



Sugar Research
Australia®



SUGAR RESEARCH AUSTRALIA LIMITED

ANNUAL OPERATIONAL PLAN

20/21



2020/21 INTRODUCTION

Sugar Research Australia Limited (SRA) is a sugarcane grower and miller owned company and the declared Industry Services Body for the Australian sugarcane industry under the *Sugar Research and Development Services Act 2013 (Cth)*.

As the declared Industry Services Body, SRA is required to provide and manage research, development and adoption (RD&A) activities for the benefit of the sugarcane industry and for the wider public good.

Research and development (R&D) innovation is critical for the sugarcane industry at this time where there is a need for productivity and profitability gains to keep ahead of escalating costs of production and competitive challenges, including sustained low world sugar prices, poor Australian dollar exchange rate, increasing global competition from low cost countries, trade policy and market access restrictions, and increasing competition for land use as well as the impact of climate variability and growing social licence to operate concerns.

With the industry facing increasing levels of disruption and change, there is a pressing need for SRA to deliver transformational innovation to underpin the Australian sugarcane industry's competitiveness and long-term viability. The Australian government is also calling upon agricultural Research and Development Corporations (RDCs), including SRA, to play an increasingly important role in driving Australia's innovation agenda and delivering cost effective and valuable RD&A to levy payers.

At the same time, SRA's revenue is under pressure due to reducing levy income and government funding. SRA therefore needs to look to innovate the way it conducts its business, including the ability to position itself to more effectively partner and work across the agricultural innovation system and attract collaboration investment to fund R&D that addresses the innovation challenges of the sugarcane industry.

Whilst this Annual Operational Plan (AOP) for 2020/21 outlines the RD&A activities and investment programs SRA will be undertaking during 2020/21 to deliver on our current Strategic Plan 2017/18 – 2021/22, SRA recognises there is a need to re-assess our strategic and operational agenda in the context of the current challenges facing industry and SRA.

This AOP is therefore to be considered an interim AOP.

SRA will be undertaking a comprehensive and multi-faceted review of its role, strategy, operating model, organisational design and asset base in the first quarter of 2020/21. As this AOP directly aligns with SRA's current Strategic Plan it will need to be revised in late 2020 to account for the outcomes of the strategic review and any subsequent changes to SRA's strategy, investor/ funder model and organisational structure.

Subject to the outcomes of the strategy review, SRA will invest \$32.4M in more than 129 RD&A activities and programs during 2020/21 to meet the needs of our industry and government investors. Our contestable investment program will fund \$8.5M across a wide range of

activities and programs including but not limited to milling production, genetic analysis for sugarcane breeding, farming systems, soil health, harvesting, and industry good initiatives, such as the sugarcane industry Life Cycle Analysis. SRA will also invest \$12.3M in core research critical to the future of the Australian sugarcane industry, including activities in plant breeding and biosecurity.

In delivering our RD&A portfolio and strategy review agenda, SRA will continue to engage and collaborate with its Members, levy payers, industry representative bodies, government, productivity services, extension providers, other industry stakeholders, researchers and international peers and partners. SRA will also expand collaborations and leverage investment with other RDCs to address critical cross-sectoral issues impacting agricultural industries and to identify leading-edge innovation and best-practices.

(Left) New Energy Farms (NEF) and SRA will start the process of working together to undertake research and development to introduce the NEF CEEDS™ (Crop Expansion Encapsulation and Drilling System) technology to produce artificial seeds for sugarcane varieties for the Australian sugarcane industry.

SRA'S STRATEGIC FRAMEWORK FOR DELIVERING VALUED SUGARCANE RD&A

Who we are

SRA is Australia's specialist sugarcane research organisation

Why we exist

Enabling Australia's sugarcane industry to be profitable, sustainable and resilient



What we do

We invest in evidence-based research, development and adoption activities to meet industry challenges and opportunities

Our goals

Drive profitability through innovation-led productivity gains, step-change and value-adding
Improve sustainability through evidence-based research and sustainable production, biosecurity and environmental management
Enhance capability through strengthened research and industry partnerships, capability development programs and collaborative knowledge transfer and adoption mechanisms
Strengthen organisational excellence through enhanced RD&A investment management, best practice organisational governance and a positive performance-focused organisational culture.

