Rhizobacteria mediated improvement of soil and plant health

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Received : 29.01.2021 Accepted : 14.03.2021 Published : 29.03.2021

Rhizobacteria are root-associated bacteria, which have different type of relation with the plants like either cause disease or to improve their health. They play an important contribution in biodegradation of pesticides, phytoremediation of polluted soil by heavy metals, provide nutrients by producing siderophores, ammonia, nitrogen fixation, phosphate and potassium solubilization, acidification and redox changes to the plants. Rhizobacteria have ability to produce different types of bioactive compounds like antibiotics, volatile and growth promoting substances, which help plants to cope up with biotic and abiotic stresses. Various antagonistic rhizobacteria are applied in the field to control the different diseases of crops. The ability of bacteria to bioremidate these pesticides mainly based on their biodegradation activity. The result indicates massive potential of species of Bacillus, Pseudomonas, Panteao and many more to degrade pesticides used in agriculture. Hence it is necessary to select the potential rhizobacteria to obtain benefit of them to have it well-characterized. However, further research on plant growth promoting, antagonistic and biodegradation activities through these bacteria is utmost require if these strategies are to be implemented for betterment of plant and soil health.

Key words: Antagonistic, PGPR, plant health, rhizobacteria, soil health,