

Growth of *Phaseolus mungo* under chromium stress – influence of chromate reducing bacteria

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Abstract

The plant growth promoting rhizobacteria (PGPR), *Pseudomonas* sp. (A3) and *Bacillus* sp. (AT33) were isolated from the rhizosphere of *Amaranthus blitum* collected from soil contaminated with chromium. Both bacterial strains quantitatively reduced hexavalent chromium to trivalent chromium. *Pseudomonas* sp. brought greater conversion of Cr⁶⁺ in the medium (100%) as compared to *Bacillus* sp. (62%). *Phaseolus mungo* seeds inoculated with *Pseudomonas* sp. or *Bacillus* sp. were grown under different concentration of chromium. The monitored parameters included elongation of shoot and root, fresh weight, dry weight and concentration of chromium in the shoot and root systems. As compared to non inoculated seedlings those inoculated with A3 and AT33 exhibited better growth.