OUR KEY FOCUS AREAS

ACTIVITIES	PRIORITIES (INCORPORATED INTO PROGRAMS)	OUTCOMES
 KFA1 / VARIETY DEVELOPMENT Key Focus Area 1 includes SRA's core sugarcane plant breeding program for the production of new and improved sugarcane varieties and their release and distribution for commercial production. In addition, KFA1's contestable investment portfolio is aimed at developing tools, technologies and platforms to enable the breeding program to develop those varieties including the exploration and creation of new genetic diversity and improved genome and trait knowledge.	Restructure and modernise the breeding program and broaden the genetic base	Increased sugarcane yield and commercial cane sugar (CCS)
 KFA2 / SOIL HEALTH, NUTRIENT MANAGEMENT AND ENVIRONMENTAL SUSTAINABILITY Key Focus Area 2 contains SRA's RD&A investments concerned with improving soil health, management of nutrients and chemical inputs, capability to predict and adapt to variable climatic conditions and the industry's environmental sustainability and social licence to farm. The focus area houses SRA's dedicated Soil Health Program, charged with the coordination and delivery of the long-term investment needed to research and develop solutions to the industry's soil-based constraints.	Integrated and focused soil health program and enhance SIX EASY STEPS guidelines and nitrogen management	Better soil health, reduced nutrient losses and improved water quality
 KFA3 / PEST, DISEASE AND WEED MANAGEMENT Key Focus Area 3 houses SRA's internal pathological and entomological expertise and capability to diagnose and manage domestic and international biotic threats to the Australian sugarcane industry. The focus area also comprises the portfolio of contestable research and development investment delivering improvements in pest, disease and weed management and SRA's Yellow Canopy Syndrome (YCS) research portfolio.	Integrated new precision technologies and activities on a cost/benefit basis	Reduced or avoided yield losses and/or input costs
 KFA4 / FARMING SYSTEMS AND HARVESTING Key Focus Area 4 houses SRA's research and development activities dedicated to optimisation of sugarcane farming and harvesting systems. The portfolio encompasses precision agriculture, water management and on-farm energy efficiency research. KFA4 also contains SRA's flagship Harvesting Best Practices (HBP) program which is driving improvements in harvester design and practices with promising industry outcomes emerging from the harvesting groups participating in SRA's demonstration trials.	Economic analyses and demonstration of new or improved technology, farm management practices and analysis tools	Improved farm input-output efficiencies and profitability
 KFA5 / MILLING EFFICIENCY AND TECHNOLOGY Key Focus Area 5 houses SRA's investments pursuing greater milling process efficiency and utilisation, optimised cane quality and transport and improved sugar quality. The KFA includes SRA's internal near infrared (NIR) capability supporting Australian millers in the ongoing installation and calibration of Cane, Sugar and Bagasse Analysis Systems and adoption of laboratory and online NIR solutions. KFA5 also includes SRA's Small Milling Research Program providing a vehicle for targeted investment in small milling investor projects that develop a product, service or process that delivers tangible outputs with almost immediate outcomes within the sugar factory.	Enhanced capability and new technology for improving processing and energy efficiency	Optimised production, improved capital utilisation and waste minimisation
 KFA6 / PRODUCT DIVERSIFICATION AND VALUE ADDITION Key Focus Area 6 comprises SRA's product diversification and value addition portfolio. Investment in KFA6 encompasses the identification of new opportunities and uses for sugarcane, economic and market analysis of value-add opportunities and prioritisation of future industry diversification options. The focus area invests in the development of diversification and by-product revenue streams to safeguard enduring industry profitability and sustainability.	Prioritised diversification opportunities for further R&D activity or market analysis	Diversified revenue streams and product innovation
 KFA7 / KNOWLEDGE AND TECHNOLOGY TRANSFER AND ADOPTION Key Focus Area 7 concentrates on the development and implementation of knowledge transfer and adoption strategies, processes and activities to ensure transfer of research outputs and translation into on-the-ground outcomes. The focus area houses SRA's internal Adoption unit and a contestable research portfolio facilitating specific adoption activities, research to understand and improve knowledge transfer and projects to improve sugarcane farm business, risk management and decision making. KFA7 also encompasses SRA's Communication unit and industry engagement through the delivery of timely and professional publications and other communication across several media.	New strategy targeting industry needs, problems and solutions	Accelerated adoption of new technology and practice change
 KFA8 / COLLABORATION AND CAPABILITY DEVELOPMENT Key Focus Area 8 covers SRA's efforts and investment towards ensuring the Australian sugarcane industry is highly skilled and is supported by a research workforce with the knowledge, capability and capacity to meet current and future industry needs. Through KFA8, SRA also actively invests in 'industry good' collaborative initiatives, such as social and scientific research into social licence to operate and trade policy and market access research, and collaborations with other agricultural research and development corporations to leverage knowledge and resources, and extend SRA's capacity to deliver value to industry and government investors.	Leveraged industry, government and research partnerships and enhanced human capability programs	Enhanced efficiency and a more focused research capability and capacity
 KFA9 / ORGANISATIONAL EFFECTIVENESS Key Focus Area 9 covers SRA's RD&A investment management and corporate functions and aims to ensure SRA's strategic and investment framework, governance processes and fiscal, resource and asset management systems and processes can effectively support the delivery of an RD&A investment portfolio that delivers valued impact and returns on investment. KFA9 includes initiatives to strengthen organisational effectiveness and drive internal operations towards excellence through the ongoing enhancement of SRA's values-based culture and performance-centric processes and systems, with a particular focus on improving investment decision-making and securing financial sustainability with a highly skilled, innovative and engaged workforce.	Embedded investor and performance-centric culture	Enhanced efficiency and increased investor satisfaction and returns on investment

