



CARING
FOR
OUR
COUNTRY

Innovation Grants

2013-2014 successful projects

National

State	Recipient	Project Title	Project Description	Funding GST Inc
National	Dairy Australia Limited	Dairy industry responding to market signals to promote sustainable practices	This project will deliver a pre-competitive soil and fertiliser information and reporting platform that links real time fertiliser application with industry best practice fertiliser and soil management advice (Fert\$mart). The outputs from this platform will enable the Australian dairy industry to demonstrate progress against industry sustainability targets whilst adding value to farmer decision making.	\$341 000
National	South West NRM Ltd	Stage 1 - NRM Spatial Hub - underpinning better management decisions in the Rangelands	The NRM Spatial Hub (The Hub) is a central element of the 15 year blueprint of the Australian Rangelands Initiative. The Hub aims to address soil loss through wind erosion, sustainable production & native vegetation management in 12 regions across the rangelands. The initiative will work with land owners and managers and NRM bodies to implement and demonstrate next-generation spatial information systems, tools, data, and skills, and assist land managers to achieve sustainable production & ecosystem services outcomes. With the support of extension and technical specialists, the Hub will establish super-sites of over 50,000 sq km in each region where best practice on-line digital farm planning will be demonstrated that incorporates world-leading time-series remote sensing of ground cover that will overcome barriers to long-term monitoring.	\$1 650 000
National	Australian Agroforestry Foundation	Master TreeGrower & Peer Group Mentoring: farm trees for conservation and profit	Using the innovative extension models developed and trialled over 20 years, this project will stimulate investment in revegetation and tree management on farms. Practical science-based knowledge, developing credible information networks and providing guidance that farmers trust - can result in more trees being planted and managed on farms leading to reduced land degradation,	\$770 000

			improved off-site water quality, increased carbon sequestration and the prospect of increased and more diversified farm income from the sale of native foods, timber, biofuels, tree seed, flowers, honey, essential oils and environmental services.	
National	Plant Health Australia Limited	National Surveillance System for Weeds and Plant Pests: Virtual Coordination Centre	Making use of Plant Health Australia's (PHA) extensive existing government, industry, supply chain and community network, this project aims to deliver a Virtual Coordination Centre that will enable community groups, regional bodies, agricultural industries, and jurisdictions to contribute to, and access real time surveillance information on weeds and plant pests. It will link existing mechanisms, and promote the establishment of new field tools. The innovation will allow stakeholders to contribute to and access information via a seamless national weed and pest surveillance system.	\$935 000

NSW

State	Recipient	Project Title	Project Description	Funding GST Inc
NSW	Applied Horticultural Research Pty Ltd	Demonstrating the benefits of no-till permanent bed vegetable production	This project aims to improve the adoption of no-till production practices among vegetable growers. Only around 15% of growers currently use reduced till / controlled traffic methods, resulting in loss of soil carbon, poor soil structure and build-up of soil-borne diseases. The project will encourage adoption by showcasing properties where farmers have already implemented no-till in Nth Qld, SE Qld and Tasmania. On-farm demonstration sites will be developed in two major growing areas (NSW & Victoria) where no adoption has yet occurred. Four crops will be grown at each demonstration site using no-till and conventional systems. Communication will occur through field days, farm walks, media coverage, fact sheets, and a short video.	\$601 150
NSW	South East Trawl Fishing Industry Association Limited	Mitigation of Seabird Interactions in the trawl sectors of the Southern and Eastern Scalefish and Shark Fishery (SESSF)	Seabirds sometimes get caught under the wires of trawl fishing vessels as they feed on discarded offal and fish scraps. These interactions are difficult for the skipper and crew to observe while they are working but are often recorded by scientific observers. This project aims to minimise interactions with Threatened, Endangered and Protected (TEP) seabird species by trialling and proving innovative mitigation measures to reduce interactions; educating young skippers in best practice international mitigation techniques creating young industry champions committed to reducing interactions with TEP seabirds in the long term; promoting those techniques through port visits and industry workshops; and, build social license with the general public by communicating this work.	\$356 840
NSW	Commonwealth Scientific and Industrial Research	AusAgLCI - enabling continual improvement of sustainability by life cycle impact assessment	Life Cycle Assessment (LCA) is increasingly being used to ascertain the environmental impact of products, e.g. carbon footprint. Country specific Life Cycle Inventory (LCI) is essential for Australian agriculture to undertake LCA,	\$579 500

