Indian Journal of Ecology (2016) 43 (1): 160-163

Manuscript Number: 2288
NAAS Rating: 4.47

PGPR Mediated Induction of Systemic Resistance in Chickpea Against *Fusarium Oxysporum* and Growth Promotion under Field Condition

Poonam Kumari and Veena Khanna[1]

Department of Microbiology, [1]Department of Plant Breeding and Genetics
Punjab Agricultural University, Ludhiana-141 004,India
E-mail: poonam15sep@gmail.com

Abstract: Seed bacterization with rhizobacterial isolates Ps14c and B20d induced significant protection against the pathogen, *Fusarium oxysporum,* in chickpea and reduced the wilt incidence to 85.7 and 73.3% respectively, as compared to 92% in uninoculated control. Bacterial inoculation also caused systemic protection against wilt besides increasing the plant growth under field condition. Time course analysis for the induction of defense related enzymes and PR proteins showed higher accumulation of phenols, Peroxidase, Poly Phenol oxidase, phenyl ammonia lyase and total proteins in chickpea roots as compared to uninoculated control. Higher accumulation of phenols, total protein and peroxidase activity was observed on 45th day which declined on 60th day after germination while polyphenol oxidase and phenyl ammonia lyase activity was higher on 60th day as compared to 45th day in inoculated plants.

Key Words: Biochemicals, Chick pea, Enzymes, Fusarium, Resistance