

# EFFECT OF CO-INOCULATION OF *PSEUDOMONAS*-MP3 AND *RHIZOBIUM*-GR23 ON PLANT GROWTH OF PEANUT (*ARACHIS HYPOGAEA* L.)

Vishal Kumar Deshwal and Kavita Vig

Department of Microbiology,  
Doon (P.G.) Paramedical College, Dehradun-248001.

**Abstract:** In the present study, Twenty five *Pseudomonas* strains were isolate from rhizosphere of maize plant and twenty five *Rhizobium* strains were isolate from the nodules of Gram plant in 05 different sites at Dehradun (Uttarakhand). Both *Pseudomonas* and *Rhizobium* strains were characterised on the basis of Holt. *et al.*, (1994). Plant growth activity of bacteria and interaction studies were done as per Deshwal *et al.* (2003). Seventeen *Pseudomonas* strains and fourteen *Rhizobium* strains produced Indole Acetic Acid (IAA), Siderophore, HCN, phosphatase enzyme of them, only three combinations of *Pseudomonas* and *Rhizobium* strains enhance plant growth activity in Peanut (*Arachis hypogaea* L.) as compared to individual strains

**Key words:** *Arachis hypogaea*, *Pseudomonas*, *Rhizobium*.

## REFERENCES

- Deshwal, V.K.; Dubey, R.C. and Maheshwari, D.K. (2003). Isolation of plant growth-promoting strains of *Bradyrhizobium* (*Arachis*) sp. with biocontrol potential against *Macrophomina phaseoline* causing charcoal root of peanut. *Curr. Sci.*, **84**: 443-448.
- Deshwal, V.K.; Kumar, T.; Dubey, R.C. and Maheshwari, D.K. (2006). Long-term effect of *Pseudomonas aeruginosa* GRC<sub>1</sub> on yield of subsequent crops of paddy after mustard seed bacterization. *Curr. Sci.*, **91**: 423-424.
- Holt, J.G.; Kreig, N.R.; Sneath, P.H.A.; Staley, J.T. and Williams, S.T. (1994). In, Bergey's manual of Determinative Bacteriology. *Williams and Wilkins Press*, Baltimore, USA.
- Askary, M.; Mostajeran, A.; Amooaghaei, R. and Mostajer, M. (2009). Influence of Co-inoculation *Azospirillum brasilense* and *Rhizobium meliloti* plus 2, 4-D on Grain Yield and N, P, K Content of *Triticum aestivum* (Cv. Baccros and Mahadavi). *American-Eurasian J. Agric. & Environ. Sci.*, **5**(3): 296-307.
- Mishra, P.K.; Mishra, S.; Selvakumar, G.; Bisht, J.K.; Kundu, S. and Gupta, H.S. (2009). Co-inoculation of *Bacillus thuringiensis*-KR1 with *Rhizobium leguminosarum* enhances plant growth and nodulation of pea (*Pisum sativum* L.) and lentil (*Lens culinaris* L.) *World J. Microbial Biotechnol.*, **25**: 753-761.
- Gholami, A.; Shahsavani, S. and Nezarat, S. (2009). The Effect of Plant Growth Promoting Rhizobacteria (PGPR) on Germination, Seedling Growth and Yield of Maize. *World Acad. of Sci., Engineering and Tech.*, **49**: 19-24.
- Han, H.S.; Supanjani and Lee, K.D. (2006). Effect of co-inoculation with phosphate and potassium solubilizing bacteria and mineral uptake and growth of pepper and cucumber. *Plant Soil Environ.*, **52**: 130-136.