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# *Pseudomonads* for Sustainable Crop Production in Disease Free Manner

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**Abstract**

World is suffering from major concerns of the rising population along with global warming. In the limited availability of lands and depleting natural resources it will be a matter of concern to feed the increasing global population. Together with effective crop management practices, the use of Pseudomonads as biocontrol agents is an attractive option in sustainable agricultural practices due to their eco-friendly nature or the possibility of reducing agrochemical applications.

**Keywords:** Biocontrol agents, Phosphate solubilization, Indole acetic acid, Siderphores

Many biotic and abiotic factors affect the plant growth in soils. The most common group of microorganisms in the rhizosphere are bacteria that coexist with other microbes like fungi, protozoa, algae etc. Because bacteria are the most abundant microorganisms in the rhizosphere, the physiology and competitiveness of root colonization in plants are likely to be influenced to a greater degree by them (Glick, 2012).

## PSEUDOMONADS AS BIOCONTROL AGENTS

Pseudomonads are aerobic, gram-negative, Gammaproteobacteria, belonging to the family Pseudomonadaceae containing nearly 191 diversified species. Pseudomonads are omnipresent in soil environments due to genetic plasticity and metabolic flexibility. They are typical rhizosphere inhabitants of various agricultural crop plants, where they play a major role in promoting plant growth and behave as biocontrol agents that made more suitable for plant growth, yields and disease management (Jain and Pandey, 2016).

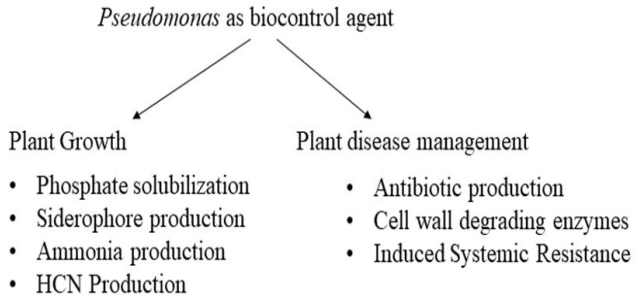


**Fig. 1: Pseudomonas in plant growth and disease management**

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