

Microscopic Green Technology is Effective in Reducing Chromium Toxicity in Plants

Hadia-e-Fatima

Department of Botany, University of the Punjab, Lahore 54590, Pakistan

Abstract

Microorganisms, the unseen partners of the soil community play complementary role in the development of soil niche relationships by recycling essential nutrients; mandatory for soil productivity. The soil microbial community also helps to regulate the presence of various environmental pollutants including heavy metals which are continuously released as by-products from a number of industries due to urbanization. The current proposed idea presents an elegant study on plant growth promoting rhizobacteria (PGPR) which can facilitate overall growth of a plant growing in chromium polluted environment. The data presents the characterization of three selected soil microbial communities i.e., EI, EII and EIV and growth potential of these chromium-tolerant microbes on *Helianthus annuus*. These isolates were sequenced using 16S rDNA for homogeneity. The isolate EI was found to be *Bacillus cereus* while EII and EIV were found to have similarity with *Microbacterium* sp. and *Kocuria kristinae* respectively. Plant microbial studies revealed that *Bacillus cereus* (EI) exhibited 201% enhancement in plant height over control. Similarly, 177% increment in auxin content was also noted as a result of bacterial inoculation with *Kocuria kristinae* (EIV) with respect to control. The present study provides efficient bacterial isolates that are effective in minimizing toxicity of chromium with simultaneous growth improvement in chromium-contaminated environment.

Biography

Hadia-E-Fatima is currently doing her PhD at the age of 30 years from University of the Punjab, Lahore Pakistan. Recently, she has finished her project working as a visiting researcher in University of Montreal and stayed for one and a half year. She has published more than 5 papers in reputed journals and has been serving as a Microbiologist in University of the Punjab, Lahore, Pakistan these days.

4th International Conference on Microbes and Beneficial Microbes, July 20-21,2020, Montreal, Canada

Abstract Citation: Hadia-E-Fatima, Microscopic Green Technology is Effective in Reducing Chromium Toxicity in Plants, Beneficial Microbes 2020; July 20-21, 2020; Montreal, Canada