

Project name	Summary/objectives	Relevant links (if applicable)
Developing a new renewable fuel and food industry in Australia: sweet sorghum	The primary objective of the project is to assess and demonstrate the commercial feasibility and sustainability of sweet sorghum as a feedstock for renewable energy and food production in Australia, by: 1) Undertaking crop trials in South-East Queensland of the major commercially available sweet sorghum varieties to assess variety performance and to optimise crop productivity; 2) Assessing the yield, productivity, product quality and significant agronomic indicators for each of the commercially available varieties; 3) Evaluating the opportunities for utilising existing sugarcane infrastructure for harvesting, transportation and processing of the crop, including utilisation of transport and processing infrastructure in the non-crushing season; 4) Optimising the fermentation process for ethanol production from sweet sorghum juice including the co-fermentation of the sweet sorghum juice with sugarcane juice or molasses at both the laboratory and pilot scale; 5) Developing a process model including mass and energy balances for a proposed sweet sorghum fermentation facility for the production of ethanol ; and 6) Undertaking a life cycle assessment (LCA) of the proposed cropping, harvesting and processing system.	https://rirdc.infoservices.com.au/items/13-087
Agronomic options for profitable rice-based farming system in northern Australia	This project aims to establish the best agronomic options for a profitable rice-based farming system in the ORIA. Major outcomes will be guidelines for potential rice growers in tropical regions of Australia. Specific aims include: 1. To identify locally adapted rice varieties (including hybrid and blast disease-tolerant rice) with required quality characteristics for wet and dry seasons on raised-bed conditions 2. To identify ideal sowing time, optimum sowing rate and plant population for each variety 3. To identify crop nutrition (amount and strategy) requirements, to determine irrigation requirements and weed/pest/disease control strategies 4. To evaluate the potential of rice ratooning.	
Characterisation of Rice blast races present in Australia	1. Collaborate with the NSW DPI Rice breeding program (Dr Peter Snell), University of Western Australia (Prof. Martin Barbetti) and other agencies to collect a greater range of <i>M. oryzae</i> isolates from WA, NT and QLD. Some isolates have already been collected by Dr Lanoiselet and are currently available at the Department of Agriculture and Food (DAFWA) for this proposed research. 2. Determine the genetic diversity and the prevalence of the rice blast races present in Australia, utilising combined host phenotyping and molecular methodologies, to identify which rice blast resistances against specific races as needed to successfully grow rice in regions currently affected by the disease. 4. Identify host resistances and specify genotypes needed for the rice breeding program to develop (and/or import) rice cultivars tolerant/resistant to the rice blast races present in Australia. 5. Collaborate with the Temperate Rice Research Consortium and IRRI to introduce Pi40, a blast-resistance gene that has shown broad-spectrum blast resistance in Asia and Africa and start pyramiding multi-gene resistance into the Australian rice cultivars. 6. Define the role wild rice and grass weeds play in the rice blast epidemics under Australian conditions. 7. Provide rice pathology support to other rice projects to identify other important rice pathogens present in northern Australia and their potential implications on the southern Australian rice area. 8. Assess biosecurity measures needed and develop biosecurity protocols to mitigate risk of moving rice blast races between Australian rice growing regions via the contaminated machinery, equipment and clothing pathway.	
Australian wild rice characterisation	Workshop: A workshop on Australian wild rice will be held in April 2012 to review research on this topic and to allow analysis of collections to date and define needs for further collection. Collection: Wild rice from north Queensland populations will be collected to establish a public germplasm collection to complement and fill gaps in earlier collections. A seed collection, living plant collection and DNA collection will be developed. Existing collections often include seed or DNA bulked form more than one plant. The populations now require structured sampling to define genetic structure and taxonomic relationships. A Ph D student will be engaged to conduct this study. Screening: The collected material will be screened for useful for useful variation quality traits that will give a health marketing advantage. Crossing: Selected lines will be crossed with Australian domesticated rice varieties to provide foundation germplasm for selection of varieties incorporating new diversity and useful traits and also to identify material of value as wild rice cultivars.	
