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USING IVIN, METHYUR, KAMETHUR TO IMPROVE THE VEGETATIVE GROWTH OF RAPESEED (*BRASSICA NAPUS* L.)

The development of new environmentally friendly plant growth regulators to improve the growth and increase the yield of an important oil and biofuel crop - rapeseed (*Brassica napus* L.) while reducing the use of environmentally toxic agrochemicals is an urgent task of modern agriculture [1, 2]. In recent years, considerable attention has been paid to development of new environmentally friendly plant growth regulators based on synthetic compounds, derivatives of N-oxide-2,6-dimethylpyridine (Ivin), 6-methyl-2-mercapto-4-hydroxypyrimidine sodium and potassium salts (Methyur and Kamethur). Our previous studies have shown that the use of plant growth regulators Ivin, Methyur, Kamethurimproves the growth and increases the productivity and adaptive properties of agricultural cropsto stress factorsof abiotic nature[3 - 5]. Thanks to the use of plant growth regulatorsIvin, Methyur, Kamethur, it will be possible to reduce the use of environmentally toxic agrochemicals and improve the ecological condition of the entire agricultural system. The aim of the present work is to study the regulatory effect of plant growth regulators Ivin, Methyur, Kamethur on the vegetative growth of rapeseed (*Brassica napus* L.) cv. Sherpa.Plant hormone auxin IAA served as a standard for studying plant growth regulating activity. Comparative analysis of rapeseed growth parameters [6] showed that the parameters of shoots and roots of plants treated with both auxin IAA and with synthetic plant growth regulators Ivin, Methyur, Kamethurat a concentration of10^{-7}M exceeded the parameters of control plants treated with distilled water. The plant growth regulating activity of IvinMethyur, Kamethur was similar or higher than that of auxin IAA.The average length of shoots (cm) increased both in plants treated with auxin IAA – by 40.26%, and in plants treatedwith plant growth regulators: Ivin - by 44%, Methyur - by 51.43%, Kamethur – by 62%, respectively, compared to control plants. The average length of roots (cm) increased bothin plants treated with auxin IAA – by 78.2%, and in plants treatedwith plant growth regulators: Ivin - by 76.84%, Methyur - by 147.37%, Kamethur – by 145.34%, respectively, compared to control plants.The average plant biomass (g) increased both in plants treated with auxin IAA – by29.35%, and in plants treated with plant growth

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regulators:Ivin - by 39.88%, Methyur - by 56.84%, Kamethur – by 49.46 %, respectively, compared to control plants. Thus, the conducted experiments showed that the highest parameters of shoots and roots were observed in plants treated with plant growth regulators Methyur and Kamethur. It was concluded that the effect of plant growth regulators Ivin, Methyur, Kamethur on the growth of shoots and roots of rapeseed (*Brassica napus* L.) cv. Sherpais due to their auxin-like effect on the activation of processes of elongation, division and differentiation of plant cells, formation and growth of plant tissues and organs, as well as improvement of metabolic processes in plant cells [7, 8]. The obtained results indicate the prospects of practical use of plant growth regulators Ivin, Methyur, Kamethur to improve the vegetative growth of rapeseed (*Brassica napus* L.) cv. Sherpa.

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