Our enablers

Mapping the future – keeping abreast of and responding to current and emerging trends, issues and opportunities

Sustaining financial viability – achieving and maintaining a sustainable financial position for SRA

Partnering for impact – establishing new and strengthening existing partnerships to optimise RD&A outcomes

Innovating our science – fostering innovation, identifying transformative opportunities, adopting new technologies and enhancing capabilities;

Optimising return on investment – enhancing our investment decision making and governance processes; and

Transforming our business culture – fostering a more agile operating model and supporting our people, leadership and capability

Our measures of success

Increasing profitability per tonne of sugarcane produced or processed

Improved industry sustainability

High-impact return on investment

DELIVERABLES FOR 2020/21



KFA1 / VARIETY DEVELOPMENT

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$12.13M	Increased sugarcane yield and commercial cane sugar (CCS)	22 projects	Product 8 Scientific knowledge 17 Soft Technology 22 Tool/ Enabler 1 Communicator/ Capacity Builder 3	Restructure and modernise the sugarcane plant breeding program Broaden the genetic base
		KEY PROJECTS	KEY OUTPUTS	KPIs
		Plant breeding program for the development and enhancement of sugarcane varieties Introgression of novel variation from wild relatives Genetic analysis and marker delivery for sugarcane breeding Genomic selection in SRA breeding program High throughput phenomics technologies for sugarcane clonal selection New tissue culture production technology	New plant variety products New knowledge and methodologies for applying drone technology in breeding selection Genomic selection implemented and validated in breeding programs New knowledge and methodologies for genetic analysis and marker delivery	KPI 1: A 2% genetic gain per annum, as measured by FAT test clone performance KPI 2: A 12% increase in varietal performance over 10 years KPI 3: SRA's breeding program utilises molecular markers in selection by 2022

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Increased profitability through more productive varieties that are better aligned to specific regional and farm conditions, greater yielding (tonnes or CCS) and/or less input intensive	Enhanced sustainability through innovative sugarcane varieties bred with key traits requiring less chemical and energy inputs, optimally suited to their local environment and with greater resilience to climatic conditions	Increased capability through a highly efficient plant breeding program, with cutting-edge technology, and improved programs for delivery and grower-selection of varieties	Enhanced organisational excellence through more streamlined and timely variety development process



KFA2 / SOIL HEALTH, NUTRIENT MANAGEMENT AND ENVIRONMENTAL SUSTAINABILITY

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$3.52M	Integrated and focused soil health program; Effective management of nutrients	12 projects	Product 1 Scientific knowledge 9 Soft Technology 2 Tool/ Enabler 3 Communicator/ Capacity Builder 14	Improved natural resource health
		KEY PROJECTS	KEY OUTPUTS	KPIs
		Field-based root system diagnostics to detect root health Soil health measurement, and benchmarks to drive practice change in the sugarcane industry Sugarcane grower trials of Enhanced Efficiency Fertiliser in the catchments of the Great Barrier Reef (Reef Trust Phase IV funded project) Updating SIX EASY STEPS and development of an app to support decision making about nutrient management	Enhanced efficiency fertiliser tool SIX EASY STEPS app and improved nutrient guidelines and resources Soil health toolkit validated and farming practices evaluated Tool to measure root health	KPI 1: Release of updated nitrogen management recommendations KPI 2: Release of recommendations for the use of Enhanced Efficiency Fertilisers in 2021 KPI 3: 90% of growers using SIX EASY STEPS by 2022

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Safeguarded and improved profitability through farming systems that optimise inputs (particularly nutrients, water and energy) and enhance soil health to support sustainable sugarcane production	Maintained industry social licence to operate and enhanced sustainability through increased uptake of technology and proven practices that optimise input use, improve natural resource health and minimise off-farm impacts	Increased capability through appropriate and timely evidence-based knowledge transfer between researchers, industry, investors and the advisory sector	Enhanced organisational excellence through established regional networks, as well as collaborative partnerships and communication processes that identify and respond to regional issues in soil health and farming systems



KFA3 / PEST, DISEASE AND WEED MANAGEMENT

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$2.48M	Integrated new precision technologies and activities on a cost/benefit basis	17 projects	Product 0 Scientific knowledge 14 Soft Technology 9 Tool/ Enabler 1 Communicator/ Capacity Builder 12	Reduced or avoided yield losses and/or input costs
		KEY PROJECTS	KEY OUTPUTS	KPIs
		Assessment of international sugarcane varieties for SRA breeding program Disease, pest and pathogen screening, including testing for Ratoon Stunting Disease (RSD) Modern diagnostics to maintain biosecurity of the Australian sugarcane industry Quarantine service for Australian sugarcane industry RSD detection blueprint for use in mills	New international plant varieties RSD, Pachymetra and nematodes analysis service New disease diagnostic protocols for Sugarcane Mosaic Virus, Leaf scald and Sugarcane Yellow Leaf Virus Methodology to detect RSD at mills	KPI 1: Up-to-date dossiers reflecting current knowledge for high risk exotic threats, reviewed annually KPI 2: At least 20% of growers adopted new and/ or improved pest management strategies within last five years KPI 3: At least 2,000 clones from various stages of the selection programs, parents and foreign clones screened annually

