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Arsenic in rice: Determination, bioavailability and potential toxicity

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More than 60 rice samples have been collected from the local markets of Qatar and additional 20 rice samples have been collected from the West Bengal, India. Total arsenic and other trace metals have been analyzed using ICPMS. New methods have been developed to study the bioavailability of arsenic including synthetic stomach and small intestine. Studying arsenic speciation is challenging and the study tried to use LAICPMS to address the distribution of the arsenic within the rice grains. The purpose of this talk is to highlight the total concentration of arsenic (and other trace elements) in rice; the bioavailability tests, the speciation and the potential toxicity.

Biography

Basem Shomar is working as a Research Director at Qatar Environment and Energy Research Institute (QEERI) and leading the group of Environmental and Chemical Sciences. His scientific research focuses on strategies that meld field and laboratory methods with new theory, modeling, computation, data systems, and evaluative techniques to create solutions to complex environmental challenges associated with desalination programs in Qatar. The general framework is to (1) Assess the quality of the source water; (2) Understand the chemistry behind the treatment (desalination) technology; and (3) Evaluate the quality of finished water & its potential effects on human health. The major research activities of his group include the water quality and reuse, the groundwater recharge and the atmospheric chemistry.

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