	Organisation		as differences in management and regional climate and soils significantly affect results. The goal of this project is to build on the pilot AusAgLCI initiative to provide a comprehensive inventory to ensure Australian primary producers can demonstrate sustainable production, in a system where environmental assessment is used to aid and drive improvement. This will assist producers to meet marketing requirements, to benchmark their production in global markets and it will support an assessment framework that can be consistently applied across industry sectors.	
NSW	Department of Trade & Investment Regional Infrastructure and Services	The practical application of state-of-the-art un-manned aerial vehicles and imaging technology to on-farm property management of invasive weeds and pests	This project aims to improve the regional detection of existing and new incursions of invasive species, using ground-breaking, innovative imaging technology. Un-manned aerial vehicles will be used in conjunction with high resolution satellite imagery to pinpoint the locations of priority invasive species. This methodology has been tested extensively and is now available for field application. Results of the field work will be condensed into user-friendly reports that will be available for land managers to use in management and control programs. An extension program will be used to disseminate the results of the field work to a wider audience. This innovative method significantly reduces the time between detection and mapping, allowing a quick response to new incursions or previously unidentified invasive species populations.	\$700 000
NSW	CANFA Conservation Agriculture & No-till Farming Association Inc	Advanced seeding systems for enhanced erosion and weed control in broadacre cropping	Major economic and sustainability issues continue to creep into our leading no-till farming systems, namely herbicide resistance, growing dependency on artificial fertilisers, need for strategic tillage and stubble burning and climate variability. This project aims to use new technologies from the USA and Argentina at a number of sites in NSW and South Australia, under broadacre dryland situations to trial and demonstrate their relative performance against currently used Australian seeding systems. Implementation pathways will be developed for these promising technologies with Australian importers and manufacturers and agricultural advisors to aid farmer adoption.	\$855 140
NSW	Conservation Farmers Inc	Reviving soil health using summer legumes as green manure or grain crops	The project will quantify the benefits and trade-offs of introducing a range of tested and untested summer legumes as green manures and grain crops, in terms of nitrogen inputs, soil biology, carbon cycling, the incidence of herbicide resistant weeds and pathogens, profits and risks. The expected outcome is farmers increasing the use of legumes in their rotations and reducing their dependence on mineral fertilisers. Activities will include on-farm demonstration trials, field days, and the trialling of innovative Information Communication Technologies tools for farmers.	\$481 250
NSW	Cotton Australia Limited	Sustainable Australian Cotton Production Supplying International Markets	By 2029, the Australian cotton industry aims to be producer and supplier of the most environmentally and socially responsible cotton on the globe. The industry's assurance mechanism is myBMP, an online best practise management system for growers to improve on-farm production and natural	\$422 400

			<p>resource management. This project will modernise the myBMP platform and enable farm-level reporting on key environmental performance indicators on cotton farms e.g. fertiliser, pesticide and water use and habitat conservation. The new platform will allow for integrated reporting to three critical audiences: growers, industry and international markets. This will satisfy international markets' sustainability requirements and provide a critical feedback loop for recognition and reward for grower participation in myBMP and continued environmental improvement on farm and as an industry</p>	
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NT

State	Recipient	Project Title	Project Description	Funding GST Inc
NT	Barkly Landcare and Conservation Association	Adaptive Grazing for Sustainable Production Gains: Beetaloo Pilot Phase 2	The Barkly Tablelands is a vast native grassland in Australia's beef producing heartlands. This project will quantify the potential for sustainably intensifying production through innovative grazing principles that give greater control of stock distributions, grazing pressure and pasture utilisation. The project will facilitate broad adoption of management practices that have been shown to increase herd productivity, improve land condition and contribute to soil carbon sequestration, and maintain biodiversity values within a productive native pasture ecosystem	\$402 820

