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THE IMPACT OF THE PRODUCT CROPAID NPA AND THE GROWTH REGULATOR PACLOBUTRAZOL ON THE GROWTH, FRUITING AND PRODUCTIVITY OF SWEET CHERRY TREE VARIETIES

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The sweet cherry tree (*Prunusavium* L.) is a large fruit tree. In the Republic of Moldova, favourable conditions have been created for growing sweet cherry trees. However, in all fruit growing areas there are elements of limitation from a thermal point of view, namely heat in summer and late spring frosts, which occur quite often and are harmful to the crop. Frosts affect the flowering organs of plants, whose resistance to frost decreases as the growing season progresses.

The study was carried out in the central fruit-growing region of the Republic of Moldova, at the Petru Balan Individual Enterprise, in the district of Criuleni. The orchard was founded in the fall of 2014. The trees with Spanish cup-shaped crowns of the Skeena, Black Star and Lapins varieties, grafted on Maxma 14, were planted at a distance of 5x3 m. The Cropaid NPA antifreeze and the growth regulator Paclobutrazol, used to inhibit the growth of sweet cherry trees when applied to the soil as water around the tree trunk, were evaluated. The experimental design was as follows: G1 – the control group which was untreated; G2 – the use of the growth regulator Paclobutrazol (2 ml/tree) during the vegetative dormancy phase; G3 – the use of the drug Croplatid NPA 2 days before frost; G4 – the application of growth regulators Paclobutrazol (2 ml/tree) during the vegetative dormancy phase + the drug Croplatid NPA (5 l/ha).

In G3, the percentage of viable buds was significantly higher compared to the control group. The studied varieties acquired resistance to negative temperatures, which led to the production of a significant percentage of healthy fruit buds. Up to the height of 1-2 m from the soil, 70-80% of the buds were healthy. The preparations Cropide NPA and Paclobutrazol increased the photosynthetic capacity of trees by increasing the concentration of chlorophyll in leaves and leaf surface by 1.5-3.5%, which amounted to about 25-30 thousand m2/ha. Thus, the leaves became thicker and healthier, and the plants were better able to withstand unwanted external factors.

The use of the drug Cropaid NPA (5 l/ha) and the growth regulator Paclobutrazol (2 ml/tree) during the vegetative dormancy phase reduces tree growth and protects the crop from late spring frosts. As a result, in 2022, the fruit yield was 16.5 t/ha for the Lapins variety and 18.5 t/ha for the Skeena variety.

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