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Genetic diversity of fluorescent *Pseudomonas* associated with Plant Growth Promoting Activities

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Abstract

Rhizospheric soil sample was collected from different regions of Nanded district. Total ten species i.e. two species from each region were selected for the further studies. Species were identified as fluorescent pseudomonas based on morphological and biochemical activities such as grams nature, oxidase, fluorescent pigment, arginine hydrolysis. These species were studied for their plant growth promoting activities like IAA production, phosphate solubilization, cellulase production, protease production. All the isolates were positive for protease production and phosphate solubilization. Nine isolates were positive for IAA production. Five isolates were positive for cellulase production. All the isolates were able to inhibit the growth of plant pathogenic fungi such as *Aspergillus, Fusarium oxysporum, Alternaria*. The study of whole cell protein profile was done for showing relationship among the isolated strains by UPGMA cluster analysis. Similarly index suggested the isolates were distinguished into four clusters representing different area or region.

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