ABSTRAKT

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In vitro-cultures of medicinal plants-III.

Elicitation is one of the methods that can be used for increasing secondary metabolites production in *in vitro* cultures. The present study investigates the effect of methylviologen as the abiotic elicitor on the flavonoids production in the callus and suspension cultures of *Ononis arvensis* L. after 6, 12, 24, 48, 72 and 168-hours methylviologen administration. The cultures were cultivated on Murashige-Skoog medium with addition of 10 mg/l α-naphtylacetic acid (α-NAA). The flavonoids content was determined using spectrophotometry methods. The maximal content of flavonoids was detected in callus culture after 168-hours methylviologen elicitation in concentration c_1 ($2{,}1929 \cdot 10^{-3}$ mol/l), the production was increased about 444%. The maximal increase of flavonoids production in suspension culture was after 12-hours methylviologen elicitation in concentration c_3 ($2{,}1929 \cdot 10^{-5}$ mol/l), the production was increased about 42%. In the opposite, the decreased flavonoids production was detected in callus culture after methylviologem treatment in the concentration c_1 ($2{,}1929 \cdot 10^{-3}$ mol/l) after 6 and 12 hours about 100% and in suspension culture in the concentration c_2 ($2{,}1929 \cdot 10^{-4}$ mol/l) after 12 hours about 88%.