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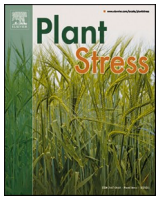

Unraveling efficient strategies for inducing systemic resistance in crops for managing biotic stress☆

In 2021, 828 million people were suffering from chronic hunger (and undernourishment) globally (FAO, IFAD, UNICEF, WFP and WHO, 2022), while, as of March 2023 across 89 countries, 651 million people do not have sufficient food on their plates (The HungerMap[LIVE], 2023).

High levels of crop loss (at both pre- and post-harvest stages) add to the severity of SDG2 i.e. Zero Hunger. Around 30% of the world's crops are lost to pests and pathogens (Savary et al., 2019). Climate change amplifies this threat by changing the range and behavior of crop pests and pathogens. Hence, it won't be an exaggeration to assert crop health and global food security as the foremost challenges of the current century.

Considering the critical burden on the current food system as well as forecasts for the near future, it becomes clear that greater food production would be imperative. More importantly, the amplifying severity of multiple biotic and abiotic stresses leaves only few circular, sustainable, and eco-friendly approaches to be explored.

This special issue offers a selection of articles demonstrating a spectrum of complex plant-BCA-pathogen interactions for inducing systemic resistance in a variety of crops of economic and nutritional value. Salwan et al. (2023) provided a comprehensive outlook on the recent advances in BCA triggered ISR in crops with a special focus on the role of non-expressor of pathogenesis-related gene 1 (*NPR1*) and other elicitors of bacterial origin in their interaction with plants, with an emphasis on the underlying factors involved in systemic resistance. del Carmen Orozco-Mosqueda et al. (2023) discussed the urgency of using such elicitors to enhance the sustainability aspect in current agricultural practices for assisting crops to defend themselves from invading pathogens. In addition, Meena et al. (2022) also discussed elicitor-receptor mediated defense mechanism acquired for systemic resistance and in this context, attempting to draw the attention of the researchers to explore novel elicitors as disease control alternatives. Paul et al. (2022) presented clinching evidence of fungal elicitors on ISR activation and secondary metabolites production in *Catharanthus roseus,* while El Hamss et al (2023) presented evidence whereby bioefficacy of *Bacillus amyloliquefaciens* SF14 for the control of the postharvest citrus green mould was enhanced significantly following exogenous application of salicylic acid.

Concurrently, Ruparelia et al. (2022) presented streamlined arguments on the application of bacterial secondary metabolites as next-generation defense molecules for efficient management of biotic stress in crops. Furthermore, Sachdev et al. (2023) demonstrated an interesting prospective on biosurfactants' as a sustainable alternative for the management of fungal pathogens in horticultural crops.

Simultaneously, Latif et al. (2022) analyzed the interaction among sheath diseases complex (ShD) of rice and ribosomal DNA analysis for the differentiation of *Rhizoctonia solani, R. oryzae* and *R. oryzae-sativae*. Lavale et al. (2022) presented a compelling case on the advances made during the past two decades using omics'-based approaches for developing bacterial wilt resistance in Solanaceous crops. Likewise, Pandey et al. (2022) systematically reviewed the beneficial fungi for the efficient management of pest and disease tomato, while Kumar et al (2023) discussed the role of plant secondary metabolites in the transcriptional regulation of defense components in plants under biotic stress conditions.

Harnessing the potential of agriculturally important microorganisms could help in providing low-cost and environmentally safe technologies to the farmers and ultimately help in reducing the crop loss burden. Considering the recent developments in the area of sustainable crop protection and production, we believe that the aforementioned articles would be of interest to the audience.

Declaration of Competing Interest

None.

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Chetan Keswani[a,*], Raffaella Balestrini[b], Tatiana Minkina[a], Satyendra Pratap Singh[c], Ugo De Corato[d], Estibaliz Sansinenea[e]

[a] *Academy of Biology and Biotechnology, Southern Federal University, Rostov-on-Don 344090, Russia*

[b] *National Research Council, Institute for Sustainable Plant Protection (CNR-IPSP), Torino, Italy*

[c] *Department of Mycology and Plant Pathology, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221005, India*

[d] *Department of Bioenergy, Biorefinery, and Green Chemistry (TERIN-BBC-BIC)-Italian National Agency for the New Technologies, Energy, and Sustainable Economic Development (ENEA)-Territorial Office of Bari, Via Giulio Petroni 15/F, 70124 Bari, Italy*

[e] *Facultad De Ciencias Químicas, Benemérita Universidad Autónoma De Puebla, 72590, Puebla; Pue; México*

[*] Corresponding author.
E-mail address: Kesvani@sfedu.ru (C. Keswani).