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Safeguarded and increased profitability through reduced or avoided losses (yield losses and/or added input costs) due to prevented, eliminated or reduced weeds, pests and biosecurity incursions	Enhanced sustainability through biosecurity protection, reduced reliance on chemical interventions, and pest, disease and weed management strategies with potentially reduced environmental impacts	Increased capability through access to appropriate management resources and expertise in biosecurity, pathology, entomology, diagnostics and weed agronomy	Enhanced organisational excellence through strong relationships with biosecurity agencies, agri-businesses, government and other bodies to ensure SRA researcher knowledge is current and to enable continuous assessment and adoption of new technologies and practices to support biosecurity, pest, disease and weed management RD&A



KFA4 / FARMING SYSTEMS AND HARVESTING

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$0.54M	Economic analyses and demonstration of new or improved technology, farm management practices and analysis tools	5 projects	Product 0 Scientific knowledge 4 Soft Technology 1 Tool/ Enabler 0 Communicator/ Capacity Builder 6	Improved farm input-output efficiencies and profitability
		KEY PROJECTS	KEY OUTPUTS	KPIs
		Regional focused programs to improve irrigation system selection and operation (Smarter Irrigation for Profit Phase 2) Understanding the effect of grain legume crops on productivity and soil biology of subsequent sugarcane crops (Southern Sugar Solutions) Development of a harvesting predictive model tool to assist growers and harvesters to assess and implement alternative harvesting systems	Enhanced industry grower networks New knowledge about irrigation practices and system selection New knowledge about the effects of legume crops on productivity and soil biology Harvesting predictive model	KPI 1: Positive input-output efficiency ratios resulting from adoption of new technology and practices KPI 2: Industry engagement continues regarding demonstration of harvesting best practice

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Increased profitability through optimised sugarcane farming and harvesting practices and industry value chain efficiencies	Optimised sustainable sugarcane production through application of evidence-based farming and harvesting systems that maintain and/ or enhance the value of natural capital both on and off farm	Enhanced regional research, grower, harvester and advisory sector capability in improved farming and harvesting systems	Enhanced organisational excellence through application of farming best management practices on SRA stations, establishment of regional collaborations for practical demonstration and case studies, and attraction and retention of researchers, agronomists and adoption officers with on-ground sugarcane knowledge and networks

¹ A full list of RD&A projects can be found in our RD&A Investment Portfolio Summary on SRA's website at sugarresearch.com.au.

² Projects may produce a single output or multiple outputs in one or more output category.

KFA5 / MILLING EFFICIENCY AND TECHNOLOGY

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$1.76M	Enhanced capability and new technology for improving processing and energy efficiency	14 projects	Product Scientific knowledge Soft Technology Tool/ Enabler Communicator/ Capacity Builder	3 11 6 0 3 Optimised production Improved capital utilisation Waste minimisation

KEY PROJECTS

Implementation of new milling research program addressing industry priorities
Cane Analysis System (CAS) Near Infra-Red (NIR) service and support for mills
Developing a new process for coating roll surfaces to increase durability and eliminate the need for in-season roll arcing
Small Milling Research Investment Project: Evaluating the suitability of two mud level sensing technologies for juice clarifiers (Wilmar Sugar Australia Limited)

KEY OUTPUTS

Cane NIR Systems service
New process and training to coat roll surfaces
New methods to measure mud level and knowledge about the costs and benefits for mills

KPIs

KPI 1: Average miller satisfaction rating of four out of five

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Increased profitability through reduced costs of production, improved market access due to high quality product and improved capital utilisation	Enhanced sustainability through improved processing and energy efficiencies and waste management strategies	Improved capability of milling technicians and professionals through training, peer-learning and knowledge exchange	Enhanced organisational excellence through establishment of strong relationships and collaborations with milling technicians and professionals

KFA6 / PRODUCT DIVERSIFICATION AND VALUE ADDITION

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$0.20M	Prioritised diversification opportunities for further R&D activity or market analysis	1 project	Product Scientific knowledge Soft Technology Tool/ Enabler Communicator/ Capacity Builder	2 1 0 0 0 Diversified revenue streams Product innovation

KEY PROJECTS

Biorefinery technology and intellectual property (IP) for production of animal feed from sugarcane bagasse
Market and technology watch service for identifying diversification opportunities in the Australian sugarcane industry

Pilot-scale manufacturing of novel feed ingredients and probiotics from sugarcane residues and by-products will be completed

