

WEST BENGAL GROWING ARSENIC-RESISTANT RICE

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Poison-free: Studies show that arsenic from groundwater and soil can enter the food chain via paddy. special arrangement

Researchers have developed and commercialised a rice variety that is resistant to arsenic. Several studies have shown that arsenic from groundwater and the soil can enter the food chain through paddy.

West Bengal is among the States with the highest concentration of arsenic in groundwater, with as many as 83 blocks across seven districts having higher arsenic levels than permissible limits.

The new rice variety, Muktoshrī — also called IET 21845 —, was developed jointly by the Rice Research Station at Chinsurah coming under West Bengal's Agriculture Department and the National Botanical Research Institute, Lucknow, over several years. A gazette notification for the commercial use of Muktoshrī was made by West Bengal last year.

Bijan Adhikari, one of the scientists who worked on developing the variety, said that the State government's decision to make the seeds available for cultivation came after successful trials in both the wet season and dry season in different blocks of the State. The trials were done in areas with arsenic contamination in groundwater, particularly in Nadia, North 24 Parganas, Bardhaman and Murshidabad.

Yield per hectare

"During our multilocational trials, we found that this variety uptakes very less amount of arsenic from soil and water in comparison to other varieties of rice. The variety yields 5.5 metric tonnes per hectare in the Boro season and 4.5 to 5 metric tonnes per hectare in the Kharif season, respectively," said Mr. Adhikari.

Work on developing the variety started in 2006 and by 2013 the scientists were successful. Pradip Kumar Das, a farmer at Birnagar in Nadia district who cultivated the variety in over four hectares (30 bighas of land), said that the yield was satisfactory despite a dry spell.

"In Nadia, arsenic contamination is a major health problem. So far about 150 farmers are cultivating the variety and it is going to increase in next few years," Mr. Das said. He said the rice was long and thin, and aromatic. Across the State, thousands of farmers have started cultivation, even in areas where arsenic in groundwater is not an issue, because of the aroma and the yield. According to the World Health Organization, long-term exposure to arsenic, mainly through drinking water and food, can lead to poisoning. Skin lesions and skin cancer are the most characteristic effects.

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