ANNOTATION
of report on Research Practice of a two-year student, group BT-51m
specialty 8.05140101 - Industrial Biotechnology
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on "The impact of low-heterocyclic compounds pyrimidine derivatives in plant growth and development"

Report on Research Practice sets out 29 pages of printed text. The report consists of an introduction, two chapters, conclusion, list of references and contains 6 figures and 5 formulas.

The report from research practices are sections of literature review and experimental part.

In the introduction the urgency of the chosen research topics described its purpose and practice problems.

The objects of research were soft wheat (*Triticum aestivum* L.) of cultivar "Nurse Odessa" pea seeds (*Pisum sativum* L.) of cultivar L 35/11 middle stalwart bewhiskered and nutmeg pumpkin seeds *(Cucurbita moschata* Duch. EtPoir.) of cultivar Gilea.

The paper used materials and methods that examine the impact of heterocyclic compounds on the growth and development of wheat and peas *in vivo*; governing the performance cytokinin activity in isolated pumpkin cotyledons and show growth and chlorophyll content of carotinoides in the cells of the studied plants.

The main results are:

- highest catalytic activity for biometric indicators seedling wheat and peas have found compounds - *methanesulfonyl-6-phenyl-2,6-dihydro-3H-imidazo [1,2-c] pyrimidine-5-one* and *6- (2-hydroxyethyl) - 8-methanesulfonyl-2,6-dihydro-3H-imidazo [1,2-c] pyrimidine-5-one hydrochloride* compared to control plants figures, an average of 16 to 121% and from 15 to 70%, respectively;
- increase chlorophyll *A* and chlorophyll *B* in wheat during processing test compounds were detected, but there was an increase of carotinoides - an average of 2 to 11%, compared with the control compounds;
- during the processing of peas heterocycles held an average increase of chlorophyll *A* content of 12 to 36% and chlorophyll *B* of 9 to 35% compared to control seedlings indicators. The content of carotinoides, with an average increase of 9 to 37%;
- detected increase biomass pumpkin cotyledons treated pyrimidine derivatives, an average of 10 to 28% compared to control compounds.

As a result of research practice have been resolved following tasks:

1. were selected chemical compounds that may exhibit the highest biological activity, accelerating the growth and development of plants;
2. determined in vitro effect of test compounds on morphological and physiological parameters of growth and development of wheat and peas throughout ontogeny;
3. the influence heterocycles selected for induction of morphological and genetic processes in cultures of cells isolated pumpkin.