QLD

State	Recipient	Project Title	Project Description	Funding GST Inc
QLD	Department of Agriculture Fisheries and Forestry	Adoption of variable rate technology in Queensland's intensive vegetable production systems	The project will address soil condition and water quality in key Qld vegetable growing areas through trialling of innovative variable rate (VR) technology. Imagery obtained through crop sensing technology will be used to identify spatial variability on commercial demonstration sites. VR applications will provide different rates of nutrient application according to different requirements across a field for more efficient and effective nutrient use and reduced risk of off-site losses. A co-ordinated, state wide extension program will improve producer knowledge and skills and natural resource management (NRM) abilities, as well as regional engagement and participation in NRM activities through partnerships with grower associations and groups.	\$1 144 400
QLD	Department of Agriculture Fisheries and Forestry	Polybridge: Bridging a path for industrialisation of polychaete-assisted sand filters	The project will assist the aquaculture industry meet the Queensland requirements for nutrient discharge through uptake of polychaete-assisted sand filters (PASF), a novel wastewater treatment system. It will also produce a valuable broodstock feed ingredient (marine worms) as a by-product. A newly constructed PASF facility at the Bribie Island Research Centre (BIRC) will demonstrate its ability to convert farm effluent into a valuable second product in commercial-scale prawn production. The project will engage with industry, publicise its sustainability benefits, and stimulate uptake by bridging gaps between researchers, regulators and commercial interests.	\$279 400

SA

State	Recipient	Project Title	Project Description	Funding GST Inc
SA	Potatoes South Australia Incorporated	Innovative nutrient management for the Australian potato industry	This project will determine a more efficient method of soil testing in the commercial potato growing industry to enable accurate prediction of soil phosphorus status and availability, to reduce the risk of environmental pollution due to over fertilising, causing eutrophication and poor soil health. Farm walks will be held at trial sites annually. Regular project updates and face-to-face meetings will be held with industry groups, local potato growers, advisors and NRM staff. At the completion of the project a simple 'app' will be developed to enable growers to insert their test results and target yield potential to determine soil P requirements.	\$450 780
SA	Conservation Agriculture Australia Incorporated	Water-Jet Seeding for stubble retention, erosion control and soil carbon conservation	Seeding with Ultra-High-Pressure Water-Jets offers the opportunity to retain optimum soil cover, even when stubbles become wet and ropery, opening the window for precise and timely sowing with minimal soil disturbance, reducing the risk of erosion from wind and water while conserving soil carbon. This project will deliver field days that demonstrate and evaluate specific water-jet designs for no-till and zero-till practices. The project will provide confidence and extension materials to farmers and commercial seeder manufacturers that can develop and supply product lines with water-jet components.	\$326 700
SA	HortEx Alliance	Future Pathways for Sustainable Horticulture	This project aims to increase the adoption within the Virginia Horticulture Area, South Australia, of a range of innovative grower practices that will improve the sustainable use of natural resources and increase capacity to adapt to changing climatic conditions. Through a farm scale approach the project will focus on the industry inputs and practices through complete crop cycles by utilising a website based "virtual demonstration farm" concept that is linked to seasonal activities arranged around practical, hands on, training experiences through field days at a number of demonstration farms.	\$525 910
SA	South Australian Murray-Darling Basin Natural Resources Management Board	Marginal to Mainstream - rejuvenating productive grass pastures in the Murraylands	This project will bring new innovative and tested methods of grazing and native grass understorey management to an area where there is little or no adoption of these practices and little capacity within the farming community to begin the process of grass recovery. Beginning with demonstration sites on 10,000 hectares, this project aims to showcase feasible & repeatable native grass woodland management methods for farmers that will improve the productivity and natural resource base of over 170,000 hectares of declining grazing country. All results will be documented for regional guidelines and communicated widely.	\$962 000
SA	The Agricultural Bureau of South	Innovative and cost-effective solutions to the treatment of acid soils in SA	Soil acidification affects 1.9 million hectares of agricultural land in South Australia, degrading the soil and affecting plant growth. Liming rates are only	\$455 400

