

'Dryland' rice farmers reap high-rainfall yields



Rice-growing may be both sustainable and profitable for Australian farmers in areas with high year-round rainfall. Clint Spencer, iStockphoto

Farmers in the high-rainfall region around the northern NSW coastal town of Lismore – traditionally regarded as cattle and cane country – have been trialling rice as a crop using 'paddy rice' cultivation.

While Australian rice farming is traditionally based on flood irrigation, paddy rice farming instead relies on natural year-round rainfall and is sown

and harvested in the same way as dryland crops such as barley and wheat. A Lismore farmer who has been trialling dryland rice crops for seven years has reported good harvests, despite flooding rainfall that destroyed neighbouring crops of soybean and sugar cane.

Southern Cross University plant geneticist Robert Henry says with global rice shortages

leading to higher prices, it makes sense for Australian farmers to plant rice in high rainfall regions.

'We have been growing rice in the desert really with water that we have taken there. That is very good in terms of the amount of light. We get great growth, but we are growing it in areas where we need to use excessive amounts of water.'

With paddy rice cultivation set to expand, Henry says that providing seed to rice breeders will be the immediate challenge. For the longer term, he is working with rice breeders to identify varieties suitable for other high-rainfall areas along the NSW and Queensland coasts.

The research team has also been collecting and studying Australian wild rice species and native grasses to identify their potential as food crops on non-irrigated farmland, or as biofuels that could be grown on marginal land. Some of this work has involved collaboration with research groups in Japan.

Native bacteria to mop up toxic pollution?



Australian soil bacteria may become a weapon against toxic pollutants around oil-contaminated sites. Charles Neal, iStockphoto

Researchers from the CRC CARE (Contamination Assessment and Remediation of the Environment) have identified a group of native Australian soil bacteria that can destroy soil-contaminating organic volatile compounds, known collectively as BTEX, which have been linked to cancer, nerve damage and other diseases.

BTEX (benzene, toluene, ethyl-benzene and xylene) contamination is caused by fuel leakages around former service-station sites, fuel farms, garages, workshops, gasometers, oil spills, dry cleaners and factories. While BTEX-tolerant bacteria have been identified elsewhere, these are the first to show specificity for these organic compounds. The microorganisms devour carbon in the molecules, leaving a residue of carbon dioxide and water.

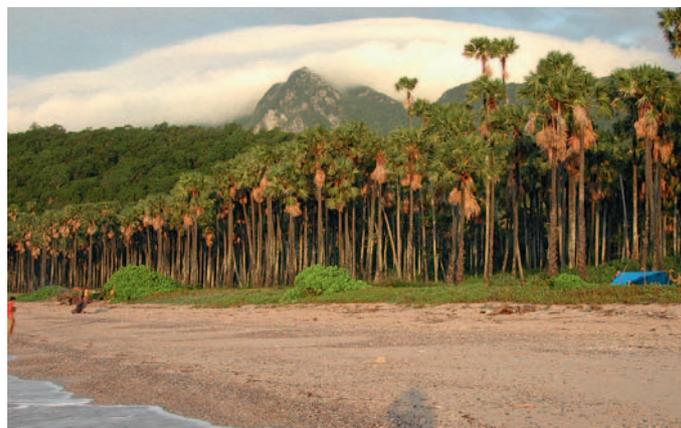
The CRC CARE team, headed by Professor Megha Mallavarapu, is currently isolating and sequencing the genes in the bacteria associated with BTEX degradation with the aim of identifying a more robust suite of organisms that can degrade oil spills and other toxic pollutants.

www.crccare.com

East Timor declares its first national park

East Timor has set up its first national park – 68 000 hectares of land and 55 600 hectares of sea encompassing the entire east of the island. The park – named after Nino Konis Santana, a former resistance fighter and comrade of East Timorese Prime Minister Xanana Gusmao – is home to 10 000 local residents, who will sign contracts establishing them as community guardians. The government hopes the park will lead to increased income generation for these communities by creating tourism opportunities.

Colin Trainor, a conservation biologist from Charles Darwin University, says the park is the largest area of remnant



East Timor's new Nino Konis Santana National Park lies within Wallacea, the biogeographic transition zone separating Australian and Asian fauna. Colin Trainor

tropical forest on Timor and home to dozens of significant animals, including birds, bats and marine life, as it is a

biodiversity hotspot within the biogeographic transition zone that separates Australian and Asian animal species.