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## **EFFECT OF SOME ELICITORS ON CALLUS GROWTH AND TOTAL TROPAINE ALKALOID PRODUCTION IN *ATROPA BELLADONNA* L.**

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### **ABSTRACT**

Belladonna (*Atropa belladonna* L.) is one of the most important medicinal plants as a source of tropane alkaloids. The present study tested the effect of some elicitors (yeast extract (YE) and salicylic acid (SA)) on callus growth and total tropane alkaloid production in *A. belladonna*. YE and SA were tested at different concentrations (0.0, 0.5, 1.0, 2.0 and 4.0 g/l for YE and 0.0, 15, 35, 70 and 140 mg/l for SA). Callus growth (fresh weight (FW) and dry weight (DW)) was suppressed upon the addition of YE and SA compared to control. YE and SA at different levels tested are suitable to be used in *A. belladonna* callus cultures to stimulate the total tropane alkaloid production. Within YE concentration, 2.0 g/l YE is the most appropriate treatment for total tropane alkaloid production (1546.7 µg/g DW). Among all treatments, SA at 35 mg/l produced the highest amount of total tropane alkaloid (2262.2 µg/g DW) compared to control (475.6 µg/g DW).

**Key words :** *Atropa belladonna*, elicitors, salicylic acid and callus. yeast extract,