	Australia Incorporated		at one third the required amount to balance acidification. This project provides innovative and cost-effective solutions to encourage farmers to lime their paddocks. This includes soil pH mapping identifying only those areas that require lime; identifying other lime sources and developing a soil acidity audit decision making tool. Working with farmer groups will allow farmers to make better informed decisions on liming which will reduce costs and maintain soil health.	
SA	South Australian Murray-Darling Basin Natural Resources Management Board	Sustainable Farming - Building capacity & working together for productive resource management	<p>This project will provide a clear point of support for Primary Producers through two components: 1. The adaption and development of key apps and web tools for information provision and management and 2. the creation a base of champion farm enterprises, linked South Australia Murray Darling Basin NRM Board District Officers, who are fully informed of the variety of sustainable farming practises, best practise guides, industry standards and show casing management across 100 farms and a minimum of 20,000 hectares.</p> <p>These activities will greatly improve farm planning, management, accountability and long term productivity, which in turn will improve the natural resource base. We will undertake discovery, collation, and adaption to mobile platforms of innovative information to support production across a wide range of agricultural enterprises and across the entire SAMDB.</p>	\$876 000
SA	South Australian No-Till Farmers Association Inc	Demonstrating innovative farmer methods for reduced erosion risks, improved phosphate use efficiency and soil carbon accumulation	This project will promote a variety of innovative practices in conjunction with leading farmers that are willing to share cutting edge concepts with the wider farming community. The demonstrations will highlight the mechanisms and benefits of practices that have achieved a proof of concept and could be widely adopted to increase permanent soil cover during traditional fallow periods, increase crop canopy cover following seeding, increase crop canopy weed competition, improve phosphate-use-efficiency and increase soil carbon accumulation.	\$319 000
SA	The University of Adelaide	Improving environmental health by encouraging entomovectoring in horticultural crops to reduce spray drift and fungicide use	This project aims to improve soil health and surface and groundwater quality in and around vineyards and cherry orchards in South Australia by reducing the number of fungicide sprays, spray drift and off-target sprays through the promotion of the use of honeybees for the targeted delivery of environmentally friendly antifungal agents to cherry and grape flowers for the control of brown rot in cherries and Botrytis bunch rot grapes.	\$690 800

TAS

State	Recipient	Project Title	Project Description	Funding GST Inc
TAS	Tasmanian Agricultural Productivity Group Limited	Sustaining vegetable production with controlled traffic and sub-soil manuring	The project aims to reduce the negative impacts of traffic and tillage on soil health and structure, and improve productivity, through adoption of controlled traffic farming and sub-soil manuring in the Tasmanian vegetable industry. The project will work with fresh market and processing companies and growers to plan and establish large field sites to demonstrate the economic and environmental benefits of controlled traffic, combined with sub-soil manuring where appropriate, such as on duplex soils. Measurable benefits in soil sustainability and enterprise productivity will be obtained. Business relationships between companies and growers will provide ready-made conduits for knowledge flow and enhance opportunities for increased adoption.	\$1 034 000

VIC

State	Recipient	Project Title	Project Description	Funding GST Inc
VIC	Department of Environment and Primary Industries	Innovations in cropping systems - a step-change towards sustainable soil management	This project aims to address declining soil condition and severe subsoil constraints on Victorian cropping farms by undertaking demonstrations of Controlled Traffic Farming (CTF) and Subsoil Manuring (SM). Priority issues addressed by this proposal include: wind erosion, nutrient management, soil acidification, improving soil health and biological function, providing information on new technologies, and partnership development. Project outcomes will increase adoption of innovative and sustainable practices to improve natural resource management and increase production through a more engaged, aware and motivated farming community.	\$694 000
VIC	Mallee Catchment Management Authority	Alternate fodder crops for dryland grazing systems - winning the war on erosion	This project will focus on maintaining groundcover in the mixed grazing industry of the Victorian Mallee to reduce soil and nutrient loss through wind erosion. It will establish 5 trial sites to demonstrate innovative practices, such as using native shrubs as an alternative grazing option and grazing stubble over summer, and account for the impact of predicted climate change on grazing management. The Mallee CMA, farming systems groups and regional government agencies will deliver the project in partnership.	\$618 000
VIC	Birchip Cropping Group Inc	Enhancing the farm resource base and profitability through better risk management	The project is targeted at improving land stewardship on broad-acre farms throughout the sheep-wheat zone in southern Australia (from WA to Vic). Linking state-of-the-art biophysical models with farm business advisory services to create an integrated farm business/management decision support framework will provide farmers and their advisers with easily accessible know-how and skills to assess risk and make better tactical and strategic land management decisions. Using the framework farmers will be better placed to	\$1 308 670

