

**INDUCTION OF ANTHOCYANINS ACCUMULATION BY METHYL JASMONATE
IN SHOOT OF *CRASSULA MULTICAVA*****Saniewski M.^{1,3}, Horbowicz M.², Puchalski J.³**¹Research Institute of Pomology and Floriculture, Pomologiczna 18, 96-100 Skierniewice, Poland²Research Institute of Vegetable Crops, Konstytucji 3 Maja 1/3, 96-100 Skierniewice, Poland³Botanical Garden – Center for Biological Diversity Conservation of the Polish Academy of Sciences, Prawdziwka 2, 02-973 Warszawa, Poland

Jasmonic acid (JA), methyl jasmonate (JA-Me) and their related compounds which are designated as jasmonates, are widely distributed in the plant kingdom and show various important biological activities in the regulation of plant growth and development, resulting in a consideration that they are putative new plant hormones. Endogenous levels of jasmonates, mainly JA, increase rapidly and transiently in plants or their organs under both abiotic and biotic stress conditions. Jasmonates consist of an integral part of the signal transduction chain between stress signal(s) and stress response(s). Methyl jasmonates can act as an intracellular regulator, a diffusible intercellular signal transducer, or an airborne signal mediating intra- and interplant communications. Jasmonates are important signal transducers in plant secondary metabolism which are produced via the octadecanoid pathway. Exogenous application of jasmonates greatly stimulated the biosynthesis of a wide range of secondary metabolites in cell suspension cultures and intact plants.

As was previously reported, methyl jasmonate had stimulatory effect on anthocyanins accumulation in hypocotyl of light-grown soybean seedlings (Franceschi and Grimes 1991), in shoots of wild-type of *Arabidopsis thaliana* (Feys et al. 1994), in detached corollas of *Petunia* (Tamari et al. 1995), in stem and leaves of tulips (Saniewski et al. 1998a), in peach shoots (Saniewski et al. 1998b), in cell cultures of *Vaccinium pahalae* (Fang et al. 1999), in apple fruits (Kondo et al. 2001), in suspension cultures of *Vitis vinifera* (Zhang et al. 2002), and in shoots of *Calanchoe blossfeldiana* (Saniewski et al. 2003). In this work, we present results on the JA-Me stimulation of anthocyanins formation in stem of *Crassula multicaeva*. It is interesting that in stem near nodes of the species anthocyanins are formed in much higher amounts than in the other parts of internodes. JA-Me applied in lanolin paste greatly stimulated anthocyanins accumulation in the internodes and in the nodes of *Crassula multicaeva*. The possible role of JA-Me on anthocyanin formation in *Crassula multicaeva* shoots will also be discussed.

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