

# THE ROLE OF JASMONATES IN THE REGULATION OF GENERATIVE DEVELOPMENT IN PLANTS

## Summary

Jasmonates are phytohormones conditioning proper functioning of separate plant development stages. Jasmonates precursor is  $\alpha$ -linolenic acid. Their biosynthesis occurs in three subcellular structures: chloroplasts, peroxisomes and cytosol.

This paper summarizes the most recent achievements on participation of jasmonates in the field of reproduction of plants. Jasmonates hinder florescence among the most species of plants. However, researches carried out over rape indicate that the role of these compounds in generative induction is not explicit, i.e. they may speed up the growth of flowers in certain circumstances. Jasmonates are also very important in a process of proper formation of sterile and fertile parts of flower, as well as in opening flower buds. Furthermore, jasmonic acid

(JA) nascent in a thread rod synchronizes maturation of pollen grains with the process of opening anthers and flowers. On the basis of gene expression pattern *DAD1* analysis (the one that encodes an enzyme involved in the first stage of jasmonates formation), there was created a model of water transport regulation by JA to the stamens and petals of the crown. In addition, it was observed that one of the bioactive forms of jasmonic acid (JA-Ile) acts as an intermediary molecule in the secretion of nectar, regulated by the light. JA-Ile increases in the secretion of nectar in plants cultivated in the light and does not cause its decrease in plants cultivated in the dark. Inhibition of the JA-Ile biosynthesis in the light reduces the secretion of nectar. This result can be inverted by the application of JA-Ile.