

Total Research Investment

Project Title	Project Number	Principal R&D Provider	Chief Investigator	End Date
Key Focus Area 1 (Optimally-adapted varieties, plant breeding and release)				
Maximising the rate of parental improvement in the Australian sugarcane breeding program	2008/319	SRA	Xianming Wei	01/03/2016
Australian support for the International Consortium for Sugarcane Biotechnology (ICSB)	2010/002	SRA	Frikkie Botha	01/07/2016
Maximising genetic gain from family and within family selection	2011/343	SRA	Peter Allsopp	01/12/2016
New germplasm to develop more productive varieties with enhanced resistance to nematodes, pachymetra root rot and smut	2011/344	SRA	Barry Croft	01/05/2016
Faster flowering – new opportunities for genetic improvement	2012/024	CSIRO	Anne Rae	Completed
Development and testing of a SNP marker platform in sugarcane	2012/025	CSIRO	Karen Aitken	01/01/2016
Investigation of smut resistance mechanisms in sugarcane	2012/026	CSIRO	Karen Aitken	Completed
SmutBuster II: accelerated breeding of smut-resistant varieties	2012/325	SRA	Mike Cox	01/06/2016
Improving the accuracy of selection in sugarcane breeding trials through accounting for site variability	2012/351	SRA	Xianming Wei	01/05/2016
Exploiting introgression for the development of productive and regionally adapted varieties for NSW	2013/022	NSW Sugar	Roy Parfitt	01/05/2020
Sugarcane for future climates	2013/029	CSIRO	Chris Stokes	01/06/2017
Applying the genome sequence for variety improvement: validation and implementation	2013/030	CSIRO	Karen Aitken	01/08/2018
Developing cytogenetic and molecular tools to improve selection for soil-borne pathogen resistance in wild hybrids	2013/358	SRA	Nathalie Piperidis	01/05/2016
Phase 1: advancing yield, disease resistance and ratooning by exploiting new sources of genetic variability from wild relatives of sugarcane	2014/053	SRA	George Piperidis	30/06/2017
Optimising productivity and variety recommendations through analysis of mill data	2014/054	SRA	Joanne Stringer	01/08/2016
Field assessment and further development of high-sucrose sugarcane	2014/069	UQ	Luguang Wu	31/10/2017
Sugarcane root systems for increased productivity; development and application of a root health assay	2015/002	CSIRO	Anne Rae	01/07/2018
Impact of stool architecture on ratooning ability	2015/004	CSIRO	Anne Rae	01/07/2018
Leaf sucrose: the link to diseases such as YCS and enhancement of sugarcane productivity	2015/016	SRA	Frikkie Botha	30/06/2018
Generation of a high throughput SNP marker chip for introgression of resistance genes from wild germplasm into sugarcane, targeting smut, pachymetra and nematodes, to generate more resistant varieties faster	2015/025	CSIRO	Karen Aitken	30/06/2018
Selecting high value chromosomes from wild introgression material to deliver more resistant varieties faster	2015/026	CSIRO	Karen Aitken	30/06/2018
The Sugarcane Hub, development of a interface between the sugarcane genome sequence and sugarcane genetic data to allow researchers to identify genes that underpin important agronomic traits	2015/027	CSIRO	Karen Aitken	30/06/2017

