

Rice grown in United States contains less-dangerous form of arsenic

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A new study analyzing several types of rice finds that grains grown in the United States may be safer than varieties grown in other countries. Credit: Courtesy of Yamily J. Zavala

Rice grown in the United States may be safer than varieties from Asia and Europe, according to a new global study of the grain that feeds over half of humanity. The study evaluated levels of arsenic, which can be toxic at high levels, in rice worldwide. The two-part report is scheduled for the May 15 issue of ACS' *Environmental Science & Technology*.

Yamily J. Zavala and colleagues point out that rice is a potentially important source of human exposure to arsenic, especially in populations with rice-based diets. Arsenic in rice is of special concern because it

accumulates in much higher concentrations in rice than other staple grain crops. The researchers discovered that arsenic contamination of irrigation water was more important than soil contamination in increasing arsenic levels in rice.

Using global arsenic data, the researchers classified rice into two types, where the predominant arsenic forms were either organic or the more toxic inorganic forms. They found that rice from the United States largely contains organic arsenic, which is less easily absorbed into the body and excreted more rapidly than inorganic arsenic. Rice contaminated with inorganic arsenic prevails in Asia and Europe.

The study suggests that breeding new rice varieties that convert inorganic arsenic to organic arsenic would be an “important risk reduction strategy, especially for countries like Bangladesh and India with arsenic contaminated environments and high rice consumption rates.”

Source: ACS

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