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## Arsenic Toxicity in Plants: A Significant Environmental Problem

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### ABSTRACT

*Arsenic (As) contamination of soil and water is a major global problem that impacts on many areas of biological sciences. Widespread use of Arsenic as pesticides has significantly contributed to the elevation of arsenic concentration in soil. Arsenic contamination in groundwater is a sever global environmental problem. Arsenic is a widespread natural element, which is not a bioorganic element to plants. in terrestrial plants both organic and inorganic Arsenic species have been found, with the inorganic species As(V) and arsenite, As(III) being the most dominant. Arsenic availability to plants greatly influenced by its forms in the soil. The background levels of arsenic are around 5 mg per kg worldwide with substantial variation depending on the origin of the soil. The behavior of Arsenic is distinctly different under anaerobic or flooded and aerobic or non-flooded soil conditions with flooded or anaerobic conditions being likely the most hazardous in terms of uptake by plants and toxicity. Agricultural application of arsenicals has introduced many different kinds of arsenic compounds to the soil environment. Biomass production and yields of a variety of crops are reduced significantly at elevated arsenic concentrations. Arsenic concentrations are generally low in plants. In all plant species tested so far, it has been shown that arsenate is taken up via the phosphate transport systems. Arsenic toxicity in plants is now recognized as a serious threat to human health, as a consequence of consumption of contaminated plant material. This review paper attempted to summarize the incidents of arsenic contamination in the irrigation of water-soil-plant system. It poses a significant risk to public health. Therefore, the first priority to remediate the crises should be early identification of the affected sources.*

**Keywords:** Arsenic, Groundwater, Soil Environment, Phosphorus Transport System, Public Health.

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