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Key Focus Area 2 (Soil health and nutrient management)				
Investigating the role of microbes, carbon in soil-plant interaction in Burdekin sugarcane soils	2013/068	Advanced Burdekin Collective Research	Tom McShane	01/12/2015
Quantifying the effects of microbial additions to sugarcane soils on crop productivity	2013/069	Bio Active	Jayson Dowie	01/05/2016
Ameliorating clay sub soils to improve crop yields	2013/072	DAG	Glen Grohn	01/01/2016
Strategies to manage soil-borne fungi and mitigate sugarcane yield decline	2013/101	CSIRO	Paul Harvey	31/07/2017
Regenerating a soil food web capable of improving soil health and reducing losses from soil-borne pests and pathogens of sugarcane	2014/004	Biological Crop Protection	Graham Stirling	30/06/2017
Role of controlled release fertiliser in Australian sugarcane systems	2014/011	CSIRO	Kirsten Verburg	15/07/2017
Modelling extreme yields in the wet tropics to improve nitrogen use efficiency	2014/024	JCU	Yvette Everingham	01/08/2015
Boosting N-use efficiency in sugarcane through temporal and spatial management options	2014/045	USQ	Bernard Schroeder	01/10/2017
Assessment of new management strategies for marginal soils	2015/007	SRA	Barry Salter	31/12/2019
Improving NUE for sugarcane crops with constrained yield potential	2015/065	SRA	Danielle Skocaj	30/06/2019
Decision support for informed nitrogen management: soil nitrogen mineralisation test and the assessment of soil crop N contribution to crop N requirements	2015/069	DSITI	Phillip Moody	30/06/2018
Spatially explicit estimation of Achievable Yield Potential – an improved basis for fertiliser management	2015/070	CSIRO	Rob Bramley	01/07/2017
Improving management practices of legume crop residues to maximise economic and environmental benefits	2015/074	DSITI	Weijin Wang	30/06/2018
How much N will that crop need? Incorporating climate forecasting into nitrogen management in the Wet Tropics	2015/075	JCU	Yvette Everingham	30/06/2019
Key Focus Area 3 (Pest, disease and weed management)				
Rapid detection of ratoon stunting disease	2013/001	CSIRO	Amalia Berna	01/06/2016
Mass production of the Adelina disease to better manage greyback canegrubs	2013/356	SRA	Nader Sallam	30/06/2016
Innovative approaches to identifying the cause of chlorotic streak and new management strategies	2013/357	SRA	Barry Croft	01/06/2016
Development of controlled-release formulations of imidacloprid for canegrub control	2014/006	SRA	Andrew Ward	01/04/2016
Solving Yellow Canopy Syndrome	2014/049	SRA	Dave Olsen	30/06/2017
Developing an alternative herbicide management strategy to replace PSII herbicides in the Wet Tropics area	2014/050	SRA	Emilie Fillols	01/01/2018
A Novel Polyphasic Framework to resolve Yellow Canopy Syndrome Paradox	2014/082	UWS	Brajesh Singh	30/06/2016
Validation of LSB-PCR diagnostic for ratoon stunting disease and characterisation of non-Lxx strains of Leifsonia associated with sugarcane	2014/086	NSW Sugar	Anthony Young	30/06/2017
Review of the sugarcane Industry Biosecurity Plan (IBP) and development of a Grower Biosecurity Manual (GBM)	2014/088	PHA	Rodney Turner	01/03/2016
Delivery of remote sensing technology to combat canegrubs in Queensland cane fields	2015/038	SRA	Nader Sallam	01/07/2018
Sugar industry productivity and data recording spatial data hub for research and extension	2015/045	Agtrix Pty Ltd	Robert Crossley	28/02/2018
Securing Australia from PNG biosecurity threats	2015/046	SRA	Rob Magarey	02/08/2017

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Key Focus Area 4 (Farming systems and production management)				
Implementing a framework for farmers to engage in the use of precision technologies	2012/013	USQ	Troy Jensen	Completed
Developing targeted, seamless weather/climate forecasting systems for critical early season harvest periods	2013/004	USQ	Roger Stone	01/06/2016
Developing remote sensing as an industry wide yield forecasting, nitrogen mapping and research aide	2013/025	UNE	Andrew Robson	01/10/2016
Product and profit – delivering precision to users of precision agriculture in the Australian sugar industry – yield monitoring	2014/028	USQ	Troy Jensen	19/07/2016
A non-pneumatic cane cleaning system with no cane loss	2014/035	QUT	Neil McKenzie	30/06/2016
Too wet to forget – reducing the impact of excessive rainfall on productivity	2014/046	SRA	Barry Salter	01/07/2017
Increased harvest recovery: reducing sugar loss and stool damage	2014/048	SRA	Cameron Whiteing	01/07/2017
Modernisation of furrow irrigation in the sugar industry	2014/079	USQ	Malcom Gillies	01/07/2017
Demonstration of GPS-guided laser levelling and its associated productivity response	2014/094	Mulgrave Central Mill	Matt Hession	01/02/2018
Bio-prospecting for beneficial endophytes of sugarcane	2015/051	AgResearch	Stuart Card	01/07/2018
Key Focus Area 5 (Milling efficiency and technology)				
Determine the optimum tube dimensions for Robert evaporators through experimental investigations and CFD modelling	2012/054	QUT	Ross Broadfoot	01/09/2016
Improved modelling of wet scrubbers	2012/055	QUT	Anthony Mann	01/05/2017
Determination of factory processing procedures to better manage sugar quality issues	2012/057	QUT	Ross Broadfoot	01/09/2015
A retrofit to a mill to reduce its operational and maintenance costs	2013/059	QUT	Geoff Kent	01/09/2016
Reducing the maintenance costs of mill rolls	2013/060	QUT	Geoff Kent	01/08/2018
Real time harvest and transport system (under contract)	2014/037	QUT	Geoff Kent	01/09/2017
Improving mill efficiency through rapid analysis methodologies	2014/051	SRA	Eloise Keeffe	01/08/2017
Managing aspects of raw sugar quality in the Australian sugar industry	2014/052	SRA	Eloise Keeffe	01/08/2017
Investigation into modifying pan boiling techniques to improve sugar quality	2015/013	QUT	David Moller	01/06/2017
Increasing capacity to undertake cane preparation research through modelling and experimentation	2015/018	QUT	Geoff Kent	01/05/2019
Develop a blueprint for the introduction of new processing technologies for Australian factories	2015/043	QUT	Ross Broadfoot	01/09/2017
Key Focus Area 6 (Product diversification and value addition)				
Process for making bagasse paper pulp	2012/053	QUT	Thomas Rainey	01/05/2016
A profitable future for Australian agriculture: biorefineries for higher-value animal feeds, chemicals and fuels	2015/902	QUT	Ian O'Hara	30/06/2018

