

Seabuckthorn Rhizobacteria and their Function in Plant Growth Promotion: A Review

Diskit Dolkar*, Stanzin Angmo, O.P Chuarasia and Tsering Stobdan

Defence Institute of High Altitude Research, DRDO, Leh, Jammu and Kashmir, 194101, India
*E-mail: diskit2501@gmail.com

Abstract—Soil harbor several important species of bacteria which flourish in rhizospheric root of plant and stimulate plant growth by plant-bacteria interaction. It's the mechanism of plant-bacteria interaction which determines the fate of plant growth and soil fertility. These bacteria are referred as plant growth promoting rhizobacteria (PGPR). Several important species has been identified and documented as PGPR from Seabuckthorn rhizosphere. Genera of *Pseudomonas* and *Bacillus* were screened for efficient PGPR trait viz insoluble phosphate solubilisation, indoleacetic acid production, siderophore production, Hydrogen cyanide production, antifungal and abiotic stress tolerance potential which collectively improves overall growth of plant. The Seabuckthorn rhizosphere also have nitrogen fixing ability due to presence of symbiotic bacteria *Frankia* (Actinomycetes) in the root nodule of plant, thus improving soil fertility, enhances the entire soil ecosystem in the form of rich organic matter , more oxygen and more soil organism leading to more soil biodiversity. Extensive research on Seabuckthorn PGPR may lead to an opportunity to exploit the role of efficient bacteria in increasing soil fertility in cold deserts.