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## THE UTILIZATION OF THE GROWTH REGULATOR PACLOBUTRAZOL IN SWEET CHERRY ORCHARDS

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Around the globe, sweet cherries (*Prunus avium L.*) orchards occupy more than 440 thousand hectares and produce almost 2,3 million tons per year. In the Republic of Moldova, sweet cherry orchards occupy 4100 hectares and produce more than 10 thousand tons per year. Sweet cherry trees are of great economic importance due to the nutritional, technological and commercial value of their fruit.

The researches have been carried out in the central fruit growing zone of the Republic of Moldova, in Ustiya „Star Agro Groop” LLC in the district of Criuleni. The orchard was planted with the Kordia, Regina, Stella, Ferrovia and Skeena varieties, grafted on Maxma 14 rootstocks. The trees were planted in the autumn of 2012 at a distance of 5 x 3 m, using trees with naturally improved reduced volume crowns. The effect of the growth regulator Paclobutrazol applied to the soil around tree trunks was assessed. The amount of 1, 2 and 3 ml was mixed with 500 ml of water and poured onto the soil around trunks in a circular strip to a depth of 3-5 cm. The experiments included 4 groups of 3 trees each. The Paclobutrazol (PP333), a plant growth retardant called *antigibberellin*, is widely used to retard growth and to improve flowering in fruit plants. As a result, a shoot with the same number of leaves and internodes is of a shorter length. The period and rate of the Paclobutrazol application influenced the time and intensity of flowering and fruit harvest. The rate of a growth regulator utilization affects the yield per tree and per unit area. The yield of the Cordia, Regina, Stella, Ferrovia and Skina varieties, grafted on Maxma 14 rootstocks, was high in this case. The positive effect was manifested by reducing the growth of annual branches and increasing the number of fruits with a diameter of 28 mm or larger, without affecting the overall yield.

The work was part of a strategic priority relating to sustainable agriculture, food security and food safety, namely the development and implementation of modern technologies which are a way to increase the productivity of cherry orchards by maintaining a balance between growth and fruiting. The growth regulator Pacloburazol reduces the vegetative growth of trees.

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