

Abstract

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Thesis title: Elicitation of bioactive compounds production in *in vitro* cultures of *Panax ginseng*

This diploma thesis is focused on the study of affecting the biosynthesis of secondary metabolites of *Panax ginseng* C. A. Meyer and is focused on increasing the production of biologically active polyacetylenes and ginsenosides in *in vitro* root cultures by various elicitors.

The effect of the concentration of elicitors and growth regulators on the production of root biomass and secondary metabolites was researched. The carriers of the main pharmacological actions of *Panax ginseng* are ginsenosides and polyacetylenes.

The root cultures were cultivated in the liquid medium in the dark at $24 \pm 1^\circ\text{C}$. During the 27 day the sterile elicitation was done and a week later it was harvested.

The samples were processed according to the optimized procedure, separately for UPLC analysis of ginsenosides and UPLC analysis of polyacetylenes as well.

The presence of individual elicitors influenced the growth of biomass and the amount of ginsenosides and polyacetylenes in the samples.