

GMO crops may help keep arsenic out of India's food supply

An Indian scientist in the UK is working on a way to grow crops in arsenic contaminated soil, a study which is likely to have wide ranging impact for farmers in north-eastern India.

Dr Mohan TC, from Dr Alex Jones Laboratory at the School of Life Sciences at the University of Warwick, conducted a pilot study in transgenic Barley and is now looking at doing it in rice plants

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Arsenate is the most abundant form of arsenic and is structurally similar to phosphate. Therefore, it is easily incorporated in to plant cells through the process of the roots absorbing nutrients.

However, when a plant absorbs arsenic it can translocate it up to the edible part of the plant [and] ultimately arsenic enters food chain. Plants have an inherent capacity to cope with arsenic stress by producing metal-chelating peptides called phytochelatins (PCs).

PCs detoxify the arsenic and restrict the movement of arsenic in the roots, which in turn helps to reduce the root-to-shoot translocation of arsenic Scientists wanted to make plants [that] stop any of the arsenic escaping and travelling up the shoot to the edible part of the plant.

[T]his is being done by making transgenic plants with reduced cytokinin hormone in the roots, which can detoxify and hold more arsenic in the root.

Read full, original article: [Indian scientist explores way to grow crops in arsenic contaminated soil](#)