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10

Bio-remediation of Arsenic Problem for Sustainable Agriculture

***A. Zaman*[1] *and Md. Hedayetullah*[2]**

[1]*Emeritus Professor, Centurion University of Technology and Management, M S Swaminathan School of Agriculture*
Paralakhemundi-761211, Odisha, India
E-mail: profazaman@gmail.com
[2]*Assistant Professor, Department of Agronomy, Directorate of Research*
Bidhan Chandra KrishiViswavidyalaya, Kalyani
West Bengal, Pin-741235, India
Email: hedaye.bckv@gmail.com

Abstract

Adoption of agricultural practices is cost effective bioremediation techniques to mitigate arsenic problems and can contribute substantially to the cause of removal of arsenic and other heavy metal contamination of soils and water thereby quality enrichment in marketable agricultural produce leading to increased crop productivity in the area of intensive cropping under irrigated eco system. Though the farmers are already practicing some traditional techniques to mitigate the arsenic problems in soils and water, like cultivation of crops which are less affected to arsenic and heavy metals pollution, growing hyper accumulating crops and so many practices wherein the modern methods are not prevalently used by the farmers due to the lack of scientific validity of these techniques, particularly in the context of prevailing socio-economic conditions. Moreover, acceptance of these improved practices by the small farmers of this region is an evolutionary process and should be intensively proved. Hence, extensive studies need for bio or phyto-remediation of heavy metals including arsenic contamination for quality marketable agricultural produce, which ultimately can realize better crop productivity.

The general objective and goal of such study aims to evaluate the effectiveness of advanced bioremediation techniques in comparison with