FOCUS ON:

ARSENIC DETECTION

USING THE RIGHT RECIPE FOR COOKING RICE REDUCES TOXIC INORGANIC ARSENIC CONTENT

The content of toxic arsenic in rice not only depends on where you get the rice but also how you serve it; that is the result of a new study performed by a UK research group.

Rice is the only staple crop grown under flooded soil conditions. Under anaerobic conditions, arsenic in soil is converted readily to arsenite which is mobile, leading to arsenic in rice grain being around 10-fold higher than for other crops. Arsenic contamination of rice is further exacerbated when the soil or the irrigation water is polluted with arsenic. Toxic inorganic arsenic, classified a non-threshold carcinogen, can constitute up to 90 % of the total arsenic present in rice.

The new study investigated the question whether the cooking technique has an influence on the final content of toxic arsenic in the prepared rice meal. Three different cooking procedures were investigated. Total arsenic concentrations were determined by ICP-MS using collision-cell technology.

The results indicated that rinse washing was effective at removing circa. 10% of the total and inorganic arsenic from basmati rice, but was less effective for other rice types. While steaming reduced total and inorganic arsenic rice content, it did not do so consistently across all rice types investigated. High volume water : rice cooking did effectively remove both total and inorganic arsenic for the long-grain and basmati rice, by 35% and 45% for total and inorganic arsenic content, respectively, compared to uncooked (raw) rice.

References:

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