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Abiotic Elicitation of the Explant Culture of *Trifolium pratense* L.

Summary

The objective of this work was to observe the effect of the abiotic elicitor of copper sulphate on the production of flavonoids and isoflavonoids by the *Trifolium pratense* L. suspension and callus culture (variety DO-8).

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

The results of the elicitation of the *Trifolium pratense* L. suspension culture with copper sulphate show that the maximum increase in the flavonoid production took place, when compared with the control culture, during the 168-hour application of the 100 µmol concentration. In case of the elicitation of the *Trifolium pratense* L. callus culture the best elicitation effect was recorded at the 48-hour application of the 10 µmol concentration. The control suspension culture contained the following isoflavonoids: genistin, daidzein, genistein and formononetin. Success in the production was namely achieved with the 48-hour application of the 1 µmol concentration which stimulated the production all these isoflavonoids.