Watching brief on market trends and diversification opportunities

KPI 1: Platform technologies for fuels, chemical and feed evaluated by 2021

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Sustained industry profitability secured through diversified sugarcane and sugarcane by-product revenue streams and maximised value addition through product innovation	Enhanced sustainability of industry through diversified product stream, including alternative uses for sugarcane waste	Enhanced capability through access to expanded product and value add opportunities, as well as advanced technologies and modern processing and engineering methods	Enhanced organisational excellence through established effective processes to monitor and assess sugarcane industry diversification opportunities

KFA7 / KNOWLEDGE AND TECHNOLOGY TRANSFER AND ADOPTION

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$4.96M	Development of structures and strategies that identify industry needs, priorities and targeted solutions at regional and industry levels	10 projects	Product Scientific knowledge Soft Technology Tool/ Enabler Communicator/ Capacity Builder	2 5 1 1 20 Targeted, measurable practice improvement through the increased uptake and implementation of new and existing technologies

KEY PROJECTS

Accelerated application of technologies and practices which lead to targeted and measurable practice change
Build industry knowledge on interactions between on-farm practice and water quality in priority Great Barrier Reef catchments, including:

- Engaging growers in monitoring and improving the water quality in their local creeks (Cane to Creek 2.0)
- Nutrient Management Planning in the Russell Mulgrave
- Pathways to water quality improvements in the Myrtle Creek sub catchment

KEY OUTPUTS

Adoption services and networks enhanced
Packaged research outputs
New knowledge about impact of farming systems on water quality

KPIs

KPI 1: Average grower and miller satisfaction with SRA adoption and communication activities rating of 4 out of 5 achieved by 2022
KPI 2: Improved industry adoption outcomes through packaged research outputs and delivery of industry and regional priority adoption projects

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Increased profitability through reduced costs of production, improved market access due to high quality product and improved capital utilisation	Enhanced sustainability through improved processing and energy efficiencies and waste management strategies	Improved capability of milling technicians and professionals through training, peer-learning and knowledge exchange	Enhanced organisational excellence through establishment of strong relationships and collaborations with milling technicians and professionals

KFA8 / COLLABORATION AND CAPABILITY DEVELOPMENT

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$1.06M	Leveraged industry, government and research partnerships and enhanced human capability programs	16 projects	Product Scientific knowledge Soft Technology Tool/ Enabler Communicator/ Capacity Builder	1 0 1 1 15 Enhanced efficiency and a more focused research capability and capacity

KEY PROJECTS

Industry good collaborative social and scientific research, including Life Cycle Analysis
RD&A partnerships, collaborations and networks to leverage investment, multi-disciplinary capability and multi-institutional resources
Sugar Industry Research Awards, Postgraduate Research Scholarships, Travel and Learning Awards

KEY OUTPUTS

Industry undergraduate work placement investment and in-kind participation in sectoral and cross-sectoral collaborative projects
Life Cycle Analysis database and tool

KPIs

KPI 1: SRA participation and investment in relevant collaborative and cross-sectoral programs
KPI 2: Maintain a minimum of four postgraduate scholarships and two research awards each year
KPI 3: At least two short-term placements per annum of students and/or professionals in research or industry positions for industry exposure

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Increased profitability through accelerated innovation resulting from enhanced industry and research capability and capacity	Maintained social licence to operate and derived environmental and social benefits through leveraged investment in cutting-edge cross sectoral and collaborative RD&A	Increased researcher and industry capability through leveraged expertise and resources and appropriate and timely learning and development programs	Enhanced organisational excellence through proactive engagement and collaboration in researcher, industry and cross-sectoral skill development, innovation and networks

¹ A full list of RD&A projects can be found in our RD&A Investment Portfolio Summary on SRA's website at sugarresearch.com.au.

² Projects may produce a single output or multiple outputs in one or more output category.



KFA9 / ORGANISATIONAL EFFECTIVENESS

INPUTS	PRIORITIES	RD&A ACTIVITIES ¹	OUTPUTS ²	OUTCOMES
\$10.33M	Embedded investor and performance-centric culture	33 projects	Product 0 Scientific knowledge 0 Soft Technology 0 Tool/ Enabler 10 Communicator/ Capacity Builder 28	Enhanced efficiency and drive increased investor satisfaction and returns on investment

KEY PROJECTS

Budget and resource prioritisation measures to achieve a sustainable financial position and improve treasury and budgetary management and oversight

Risk Management Framework review

SRA Independent Performance Review

SRA strategy and operating model review, including review of SRA's investor/provider model, research capability and asset base

Workplace health, safety and environmental management framework and system improvements, reporting and support services, including ongoing COVID-19 Management Plan

Review core competencies of staff and learning and development programs to align skill sets with strategic priorities identified in new Strategic Plan

