

Scientists find genes to tackle climate change in outback rice

December 19 2011



Cambodia, Kratie: A worker is removing the rice seedlings. Image: Wikipedia

(PhysOrg.com) -- University of Queensland scientists have discovered that an ancient relative of rice contains genes that could potentially save food crops from the devastating effects of global warming.

In a report, published in the *Proceedings of the National Academy of Sciences* (PNAS), it has been shown that wild [rice plants](#) in hotter and drier parts of Australia tend to be more genetically diverse.

Professor Robert Henry from the Queensland Alliance for Agriculture and [Food Innovation](#) (QAAFI), who led the research team, said there were global implications for this discovery.

"This finding will be useful in selecting crop varieties that can cope with

a variable and changing climate," he said.

The genetic diversity found by the scientists is seen as a bulwark against climate change because some genes offer plants a degree of resistance to bacterial and [fungal pathogens](#), both of which are known to attack plants under stress.

In a study conducted over more than 238 km of remote landscape, researchers from QAAFI and Southern Cross University compared wild cereal relatives growing in Australia with those found in the Fertile Crescent, where agriculture began in the cradle of civilisation.

The Fertile Crescent is a geographical region that stretches more than 2000 km from the Nile in Egypt to the waters of the Persian Gulf in the west.

The wild rice research project is a collaboration with Professor Eviatar Nevo from the Institute for Evolution in Israel, which used recent advances in DNA-sequencing technology to examine the genetics of wild-plant populations on a large scale.

More information: Genome diversity in wild grasses under environmental stress, *PNAS*, December 27, 2011, vol. 108 no. 52, 21139-21144

Provided by University of Queensland

Citation: Scientists find genes to tackle climate change in outback rice (2011, December 19) retrieved 18 April 2024 from <https://phys.org/news/2011-12-scientists-genes-tackle-climate-outback.html>

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