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**ALLEVIATION OF HEAVY METAL STRESS IN *BRASSICA  
COMPESTRIS* BY PLANT GROWTH-PROMOTING RHIZOBACTERIA  
(PGPR)****SOHAIL M<sup>1</sup>, ULLAH S<sup>1\*</sup>, NIAZ K<sup>2</sup>, AND UDDIN I<sup>1</sup>**<sup>1,2</sup>Abdul Wali Khan University, Department of Botany Garden Campus, Mardan, Pakistan**\*Corresponding author: E Mail: [shakirawkum321@gmail.com](mailto:shakirawkum321@gmail.com)**Received 5<sup>th</sup> Jan. 2018; Revised 4<sup>th</sup> Feb. 2018; Accepted 8<sup>th</sup> March 2018; Available online 1<sup>st</sup> August 2018**ABSTRACT**

Heavy metals are of great concern in the developing countries like Pakistan where almost major part of population is exposed to it. These toxic heavy metals making their threads from different sources like water bodies to the soil that inversely interfere not only with the plants growth and development but also initiate serious health and issues in man and other living organisms fed by these crop plants grown on such contaminated soil. Aim of current study was to check arsenic stress on different aspects of the plant physiology. Toxicity of arsenic depends upon the valance state of the arsenic. Hexavalent arsenic is highly toxic and mobile as compared to that of trivalent arsenic which is less toxic and mobile. When *brassica campestris* plant was treated with different concentration of arsenic solution like 25ppm, 50 ppm and 100ppm, severe reduction in the plant growth and development were noted. High arsenic concentrations deteriorate different physiological process of plants like germination, growth of root stem leaves and enhanced/initiated senescence. Arsenic accumulation was greater in roots of plants treated with arsenic as compared to its accumulation in stem or leaves. However, the amount of As in leaves was enough to cause chlorosis, curling, drooping and margins and premature abscissions of leaves. Application of rhizospheric bacteria delayed as response in plants. Root shoot length, fresh and dry weight also the bio chemical components like IAA, phenols and Flavonoids viability was not affected by even high doses of As.

**Keywords: Heavy Metal, Stress, *Brassica campestris*, PGPR**