

Explant culture of *Trifolium pratense* L.

Summary

The objective of this work was to observe the effect of the elicitors of jasmonic acid and mercuric chloride on the production of flavonoids by the *Trifolium pratense* L. suspension culture (variety Tempus). By the elicitor of mercuric chloride was observed also its effect to the production of isoflavonoids in the same culture.

The cultures were cultivated in Gamborg nutrient media with the addition of 2 mg.l⁻¹ 2,4-dichlorophenoxyacetic acid and 2 mg.l⁻¹ 6-benzylaminopurine, at the temperature of 25°C and 16-hours light/8-hours dark period. The elicited and control samples underwent the photometric determination of flavonoids in accordance with the Czech Pharmacopoeia 2005 and the determination of isoflavonoids via the HPLC method.

From the results of the elicitation of *Trifolium pratense* L. by both elicitors we can see, that more profitable of these is jasmonic acid. Compared to the mercuric chloride there was found a significant increase of flavonoid production while using a concentration of 5 µmol and operating time 24 hours. Via the HPLC method were found out the isoflavonoids genistin, genistein and daidzein. We can positively evaluate mainly 168-hours application of 10 µmol mercuric chloride, which stimulated the production of all these flavonoids.