

DEVELOPMENT OF CHERRY ROOT SYSTEM ON DIFFERENT TYPES OF ROOTSTOCKS

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The experimental orchard for the study of different types of rootstocks was planted in spring 2016 in the northern zone of the Republic of Moldova with annual seedlings of cherry varieties Kordia and Regina. Two types of rootstocks were studied: Gisela 6 and Antipka, which served as a control. Cherry trees were formed according to the free-growing spindle type. The planting scheme of trees grafted on Antipka - 4 x 3 m, on Gisela 6 - 4 x 2.5 m. The orchard is irrigated. Analyzing the data on the length and weight of roots, it should be noted that at the age of seven years, the highest values of this indicator were observed in the Gisela 6 rootstock, which exceeded the Antipka rootstock by 35.2% in terms of total length in the Kordia variety. Thus, in the variety Kordia by weight it amounted to 88%, while in this variety grafted on Gisela 6, it was only 79%. In general, the root system of Gisela 6 rootstock is characterized by greater branching and a higher percentage of active roots with a diameter of less than 3 mm. Analyzing the distribution of roots by soil horizons, it should be noted that the greatest value of the length and weight of roots for the studied rootstocks was registered in the soil layer 20-40 cm. Thus, in the variety Cordia on the rootstock Gisela 6, 27.2% of the total length of roots is concentrated in this horizon. In terms of root mass, the values of this horizon are even greater. The second in importance is the surface soil layer 0-20 cm, which accounts for about 26% of the root length, and the third horizon 40-60 cm - about 23%. It also draws attention to the fact that in Gisela 6 a rather significant part of roots is located in the horizon 40-60 cm, while in Antipka, the mass of roots in this horizon was 2 times less. With depth the mass of roots gradually decreases and in horizons 60-80 cm and 80-100 cm their share is 10-12%. The studies have shown that the rootstock has a significant effect on the power of distribution of the root system of cherry. Despite the weaker development of the above-ground part of trees grafted on the Gisela 6 rootstock compared to Antipka, the root mass of trees grafted on its varieties Kordia and Regina was, on average, by 13%, and the length by 34% more. In the root structure of Gisela 6 rootstock, the main share - 77.5% - is accounted for by lobe roots with a diameter of less than 1 mm. The roots of this rootstock evenly develop the thickness of the soil horizon up to 60 cm deep, where up to 76% of the total root length is concentrated.

Acknowledgments: This study was supported by the NARD of the Republic of Moldova, project 20.80009.5107.04 „Adaptation of sustainable and ecological technologies of fruit production under quantitative and qualitative aspect according to the integrity of the culture system and climate changes”. Project director, Doctor Habil. , university professor, Valerian BALAN.

Keywords: *cherry, placement in the soil, rootstocks, roots.*