KEY OUTPUTS

Independent Performance Review Report and SRA Implementation Plan

Monitoring and Evaluation Framework for assessing adoption, practice change and RD&A impacts

New Strategic Plan, operating model and organisational structure

Workforce Strategy and Workforce Capability Development Plan

KPIs

KPI 1: Implementation of new Strategic Plan by September 2020 and Annual Operational Plan by December 2021

KPI 2: SRA Investor performance rating increase to 85% by 2022

KPI 3: Aggregated research investment benefit-cost ratio of 4:1 or above

KPI 4: Maintain 100% compliance with statutory and contractual requirements

KPI 5: Implementation of SRA COVID-19 Safety Management Plan and verification process of sites compliance by July 2020

KPI 6: Implementation of an approved Safety Improvement Plan (with KPI's) in place by September 2020 and achievement of targets specified in the plan by June 2021

KEY IMPACTS

PROFITABILITY	SUSTAINABILITY	CAPABILITY	ORGANISATIONAL EXCELLENCE
Industry profitability supported through RD&A investment management that delivers value and positive returns on investment	Industry sustainability supported through investment in and management of evidence-based RD&A portfolio focused on conserving resources, reducing waste generation and environmental management	Support industry capability and maintain research capability through effective attraction, retention and up-skilling of high-calibre research and corporate professionals, and the retention and management of Intellectual Property and corporate knowledge	Enhanced organisational excellence through an RD&A investment portfolio aligned with investor priorities and supported by robust and responsive corporate and governance systems, with highest level of organisational probity, integrity and compliance

¹ A full list of RD&A projects can be found in our RD&A Investment Portfolio Summary on SRA's website at sugarresearch.com.au.

² Projects may produce a single output or multiple outputs in one or more output category.



FORECAST \$ AGAINST NATIONAL SCIENCE PRIORITIES

RD&A PRIORITIES

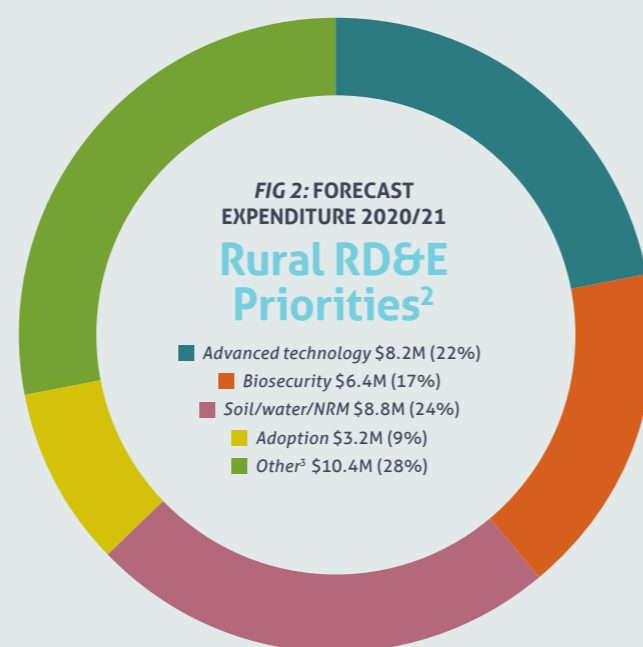
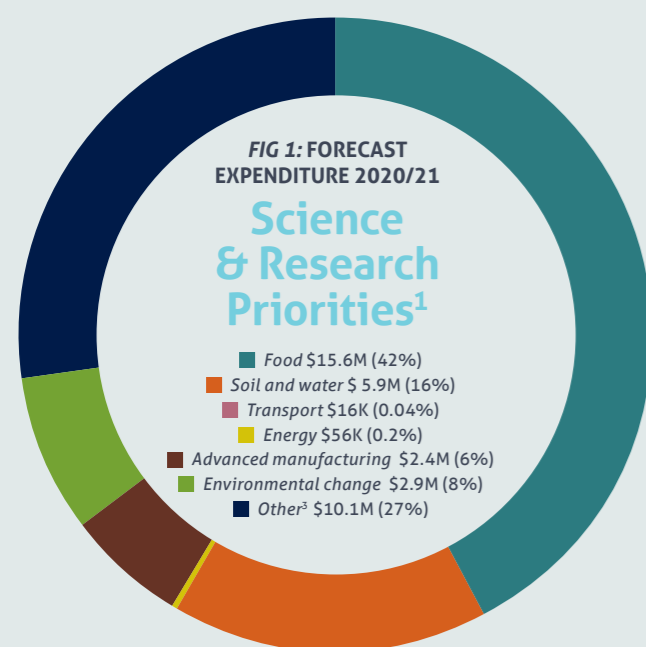
The ethos that underpins both SRA's Strategic Plan and this AOP is one that is outcome and investor focused, consultative and collaborative. SRA is committed to listening to our investors, understanding their needs and responding to these needs through innovative R&D solutions that are successfully adopted and deliver significant value for the industry as-a-whole, as well as benefits for the broader Australian community.

