excellent products. It has been found that cherries contain anthocyanins, which can be used to treat cancer. That is, a growing cancer cell needs regular nutrition. And the anthocyanins in cherries block the path of the nutrient channels in the body and cause cancer cells to die.

Key words: Cherries, varieties, cultivation, soil, climatic conditions, useful aspects, agrotechnics, characteristics, productivity, water demand.

For this, it is necessary to select new types of clone grafts by vegetative means adapted to the specific climate of Uzbekistan and meet the requirements of their cultivation technology. In the development of such technologies, schemes for the placement of mother plants for the production of spray occupy a special place. In conducting this study, we used the most productive, vegetatively propagated grafts, such as SVG 11-19 of plum and OVP-5 of cherry. The phenological observation of the growth strength of the rootstocks of cherry and plum vegetatively propagated grafts showed that the placement schemes and the corresponding feeding area did not significantly affect this development index of the rootstocks in both species. As the data in Table 1 below shows, the common feature for both species and parent plant layouts is that in the densely planted variant of 1.5x0.2 m with a feeding area of 0.3 m², a 1.5x0.2 with a feeding area of 0.75 m² Compared to the control variant planted according to the m scheme, it became 3-5 cm taller, that is, this indicator was imperceptible. No significant difference was observed in the plant height of the control variant and variant plants planted in a 1.5x0.3 m scheme with a feeding area of 0.45 m² (see Table 1).

Table 1 The effect of the planting scheme on the growth and development of clone grafts mother bushes, 2021-2022.

Weld tags	Planting scheme m.	Height of branches, cm M±m	Body diameter, mm M±m	Degree of leaf coverage of branches		
				The number of leaves on 1 branch, pcs	Average level of 1 leaf, cm ²	Leaf level in 1 branch, cm ²
Plum						
CBГ-11-19 0,3M ² 0,45M ² 0,45M ²	1,5x0,2	57,0±4,8	12,1±1,8	45	19,1	860
	1,5x0,3	54,3±4,2	13,0±1,2	40	18,9	740
	1,5x0,5	52,4±3,9	13,5±1,6	41	19,2	787
	Control					

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	HCP _{0,5}	2,6	1,2	4,3	20,4	79,1
Олча						
OBП-5 0,3M ² 0,45M ² 0,45M ²	1,5x0,2	46,7±5,1	10,8±2,2	43	19,0	877
	1,5x0,3	43,4±3,7	11,7±1,9	41	19,3	790
	1,5x0,5	40,2±2,4	12,0±2,0	40	1,3	736
	Control					
	HCP _{0,5}	2,9	1,2	1,1		22,1

When studying the main indicator of the grafts - the diameter of the body, it was found that the densification of the bushes, although it was imperceptible, had an effect on this indicator. In this case, a tendency to reduce the diameter of the body was observed when it was planted densely (especially in the cherry grafts with a hollow diameter of the body, capable of producing a large number of bursts). Densification of the mother bushes in the row led to a decrease in the trunk diameter from 12.0 (in the control option) to 10.8 mm (in the option planted in a 1.5x0.2 meter scheme). The same situation was observed in plum grafts.

The data presented above indicate that changing the inter-row spacing, but leaving the row spacing unchanged, does not significantly affect the biometric parameters of the growth and development of the studied clone grafts of cherry and plum mother bushes.

When the productivity of individual mother bushes was recalculated per hectare, the highest productivity of 1 mother plant was distinguished by VP-1, Krymskiy-5, SAVR 6r and OVP-5 grafts, their productivity was 82.5; 87.5; It was 97.2 and 127.6 thousand units/ha. The smallest expression of this indicator was recorded in grafts of OVP-1 - 57,000 pieces/ha and seed Shubinka - 34,500 pieces/ha.

From the third year of using cherry cuttings from the mother nursery, the productivity of the formation of branching shoots in plants increased significantly both in individual bushes and in the area unit, and the increase in productivity was in the range of 1.4-1.5 times according to the types of grafts. In the most productive grafts of cherry, such as OVP-5, SAVR-6R, Krymskiy-5, VP-1, from the third year of using the mother nursery, from 9 to 14 pieces per bush or from 123.7 to 191.4 thousand pieces/ha per unit area of the nursery. Parkish cultivation was achieved. As expected, the lowest yield of standard patches was recorded in the Shubinka variety of cherry and averaged 51.7 thousand pieces/ha.

Cultivation of vegetatively propagated plum cuttings by vertical grafting had the same tendency as the propagation of cherry grafts according to the years of use of mother bushes. In this case, grafts such as SVG 11-19, AP-1, VVA-1 with the best productivity of mother plants stood out, in which from the second year of use, each mother bush allowed to get up to 8.0-9.9 standard shoots. When the productivity of mother bushes is recalculated per hectare, this expression is 130.3, corresponding to grafts; 108.1 and 102.7 thousand units/ha had a standard yield index. In the experiment, the slowest rooting and shoot output was recorded in the Black Olu variety of plum, in this variant, the shoot output did not exceed 37.3 thousand units/ha.

During the third year of caring for the mother bushes of plum grafts, it was noted that their productivity increased by 1.4-1.6 times per bush and per area unit. Therefore, the productivity of the most productive grafts - SVG 11-19, AP-1, VVA-1, OP-23-23 and AKU 2-31 forms - 14.8 per bush; 12.4; 12.0; 11.5; It was 11.2 pieces, and in the area unit of the nursery it was correspondingly from 148.2 to 195.0 thousand pieces/ha.

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