Accounting for agriculture in regional development Far North Queensland	This project will focus on the contribution of agriculture to regional development and will result in the production of an agricultural development framework to guide policy and practice. Using Far North Queensland agricultural industries and communities as a case study, the framework will provide a basis for examining the potential role of agriculture in contributing to regional development in a range of contexts, and can be used in other regions to engage with agricultural industries and communities in planning for development. While canvassing local issues in the case study, the framework will extract issues of national significance for agriculture and community development.	
Sustainable production & use of forest biomass - native species	Australia's response to climate change opens new opportunities for use of forestry for bioenergy production crops on marginal land. Two key research priorities for forest species are addressed: 1. To extend the evaluation of woody species with biomass production potential from southern Australian to a national level and 2. Conduct a comparative analysis of biofuel conversion properties for woody species. Outputs will include recommendations of species for different growing regions and guidelines for design of future trials to optimise bioenergy production from woody species and develop production systems buffered against climate change.	
Feasibility of establishing a northern Western Australian (beef) abattoir	Provide pre feasibility study into the potential for a Northern Western Australian beef abattoir. Results of the pre feasibility study will determine development of technical aspects of abattoir and their locations.	https://rirdc.infoservices.com.au/items/10-214

Transformation for resilient landscapes and communities	<p>Many rural communities in Australia are facing the uncertainties of climate change, population drift, declining terms of trade, declining resource condition and shifts in resources policy. Strategies that have served communities well in the past are no longer working effectively, leaving rural communities in a vulnerable position. The project has a several key objectives which are focused on delivering long term benefits to the participating communities. These objectives are:</p> <ol style="list-style-type: none"> 1. To explore the contribution that resilience thinking, collective learning and adaptive governance can make to rural resource dependent communities facing significant, economic, social and natural resource challenges. 2. To draw on and enhance synergies between these concepts to develop a transformative 'learning by doing' framework for rural, resource dependent communities to undertake an intentional transition in anticipation of emerging risk. 3. To apply and test the framework in different community, resource risk and climatic settings and at different scales in order to develop a set of tools appropriate for the participant's situation rather than a 'one size fits all' model. 4. To build the necessary trust, agency, collaboration and adaptive governance arrangements, with partners and communities, to enable them to undertake an intentional transition. 5. Develop strong inter-connections between each of the case studies so that learning gained in one setting can be extended and transferred. 6. To explore alternate methods of extending and transferring the learnings from the project to other resource dependent communities not involved in the case studies. <p>Objectives 1 and 2 have been substantially advanced through a 'proof of concept' phase undertaken as part of the Murray/Wakool case study.</p>	
Australian wild rice: A potential new sustainable wild food enterprise	<p>Native rices are important components of our ecological, biodiversity and cultural heritage, and may provide an opportunity for a new food enterprise. Native bush foods have potential for commercial development through the sustainable harvesting of natural resources, to underpin small enterprises in rural and remote communities in the Northern Territory. This project specifically investigates the use of native rice grains and flour as a "bush tucker" and gourmet product for sale in the tourism industry. We will focus on the two most abundant species <i>Oryza rufipogon</i> and <i>O. meridionalis</i>.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Investigate the cultural considerations of offering native rice as a product for tourism, • Provide an assessment of the logistic requirements, costs and barriers associated with the collection and processing of native rice grains for this purpose, • Evaluate the sustainability and ecological impacts of native rice wild harvest and of enrichment activities carried out in small scale managed areas • Assess the methodologies for dehulling and milling of native rice grains, • Evaluate enterprise development issues such as packaging and product interpretation, markets, pricing and other enterprise related issues for grain and/or flour products, • Provide opportunities for mutual capacity building and training through engagement among Indigenous community members, researchers and enterprise developers, and • Provide a report on the harvest logistics, ecological impacts, cultural considerations and market opportunities for a native rice "bush tucker" enterprise, based upon ecologically sustainable wild harvest or enrichment. 	
