

Plant growth-defense trade-offs: Molecular processes leading to physiological changes

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Abstract

In order to survive in a hostile habitat, plants have to manage the available resources to reach a delicate balance between development and defense processes, setting up what plant scientists call a trade-off. Most of these processes are basically responses to stimuli sensed by plant cell receptors and are influenced by the environmental features, which can incredibly modify such responses and even cause changes upon both molecular and phenotypic level. Therefore, significant differences can be detected between plants of the same species living in different environments. The comprehension of plant growth-defense trade-offs from the molecular basis to the phenotypic expression is one of the fundamentals for developing sustainable agriculture, so with this review we intend to contribute to the increasing of knowledge on this topic, which have a great importance for future development of agricultural crop production.

Author keywords

Cell receptors

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Phytohormones