

Phytoremediation-A Plant Based Cleansing Method to Obtain Quality Medicinal Plants and Natural Products

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Abstract : Phytoremediation a new technology of remediating the contaminated soil, water and air using plants and serves as a green technology with environmental friendly approach. The main aim of this technique is cleansing and detoxifying of organic compounds, organo-phosphorous pesticides, heavy metals like arsenic, iron, cadmium, gold, radioactive elements which cause teratogenic and life threatening diseases to mankind and animal kingdom when consume the food crops, vegetables, fruits, cereals, and millets obtained from the contaminated soil. Also, directly they may damage the genetic materials thereby alters the biosynthetic pathways of secondary metabolites and other phytoconstituents which may have different pharmacological activities which lead to lost their efficacy and potency as well. It would reflect in mutagenicity, drug resistance and affect other antagonistic properties of normal metabolism. Is the technology for real clean-up of contaminated soils and the contaminants which are potentially toxic. It reduces the risks produced by a contaminated soil by decreasing contaminants using plants as a source. The advantages are cost-effectiveness and less ecosystem disruption. Plants may also help to stabilize contaminants by accumulating and precipitating toxic trace elements in the roots. Organic pollutants can potentially be chemically degraded and ultimately mineralized into harmless biological compounds. Hence, the use of plants to revitalize contaminated sites is gaining more attention and preferred for its cost-effective when compared to other chemical methods. The introduction of harmful substances into the environment has been shown to have many adverse effects on human health, agricultural productivity, and natural ecosystems. Because the costs of growing a crop are minimal compared to those of soil removal and replacement, the use of plants to remediate hazardous soils is seen as having great promise.

Keywords : cost effective, eco-friendly, phytoremediation, secondary metabolites

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