

Arsenic Contamination in Rice: Impact on Human Health and Mitigation Strategies for Reducing Arsenic Exposure †

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Abstract: The presence of heavy metals in rice, originating from both anthropogenic and geogenic sources, presents noteworthy health hazards. This study examines the amounts of heavy metal pollution in rice, with arsenic being the main cause of worry. Arsenic is a naturally occurring element that enters rice through soil and water. The kind of rice and farming practices can influence the amount of arsenic that accumulates. Due to its high porosity, rice can take up a considerable amount of arsenic from flooded fields during cultivation, leading to health risks. Dosage-response correlations are used to explore the acute and long-term health impacts on humans of eating rice polluted with heavy metals. Along with the significance of legislative and regulatory actions, several strategies for lowering the danger of contamination are examined, including phytoremediation, post-harvest treatments, and pre-harvest approaches. In addition to outlining future research objectives to improve mitigation measures and regulatory frameworks, the debate emphasizes how urgent it is to address heavy metal contamination in rice. To sum it up, preventative actions and multidisciplinary work are critical to maintaining public health and the sustainability of rice production systems across the world.

Keywords: rice; arsenic; phytoremediation; post-harvest; pre-harvest.

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Founding

None.

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Conflicts of Interest

The authors declare no conflict of interest.