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# Cooperative Research Centre for Sustainable Rice Production

... of growing importance

## Media Release

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### From Microscope to Murray River

Scientists at Sydney University have made major advances in a new plant breeding technique which could help fast track the development of agricultural crops which require far less irrigation water to grow.

Working in co-operation with the CRC for Sustainable Rice Production (Rice CRC), scientists Dr Zhao Xiaochun and Dr Norman Darvey have pioneered the new Microspore Culture technique, which could more than halve the time required to develop new plant varieties.

The implications for the environment are obvious, especially with respect to the current debate raging over environmental flows in the Murray-Darling river basin.

At present it takes up to ten years to fully develop a new plant variety using traditional methods, which involve propagating generations of plants and selecting for desired characteristics.

A fast track approach of culturing pollen-laden anthers was considered but found to be extremely labour intensive, meaning it would have been possible to propagate only a limited number of lines at any given time.

The scientists at Sydney University have now found that, by crushing the anthers and culturing the developing pollen grains in an appropriate medium, they could propagate massive numbers of plants in a single generation.

The new Microspore Culture technique means it is possible to produce around 100 times the number of lines with the same labour resources, resulting in a significant acceleration of the breeding process.

One ultimate goal of the research is to come up with new varieties of rice, which can be grown without the need for permanent flooding, conceivably resulting in significant water savings.

This exciting research project is funded by the Rice CRC and is being carried out at the Cobbity Campus of Sydney University.

E-mail version and photos available  
Contact Rice CRC - address below



The Rice CRC is sponsored by the Australian Government's Cooperative Research Centres Program. The Centre coordinates the research activities of teams from Charles Sturt University, NSW Agriculture, CSIRO, Department of Infrastructure, Planning & Natural Resources, University of Sydney, SunRice and the Rural Industries Research and Development Corporation.

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