The key deliverables laid out in this AOP respond, within the constraints of our budget, to the priority challenges and opportunities of the sugarcane industry and, more broadly, the priorities of the agricultural sector, government and the wider Australian public. More specifically, the KFAs and associated RD&A activities respond to the issues raised during consultation with industry, government and researchers, as well as the principles, strategies and priorities set out in the following strategic documents:

- *National Sugarcane Industry Research, Development and Extension (RD&E) Strategy, 2017;*
- *National Science and Research Priorities, Australian Government, 2015;*
- *Rural RD&E Priorities, Australian Government, 2015;* and
- *Department Strategic Objectives for funding projects for SUGARCANE, Queensland Department of Agriculture and Fisheries, 2018.*

There is strong alignment across these priorities, particularly with respect to: delivering value for money; increasing profitability and productivity; enhancing environmental sustainability; advancing innovation; and improving adoption of R&D. A matrix detailing the alignment between the research programs under each of SRA's KFAs and the key industry and government priorities is provided in the following section.

Figures 2 and 3 detail the proportion of SRA's estimated investment for 2020/21 that align with the National Science and Research Priorities and the Rural RD&E Priorities.



¹ National Science and Research Priorities, Australian Government, 2015.
² Rural RD&E Priorities, Agricultural Competitiveness White Paper, Australian Government, 2015.
³ Other includes unallocated research, R&D investment management, research stations and corporate support.

ALIGNMENT OF SRA'S KFAS TO INDUSTRY AND GOVERNMENT PRIORITIES

STAKEHOLDER PRIORITIES	SRA KEY FOCUS AREAS								
	1. VARIETY DEVELOPMENT	2. SOIL HEALTH, NUTRIENT MANAGEMENT AND ENVIRONMENTAL SUSTAINABILITY	3. PEST, DISEASE AND WEED MANAGEMENT	4. FARMING SYSTEMS AND HARVESTING	5. MILLING EFFICIENCY AND TECHNOLOGY	6. PRODUCT DIVERSIFICATION AND VALUE ADDITION	7. KNOWLEDGE AND TECHNOLOGY TRANSFER AND ADOPTION	8. COLLABORATION AND CAPABILITY DEVELOPMENT	9. ORGANISATIONAL EFFECTIVENESS
<i>National Sugarcane Industry RD&E Strategy – Themes¹</i>									
1. Products: Expanding uses for sugarcane									
2. Productivity: Achieving significant productivity gains and increasing adoption									
3. Stewardship: Improving environmental performance and industry's social licence									
4. People: Building the capability of industry and research									
<i>National Science and Research Priorities²</i>									
1. Food									
2. Soil and water									
3. Transport									
4. Cybersecurity									
5. Energy									
6. Resources									
7. Advanced manufacturing									
8. Environmental change									
9. Health									
<i>Rural RD&E Priorities³</i>									
1. Advanced technology									
2. Biosecurity									
3. Soil, water and managing natural resources									
4. Adoption of R&D									
<i>Queensland Department of Agriculture and Fisheries – Theme Areas for Sugarcane Research Investment⁴</i>									
1. Sugarcane improvement – to improve productivity, quality and production efficiency									
2. Sugarcane plant protection									
3. Farming Systems broad acre dry land and irrigated, and mixed crop farming systems in Queensland									
4. Soil health									
5. New market opportunities and processes									
6. Agri-intelligent systems									
7. Breaking barriers to adoption									

¹ National Sugarcane Industry RD&E Strategy, 2017.
² National Science and Research Priorities, Australian Government, 2015.
³ Rural RD&E Priorities, Agricultural Competitiveness White Paper, Australian Government, 2015.
⁴ Department Strategic Objectives for funding projects for SUGARCANE, Queensland Department of Agriculture and Fisheries, 2018.

INCOME AND EXPENDITURE FORECAST

TABLE 1: FORECAST INCOME AND EXPENDITURE 2020/21

OPERATING INCOME	2020/21 (\$K)
Industry investment ¹	21,800
Commonwealth co-investment ²	6,179
Queensland Government co-investment ³	3,153
Collaboration/Service Fee income	3,124
Interest	480
Other	652
Operating income total	35,388
OPERATING EXPENDITURE	
RD&A	
R&D contestable - externally won	5,572
R&D contestable - internally won	2,886
R&D internal core ⁴	12,316
Industrial contract research	2,394
Research Adoption ⁵	4,300
R&D operational support ⁶	4,891
RD&A expenditure total	32,360
Corporate	
Board and investor relations	1,961
Corporate support ⁷	2,654
Corporate total	4,615
Operating expenditure total	36,975
SRA operating result for the year	(1,587)

¹ Assumes crop production of 31.1 million tonnes for 2020 season.
² Commonwealth co-investment made under the 2017-2022 Statutory Funding Contract between SRA and the Commonwealth Government, administered by the Department of Agriculture, Water and the Environment.
³ Includes \$2.85m Department of Agriculture and Fisheries contribution and \$303k Department of Environment and Science collaborative project income.
⁴ Includes plant breeding, biosecurity and plant health.
⁵ Includes adoption and communications.
⁶ Includes research funding management, research stations and resources, and research KFA management.
⁷ Includes Finance, Information Technology, Human Resources, Library and Intellectual Property.