Giovanna Webb National Rural Woman of the Year	<p>Giovanna's project started with a group of women who were brought to Crocodylus Park for training with raising and processing crocodiles from 30cm hatchlings to giant 4-5 metre long specimens, caught in the wild and relocated to sophisticated, unitised breeding pens. Back in their home community these women incubate crocodile eggs and hand feed tiny hatchlings before they are sent to Crocodylus Park. Giovanna also taught these women about the business, tourism and hospitality side of the park in the hope that a broader understanding of the industry will provide them with the ability to promote and manage their own businesses.</p>	
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Indigenous Pastoral Project	The project will develop a step-by-step manual, providing northern Australian Indigenous pastoral communities with clear development pathways to assist them if they wish to develop their properties into more productive enterprises, on a commercially viable and sustainable basis. The manual will include case studies of pastoral properties and highlight their differences in a business context. The manual will also be trialled on at least three properties in each of the northern jurisdictions, with relevant feedback and amendments incorporated into the final version of the manual.	https://rirdc.infoservices.com.au/items/14-014
Indigenous Pastoral Project - extension and evaluation	Phase 2 extension and evaluation of the Indigenous Pastoral Project. January to June 2014.	
Eucalypts for Biofuel Production in Northern Australia: Identifying species from current and future testing programs	This RIRDC project identifies research needed to better define the choice of species and production systems for Eucalypts as a source of biomass for biofuel. The project focuses on the unique opportunities for extensive areas available for Eucalypt production in Northern Australia. Small landholders and major forest producers could produce biofuels from Eucalypts.	https://rirdc.infoservices.com.au/items/11-064
Improving the capacity of Primary Industries to withstand cyclonic winds	Identify production techniques across a range of tropical primary industries which mitigated the damaging effects of cyclonic winds and develop a range of new and innovative production practices to improve the capacity of primary industries to withstand cyclonic winds in the future.	
Development of the Kakadu Plum Industry in Northern Australia	The project aims to engage aboriginal communities in the further development of the Kakadu Plum industry through their direct involvement in this research project; Understand the variation seen between the trees; Understand ripening effects on fruit quality; and establish enrichment-plantings/genetic orchards in WA and NT.	
Food and fibre supply chains study of key regions in Northern Australia	The aim of the study is to provide Ministers with a clear indication of medium and longer term opportunities for agricultural production across northern Australia, and critical supply chain and infrastructure investment issues that may help to foster those opportunities. Broad market opportunities for relevant agricultural commodities, risks and options that are likely to foster longer term growth will be described, as will the operational and infrastructure elements of the supply chain required to support them and improve longer term prospects. This is a joint funded project between Dept of Regional Australia, Local Government, Arts and Sport; DAFF Queensland; NT Dept of Regional Development and Women's Policy; WA Dept of Regional Development and Lands; Regional Development Australia Pilbara Committee; RIRDC; ABARES; and CSIRO.	
Lessons Learned from Cyclones in Northern Australia	produce an overview report and deliver a message of hope, in a timely manner, that will increase the confidence of existing and potential farmers in tropical northern Australia by providing information, and directing the reader to additional studies and sources of information, on ways to help farm businesses survive a cyclone...physically and economically.	https://rirdc.infoservices.com.au/items/13-071
Future Directions for Forestry and a Forest Products Industry in Northern Australia	To develop a strategy that will significantly contribute to the development and future growth of forestry and a forest products industry in tropical Australia that recognises the economic, social and employment goals of the region, notably those of indigenous communities.	https://rirdc.infoservices.com.au/items/12-081
Commercialising cocoa growing in North Queensland	Continue to assess QLD based hybrid cocoa trials to verify mature yields.	https://rirdc.infoservices.com.au/items/13-114

*RIRDC also invests in projects that have contribute/d to other issues, including the Asian Honey Bee Transition to Management Program; Bee Pest surveillance; and specific commodities produced in Northern Australia such as ginger and redclaw.