Abstract

The elicitation of the therapeutically important cultures *in vitro* is a metod used for increasing the production of secondary metabolites. The effectiveness of elicitation depends on a complex interaction between the elicitor and the plant cell. The elicitation is influenced by many factors: the elicitors specificity, their concentration, the treatment interval, the growth phase of cell culture, the composotion of nutritional medium and the light. A wide array of external stimuli are capable of triggering changes in the plant cell which leads to a cascade of reactions, ultimately resulting in the formation and accumulation of secondary metabolites which helps the plant to overcome the stress factors.

This work the influence of UV radiation on the flavonoids production in the callus cultures *Genista tinctoria in vitro* investigated. The highest production of flavonids was obtained at genistin under the exposure of callus culture to UV radiation of 254 nm wave lenght for the time 300 s with taking of sample after 48 hours. This callus culture grew on SH medium. The content of genistin was 3,03 %.

Keywords: elicitation, elicitor, secondary metabolites, UV radiation, *Genista tinctoria*