FIG 3: EXPENDITURE ACROSS KFAs



INVESTMENT ACROSS KFAs

Figure 3 details the expenditure allocation across the KFAs. Reflective of investor expectations with respect to SRA's RD&A investment, and in line with SRA's Strategic Plan, the majority of investment lies within our plant breeding program under KFA1. A full breakdown of KFA investment by projects can be found in our RD&A Investment Portfolio Summary on SRA's website at sugarresearch.com.au.

SRA RD&A INVESTMENT AND ORGANISATIONAL EXPENDITURE

KFA	MILLION*
KFA1 / VARIETY DEVELOPMENT	\$12.13M
KFA2 / SOIL HEALTH, NUTRIENT MANAGEMENT AND ENVIRONMENTAL SUSTAINABILITY	\$3.52M
KFA3 / PEST, DISEASE AND WEED MANAGEMENT	\$2.48M
KFA4 / FARMING SYSTEMS AND HARVESTING	\$0.54M
KFA5 / MILLING EFFICIENCY AND TECHNOLOGY	\$1.76M
KFA6 / PRODUCT DIVERSIFICATION AND VALUE ADDITION	\$0.20M
KFA7 / KNOWLEDGE AND TECHNOLOGY TRANSFER AND ADOPTION	\$4.96M
KFA8 / COLLABORATION AND CAPABILITY DEVELOPMENT	\$1.06M
KFA9 / ORGANISATIONAL EFFECTIVENESS	\$10.33M
Total expenditure	\$36.98M

*Numbers are rounded.

BALANCED PORTFOLIO

SRA is committed to ensuring it invests, manages and participates in a balanced portfolio of RD&A activities that is appropriate to meeting investor needs and providing an attractive return on investment.

To achieve an optimally-balanced investment portfolio, SRA will undertake to:

- Align RD&A investment with industry and government investor priorities at both regional and industry levels;
- Invest in short, medium and long-term projects across the research pipeline;
- Address current gaps in the existing portfolio in terms of delivering on the objectives of SRA's Strategic Plan;
- Appropriately manage RD&A risk-profile, with a combination of low-risk projects targeting incremental improvements and higher-risk transformational projects;
- Leverage investment through partnerships and collaborations; and
- Maximise return for our investors through increased adoption and practice change.

SRA's RD&A portfolio comprises both core and contestable RD&A projects. The core projects are undertaken internally by SRA and include plant breeding, biosecurity and adoption activities. The contestable projects are undertaken by both SRA and external providers and cover the gamut of SRA's KFAs.

SRA's independent skills-based Research Funding Panel (RFP) and Research Funding Unit (RFU) manage the contestable research investment process and associated review and evaluation of investment projects. The primary objective of the RFP is to ensure transparent, independent and robust review of all RD&A project investment from SRA's contestable pool of industry and government investment funds.

The RFP and RFU also undertake a portfolio gap analysis annually to assess progress of the RD&A portfolio against SRA's Strategic Plan objectives and key outcomes and identify research and strategy gaps to be addressed through targeted investment calls and/or commissioned research.

SRA also has an established Risk Management Framework, including a Risk Management Policy and Risk Appetite Statement approved by the Board and reviewed annually. The Risk Appetite Statement outlines the type of risk and associated risk tolerance that SRA is willing to take in order to meet its strategic objectives. SRA's current Risk Appetite Statement states that "SRA seeks to balance the risk position between: making investment decisions when funding research activities including transformational research that may provide high impact benefits to the Australian sugarcane industry; and the need to remain a viable organisation with the capacity to continue to work for our members long into the future".

SRA's investment framework, funder/provider model and risk management framework are currently under review with a view to enhancing our investment decision-making and processes to ensure we provide a balanced portfolio that meets the needs and expectations of our investors, now and into the future. In doing so, SRA will continue to engage and consult on a regular basis with industry and government investors, industry representative bodies and regionally-based advisory groups and committees to identify RD&A priorities – at both a regional and whole-of-industry level – and report on the performance of SRA's RD&A investment portfolio in terms of outputs, outcomes and return on investment being delivered.

(Cover image) Zofia Ostatek-Boczynski, Principal Technician, Milling Efficiency and Technology, working in the Indooroopilly Chemistry Lab on the Carbon and Nitrogen Analyser. This instrument measures nitrogen and carbon in plant, soil and bi-products such as mill mud, mill ash and biodunder samples for the sugar industry. Photo by Sam Ryalls.

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and Water Resources



Queensland
Government

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