

# Involvement of Jasmonic Acid in Wound-Induced Flower Senescence of Japanese Morning Glory

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## ABSTRACT

Flower senescence is a rapid process that is triggered by developmental or environmental stimuli. In this study, several environmental factors such as pollination, petal-wound, and stamen/pistil-cut, were investigated for the effects on the flower senescence of Japanese morning glory (*Ipomoea nil*). All the treatments were able to shorten the flowering time from 6 to 3 h by advancing the process of senescence. Interestingly, application of jasmonic acid (JA) to the flowers also accelerated flower senescence with a similar pattern to that of stamen/pistil-cut. Moreover, both wounding and JA induced senescence acceleration in flowers could be recovered to normal if pre-treated with 2-acetoxybenzoic acid (ASP), a JA biosynthesis inhibitors, or 2-aminoethoxyvinylglycine (AVG), an inhibitor of ethylene biosynthesis. These preliminary results suggested that ethylene and JA play a role in the wounding-induced flower senescence of Japanese morning glory. The possible signaling pathways were also discussed here.

Keywords : jasmonic acid、ethylene、2-aminoethoxyvinylglycine、2-acetoxybenzoic acid、Japanese morning glory

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