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Key Focus Area 7 (Knowledge and technology transfer and adoption)				
Pachymetra awareness project for Condong mill area	2012/064	CANEGROWERS	Doug Irby	01/12/2015
Increasing farm business intelligence within the sugar industry	2014/001	AgProfit	Matthew Bryant	30/06/2017
Measuring the profitability and environmental implications when growers transition to Best Management Practice (as defined by the new Canegrowers Smartcane BMP)	2014/015	DAF	Mark Poggio	30/05/2017
Improving industry returns through harvest best practice	2014/091	NSW Sugar	Ian McBean	30/06/2017
Understanding the impact of harvester speed on subsequent ratoon performance in the Burdekin	2014/092	BPS	Robert Milla	30/06/2017
Tissue culture – managing impediments to adoption in Tully	2014/093	TCPSL	Graham Cripps	01/01/2017
Sugar industry productivity and data recording spatial data hub for research and extension	2015/045	Agtrix	Robert Crossley	28/02/2018
Pre-commercial evaluation of a PCR-diagnostic for Ratoon Stunting Disease and the development of a business case for full implementation	2015/078	SRA	Nicole Thompson	30/06/2017
Key Focus Area 8 (Capability development, attraction and retention)				
Modification of lignin biosynthesis in sugarcane for the production of cellulosic ethanol	2010/068	QUT	Patrick Bewg Heather Coleman	01/05/2016
Climate forecasting to improve sugarcane nitrogen management in the wet tropics	2011/062	SRA	Danielle Skocaj	01/06/2016
Biodegradable polymer nanocomposites derived from natural fibre and starch	2011/071	QUT	William Gilfillan William Doherty	01/07/2015
Enhancing sugarcane for decreased water content and increased sugar content at harvest	2011/072	QUT	Anthony Brinnin Mark Kinkema	01/05/2016
Production of furanics and chemicals from bagasse and molasses	2012/074	QUT	Joshua Howard William Doherty	01/04/2016
Identifying and overcoming limitations in crop models with respect to drought tolerance and climate change	2013/076	JCU	Yvette Everingham	01/10/2015
Investigating the utility of mill mud for soil health conditioning and nutrient use efficiency on sodic soils within the Burdekin	2013/077	USQ	John Bennett	01/09/2016
Effect of organic nutrients on sugarcane growth, microbial activity and greenhouse gas emissions	2013/078	UQ	Susanne Schmidt	01/09/2016
Sugarcane for water limited environments: characterization of a selected sugarcane germplasm for transpiration efficiency and high biomass production for the sugarcane growing regions in Australia	2014/102	UQ	Sijesh Natarajan Shu Fukai	01/06/2017
Exploiting soil microbe associations with sugarcane roots for resistance to canegrubs	2014/104	UWS	Andrew Frew	14/09/2016
Investigation of genetic control of sugar accumulation within the sugarcane culm (stalk)	2014/107	UQ	Patrick Mason	01/06/2018
Soil nitrogen dynamics – a microdialysis approach to quantify nitrogen cycling in sugarcane soils	2014/108	UQ	Scott Buckley	01/07/2018
Statistical data mining algorithms for optimising analysis of spectroscopic data from on-line NIR mill systems: improving system calibrations for quality measures and variety discrimination	2014/109	JCU	Justin Sexton	30/05/2018
Reduction of post-harvest deterioration of sugarcane	2014/401	SRA	Anthony O' Connell	01/08/2016
Enhancing sugarcane growth and yield by biocontrol agents/biofertilizers	2014/402	QUT	Jan Zhang	01/04/2016