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Waterproof rice coming soon - December 08, 2008

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A waterproof rice that can survive more than 2 weeks of total submersion has aced field tests and is nearly ready for official release, it was announced recently.

Researchers discovered 13 years ago that the gene *sub1A* makes rice plants flood resistant – rather than extending stems and leaves to try to escape a flood, plants with *sub1a* become dormant and conserve energy during flooding and then thrive when the floodwaters recede.

Annual flooding currently results in losses of US\$1 billion worth of rice in South and South-East Asia. In Bangladesh and India, up to 4 million tonnes of rice, enough to feed 30 million people, is lost each year to flooding.

"There was flood-tolerant rice 60 years ago, bred in East India," rice geneticist Pamela Ronald, from UC Davis, California, told [cbs13](#). "The older variety doesn't yield well or taste well, so growers don't want to grow it anymore."

Using "precision breeding", Ronald and colleagues inserted *sub1a* into other popular, high-yield rice variants. Because precision breeding is an 'organic' sophisticated form of crossbreeding, rather than genetic modification, the flood-resistant rice they generated is not subject to the same regulatory testing as GM crops. ([UC Davis press release](#))

Rice breeder David Mackill, at the International Rice Research Institute in the Philippines, who collaborated on this project, told [SciDev.net](#) that flooding may even be beneficial for the new rice. The flood-resistant rice produced five tonnes of rice per hectare when submerged for up to two weeks; an ordinary rice without *sub1A* produces less than one tonne of rice per hectare.

"The potential for impact is huge", added Mackill. "Climate change will most likely result in more extreme weather events, including storms or heavy rainfall that causes flooding. We are continuing our research to increase the level of tolerance to flooding to a higher level".

Image: Getty



Posted by Asher Mullard on December 08, 2008

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COMMENTS

This is one of the very interesting research which I always wanted to work on. Being from Agricultural family of Assam, India and a Plant MOI Bio student I always wanted this for the farmers of our place who always face Flood problems. I am curious to know when it will be available to common farmers and will it be affordable (cost wise) to poor farmers of North eastern India.

Posted by: Saibyasachi Nath Choudhury | [December 10, 2008 04:23 PM](#)

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