

China makes non-spread GM rice



By Dominique Patton

01-Apr-2008 - Genetically modified rice that can be killed if it accidentally spreads to conventional fields has been developed by a team of Chinese scientists.

The team at Zhejiang University says their discovery could encourage greater introduction of genetically modified crops as they can better control against risks of [contamination](#).

Several incidents of GM crops contaminating conventional crops have been reported in recent years, raising fears among farmers, environmental groups and governments.

In the new research, the scientists modified a strain of rice so that the rice became highly sensitive to the herbicide bentazon. Conventional rice and other crops have a natural resistance to bentazon but in field trials in China, the [GM rice](#) plants could be "*selectively killed at 100 per cent by one spray of bentazon at a regular dose used for conventional rice weed control*", report the authors in the latest version of the online Public Library of Science journal.

"Furthermore, we found that the terminable transgenic rice created in this study shows no difference in growth, development and yield compared to its non-transgenic control," they write.

The team says the novel strategy for creating GM rice is reliable and inexpensive to implement. It could be particularly useful for development of GM-modified crops used as bioreactors to produce industrial and pharmaceutical proteins.

Containment of transgenic rice is a pressing issue. Transgenic rice can not only contaminate non-transgenic conventional rice but it also disperses to nearby weedy rice and other compatible species, noted the authors.

China itself has been a source of contamination of rice with GM varieties. While Chinese authorities announced measures to address the problem last year, the presence of some material containing BT63 was still being reported in some countries late last year. The European Commission is now implementing strict testing policies on Chinese rice.

The Chinese researchers say that their new method could also be used to create transgenic rice with genes that are currently regarded as safe. They argue that the safety of genes used in a transgenic crop may be subject to change with better understanding over time.

"A safe gene now could be considered as undesirable in the future. Transgenic plants created by this strategy could make any recall of a released transgene much easier if ever needed," they write.

In addition, the strategy may be applicable to other grain crops, especially corn. The researchers are currently working on field trials for corn, they said.

They warned however that more detailed studies are required to work out the dose of bentazon required for terminating transgenic rice plants of different genetic background, growth conditions and growth stages.

"Also, the increased utilization of the bentazon by the deployment of this technology may be a concern for environmental safety and weed resistance development," they write.

Source

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"A Built-In Strategy for Containment of Transgenic Plants: Creation of Selectively Terminable Transgenic Rice"

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