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
**Effects of Explant Types and Different Concentrations of Sucrose and  
Phytohormones on Plant Regeneration and Hypericin Content in *Hypericum  
perforatum* L.**

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**Abstract:** *Hypericum perforatum* L. is a medicinal perennial known as "St. John's wort" in Western Europe and used in the treatment of mild to moderate depression. Hypericin, a dianthrone red pigment, is considered responsible for reversing the depression symptoms. The goal of this study was to produce this pigment via micropropagation and thereby describe a suitable micropropagation method for this plant. To achieve this objective, leaf discs and stem segments were cultured on Murashige and Skoog (MS) medium supplemented with kinetin and 2,4-dichlorophenoxyacetic acid (0.5, 1 and 1.5 mg l<sup>-1</sup>) and sucrose concentrations (30, 40 and 50 g l<sup>-1</sup>) in darkness at 26 ± 2 °C. The highest value was obtained from MS medium supplemented with 30 g l<sup>-1</sup> sucrose, 0.5 mg l<sup>-1</sup> 2,4-D and 0.5 mg l<sup>-1</sup> kinetin in terms of callus initiation frequency. In addition, callus initiation was observed in all media supplemented with different constituents. When obtained, calli were cultured on MS basal medium supplemented with 1 mg l<sup>-1</sup> of benzyladenine for shoot induction, while the same basal medium supplemented with 1 mg l<sup>-1</sup> of indolacetic acid was employed for rooting. The effects of factors tested on both regeneration and hypericin content were various. Number of shoots per callus and hypericin percentage were investigated and found to be higher in leaf discs originated from regenerants (19 shoots per callus and 0.048% hypericin); being easily acclimated in greenhouse conditions.

**Key Words:** *Hypericum perforatum* L., micropropagation, hypericin. Abbreviations: BA-6-benzyladenine; 2,4-D-2,4-dichlorophenoxyacetic acid; IAA-indolacetic acid; IBA-indolebutyric acid; NAA- $\alpha$ -naphthaleneacetic acid.

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