1-1-2019

Chemical Elicitors of Systemic Acquired Resistance—Salicylic Acid and Its Functional Analogs

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Citation Information

Tripathi, Diwaker; Raikhy, Gaurav; and Kumar, Dhirendra. 2019. Chemical Elicitors of Systemic Acquired Resistance—Salicylic Acid and Its Functional Analogs. *Current Plant Biology*. Vol.17 48-59. https://doi.org/10.1016/j.cpb.2019.03.002

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Current Plant Biology 20 (2019) 100133

Contents lists available at ScienceDirect

Current Plant Biology

journal homepage: www.elsevier.com/locate/cpb

Plant-biotic interactions

In this special issue of Current Plant Biology, we have compiled a number of research and review articles. These articles will enhance our understanding of plants' interaction with other organisms present in their surroundings, and provide insights for development of new approaches to manage synergistic and antagonistic interactions in favor of plant productivity.

The first article of this special issue is a tribute by Naithani et al. to a well-known and respected plant physiologist, late Don Armstrong [1]. Don's contribution to the field of plant cytokinins and plant microbe-interactions is well known. He and his colleagues discovered and characterized the germination-arrest factor [1] from *Pseudomonas fluorescence*.

Jadhav et al. describe the QTL mapping of sorghum downy mildew disease resistance in *Zea mays* [2]. Sorghum downy mildew (SDM) infection causes ~ 30 % yield loss and reduce grain quality in susceptible varieties. Plants get infected with SDM at a very early stage leading to the death of young seedlings. This is a significant disease widespread in American, African, Asian, and Australian subcontinents.

Medina et al. describe the secondary metabolites synthesized by the necrotrophic fungi *Stemphylium lycopersici* (causes grey leaf spot) and biotrophic fungi *Fulvia fulva* (causes leaf mold) in tomato plants [3]. The secondary metabolites produced by the fungi are of great significance for both the food security and pharmaceutical industry.

Jayaprakash et al. have reviewed various strategies to understand the *Aspergillus flavus* resistance mechanism in *Arachis hypogea* [4]. The aflatoxins produced by the *Aspergillus flavus* are of great significance to the food industry both for humans and livestock. Limiting the infection and growth of *Aspergillus flavus* in peanut through the use of resistant germplasm and omics approach is reviewed in this paper.

Khan et al. describe the evaluation of the nematicide potential of leaf extracts from Coccinia grandis, Commelina benghalensis, Leucas cephalotes, Phyllanthus amarus and Trianthema portulacastrum against root-knot nematode, *Meloidogyne incognita* infected carrot plants [5]. Chemical pesticides provide the most economical and efficient control of nematodes, but the increased environmental, toxicological, and societal concerns are asking for the use of alternative means to control plant pests/pathogens.

Afolabi et al. have evaluated the African yam bean (*Sphenostylis stenocarpa*) accessions for resistance to a flower bud and pod rot diseases [6]. African yam bean is good source of nutritious food due to its high protein content.

Awan and Shoaib describe the use of *Bacillus subtilis* in combination with plant fertilizers to control the early blight infection in tomato caused by the necrotrophic pathogen, *Alternaria solani* [7].

Muniroh et al. describe the use of biocontrol agents to control *Ganoderma boninense* (causal agent of basal stem rot) in the infected oil palm seedlings [8]. Basal stem rot causes the death of the palm tree's shortly after the appearance of the symptoms.

I would like to thank all the reviewers who provided their valuable time and helped reviewing these papers.

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https://doi.org/10.1016/j.cpb.2019.100133