			farm according to the capacity of the land and seasonal conditions. A unique feature of the approach is that the longer term natural resource management consequences of management strategies will be highlighted in the context of farm profits.	
VIC	Southern Farming Systems Ltd	To solve the commercial constraints preventing adoption of subsoil amelioration in South West Vic	<p>This project will solve the commercial constraints preventing adoption of subsoil amelioration in South West Victoria. Improved subsoil conditions will dramatically enhance crop and pasture productivity, enhance the soil resource, enable increased levels of soil carbon to be stored and use organic materials (from dairy effluent, green material, food waste) that are currently seen as a waste stream.</p> <p>The project will refine developmental trial equipment to farm application, enabling paddock scale farm subsoil manuring, develop processes to create consistent, high volume but low cost soil amendments and present the business case for commercialisation by private enterprise. Paddock scale demonstrations will provide farmer case studies.</p>	\$515 900

WA

State	Recipient	Project Title	Project Description	Funding GST Inc
WA	Northern Agricultural Catchments Council Incorporated	Demonstrating principles of ameliorating sub surface pH to improve soil health	Soils with pH below 5 in the plant rooting zone impacts potential biomass, wind and water erosion, soil biota and diversity and production. This project will demonstrate long term improvements from incorporation of lime to depths below 10cm using innovative methodologies. On completion, 183 growers and 135 regional leaders and influencers in the Northern Agricultural Region (NAR) will have improved knowledge and skills to implement practice change towards liming for subsoil pH correction.	\$650 650
WA	Western Australian Agriculture Authority	Increasing sustainable Agriculture practice uptake in the Indigenous Landholder Estate	<p>Indigenous Land Managers are not engaged in sustainable agriculture practices as properties purchased are unprofitable and severely degraded. Isolation from mainstream support has directly impacted on Corporations ability to achieve sustainable agricultural outcomes.</p> <p>The project will increase uptake of sustainable agriculture practice by Indigenous land managers by integrating community engagement with scientific analysis of Indigenous properties, and combining traditional & scientific knowledge to better plan sustainable agriculture enterprises on their property.</p> <p>A pilot project has shown landholder participation in farm planning has increased knowledge and skills increasing productivity and environmental sustainability.</p>	\$604 100
WA	Rangelands NRM Co-	Cattle responses to EcoFire as a	In the WA Kimberley fire is used by pastoralists and Indigenous people to	\$818 290

	ordinating Group (Inc.)	management tool - demonstrating the benefits	<p>manage the landscape, but wildfires have the greatest impact on the economic and environmental outcomes of the region. However, managing wildfires with the EcoFire program has positive effects on the environment and on cattle productivity.</p> <p>Using remote sensing technologies (satellite images and GPS-collars) this project will demonstrate to pastoralists how cattle respond to EcoFire management and utilise burnt and unburnt areas.</p> <p>By pastoralists understanding how cattle interact with the environment under EcoFire this project will develop more sustainable grazing practices which maximize productivity and minimise environmental impacts such as erosion and over-grazing.</p>	
WA	Rangelands NRM Co-ordinating Group (Inc.)	Managing feed supply and groundcover in rangelands through nutritional shepherding	<p>The project will provide and test new low-cost techniques for the management of grazing pressure in the rangelands. Current issues with uneven grazing pressure lead to patch grazing - areas of overgrazing and low groundcover mixed with undergrazing and high groundcover within the same paddock. This project will apply nutritional shepherding to manage movement and grazing behaviour within large paddocks. Nutritional shepherding has been applied successfully in the USA and provides nutritional rewards in a coordinated arrangement around the landscape. These rewards will be linked with sensory cues (e.g. remote audio signals and visual guides) to induce long-term behavioural change. The outcomes will be increased groundcover and livestock productivity in the rangelands.</p>	\$925 320