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THE IMPACT OF THE PRUNING SYSTEM ON THE SWEET CHERRY TREE GROWTH AND FRUCTIFICATION

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The formation of crowns of sweet cherry trees, the pruning time and the existing growing technologies that allow the maximum use of the biological potential of modern gardens remain relevant. Along with the classical methods (rootstock, variety, fertilization, irrigation, etc.) of regulating the growth and fruiting of sweet cherry trees, the pruning during the growing season is a process of improving the physiological balance between the vegetative growth and the number of fruits. The pruning of trees in early autumn, namely in the first decade of September, in contrast with the conventional pruning carried out when the trees enter the dormant period, has a greater impact on yield and fruit size. As a general trend, the pruning during the growing season leads to an increase in the size and colour of the fruit and to a decrease in the incidence of brown rot. It is increasingly used in high density orchards.

The purpose of the research was to evaluate the impact of the time of the pruning of the sweet cherry trees of Kordia, Regina, Stella, Ferrovia and Skeena varieties, grafted on the Maxima 14 rootstock, on the yield and quality of sweet cherries (Prunus avium L.). The orchard was laid out with 3 m between trees in the row, and 5 m between rows. The canopy of the trees was small and of a naturally improved shape. The maintenance and thinning pruning of the sweet cherry trees were done during both the growing season and the dormant period. The pruning system consisted of four time periods: G1 – Pruning during the dormancy (control group), G2 – Pruning during the flowering period; G3 – Post-harvest pruning; G4 – Pruning in early autumn. Four groups of eight trees each were used in the experiment.

The orchard was irrigated using the drip irrigation system. Water was distributed by droppers fixed at a height of 40 cm from the ground in the direction of the row. The soil was kept artificially grassed. The weeds on the two-meter-wide strips of land between the rows were mowed down as needed and left as mulch. The grass of natural or artificial growth, which grew on the strips 2-2.5 m wide between the rows of trees, was mowed as needed and left as mulch. The weeds were killed with herbicides applied along the rows, or mechanically weeded twice or thrice times using sensitive weeding equipment.

The pruning of sweet cherry trees is a process, which has a great impact on the fruit quality and yield. The pruning time had a strong impact on the growth and fructification of the cherry tree varieties grown in an intensive farming system. The pruning done during the growing season (the post-harvest pruning and the pruning in early autumn) had a greater impact on the tree vegetative growth, i.e. the height of the tree, the average and total length of annual branches, and the section of the trunk. The sweet cherry trees of the Kordia, Regina, Stella, Ferrovia and Skeena varieties, grafted on the rootstock Maxima 14, in G 4 (the pruning was done in early autumn) formed fruit branches with a large number of flower buds, over against G1 in which the pruning was done during the dormant period (the control group).

Keywords: *Prunus avium* L., fruit quality, pruning time, growth