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termining, seed germination, de-etolation, cell cycle control and protein synthesis, chloroplast differentiation, overcoming of apical dominance, releasing of lateral buds from dormancy, flower and fruit devel

interactions, and in vitro morphogenesis in plants [1-5]. In our work to review cytokinin-like activity of chemical heterocyclic compounds, derivatives of pyrimidine, pyrazole, isoflavones, and pyridine we used specific bioassay conducted on the cotyledons (i.e.

pumpkin (*Cucurbita moschata* Duch. et Poir.) cultivar of cytokinins in regulation of cell division in isolat

biomass [1, 6]. The activity of chemical heterocyclic compounds was compared with the activity of plant hormone cytokinin Kinetin. The specific bioassay on cytokinin-like activity showed that among heterocyclic compounds, derivatives of oxazolopyrimidine and oxazole, used at the concentration 10<sup>-9</sup>M in water solution, the highest activity on the growth

cult pumpkin (*Cucurbita moschata* Duch. et Poir.) cultivar Gilea demonstrated the compounds: the compound 2 - 2,5-diphenyl[1,3]oxazolo[5,4-d]pyrimidin-7(6H)-one, which contains phenyl substituent at the 5th position of pyrimidine fragment, the compound 4 - 7-amin -5-(4-ethylphenyl)-2-phenyl[1,3]oxazolo[5,4-d]pyrimidine, which contains amino group at the 7th position of pyrimidine fragment, and the compound 6 - 2-tolyl-5-(piperidin-1-ylsulfonyl)-1,3-oxazole-4-carbonitrile, which

contains tolyl substituent at the 2nd position of oxazole. It is obvious that cytokinin-like activity on the

seed of muscat pumpkin (*Cucurbita moschata* Duch. et Poir.) cultivar Gilea of chemical compounds, derivatives of oxazolopyrimidine may depend upon substituents at the 5th and 7th positions of pyrimidine fragment, while as activity of compounds, derivatives of oxazole may depend on substituents at the 2th position of oxazole. The obtained results confirmed the inducing cytokinin-like effect of synthetic heterocyclic compounds on plant cell elongation, division, and differentiation that are the basic processes of plant growth. The practical application of derivatives of oxazolopyrimidine and oxazole as new

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Our research was devoted to screening of new plant growth regulators based on synthetic LMWHC for intensification of vegetative growth of cucumber. The plant growth regulatory activity of synthetic LMWHC, derivatives of [1,3]oxazolo[5,4-d]pyrimidine (compounds 1-4) and N-sulfonyl substituted of 1,3-oxazole (compounds 5-12) was studied. The LMWHC were synthesized at the Department for chemistry of bioactive nitrogen-containing heterocyclic compounds of Institute of Bioorganic Chemistry and Petrochemistry of NAS of Ukraine. The growth regulatory activity of LMWUoo tended

