ABSTRACT

Influencing of secondary compounds production in plant cultures *in vitro*

The effect of chemical compound MD680/II as abiotic elicitor (3-{[3-(trifluoromethyl)benzyl]amino}pyrazine-2-carboxamide), in concentration of $3{,}3756.10^{-3}$ mol/l, $3{,}3756.10^{-4}$ mol/l and $3{,}3756.10^{-5}$ mol/l on the routine production in *Fagopyrum esculentum* L. callus and suspension culture was investigated.

Callus and suspension culture was cultivated in Murashige and Skoog nutrient medium suplemented with (2, 4 – D) as the growth regulator with luminous period 16 h light and 8 h darkness at 25 °C. The samples were taken in 6, 12, 24, 48, 72 and 168 h after elicitor exposition. The control samples were taken in 24 and 168 h. The amount of routine was defined by High performance liquid chromatography.

The highest increase of routine content in callus culture was most apparent after elicitor application of $3{,}3756.10^{-3}$ mol/l and 168 h sampling (1,28 $mg.g^{-1}DW$), in concentration of $3{,}3756.10^{-4}$ mol/l and 72 h sampling (0,49 $mg.g^{-1}DW$) and in concentration of $3{,}3756.10^{-5}$ mol/l and 12 h sampling (0,26 $mg.g^{-1}DW$).

The highest increase of routine content in suspension culture was apparent after elicitor treatment in contrentation of $3{,}3756.10^{-4}$ mol/l and 168 h sampling (0,32 $mg.g^{-1}DW$), in concentration of $3{,}3756.10^{-3}$ mol/l and 48 h and 72 h sampling (both 0,04 $mg.g^{-1}DW$) and in concentration of $3{,}3756.10^{-5}$ mol/l and 6 h and 24 h sampling (both 0,01 $mg.g^{-1}DW$).

Routine release into the nutrient medium was also detected. The routine release was apparent only after elicitor application in concentration of $3{,}3756.10^{-5}$ mol/l and after 24 h sampling (0,67 mg/100ml).