PERFORMANCE REPORT 2018/19 SUMMARY

Sugar Research Australia Limited (SRA) is Australia’s specialist sugarcane research organisation. We invest in evidence-based research, development and adoption (RD&A) activities on behalf of sugarcane growers and millers to meet industry challenges and opportunities.

Working with government, research and industry partners, SRA is committed to achieving our goals to drive profitability, improve sustainability, enhance capability, and strengthen organisational excellence. In pursuit of these goals we are guided by SRA’s Strategic Plan 2017/18 – 2021/22 and Annual Operational Plans which outline our key focus areas (KFAs), activities, intended outcomes and performance measures. SRA’s Performance Report 2018/19 provides an overview of our performance in delivering these plans during this period.

The Performance Report is by no means exhaustive but rather provides an aggregated and succinct review of the performance of SRA’s KFAs. This report is a companion document to SRA’s 2018/19 Annual Report where significant initiatives, collaborations and corporate governance overviews are provided.

In addition, SRA’s website and periodical publications, such as CaneConnection, MillingMatters and electronic newsletters, provide further information on SRA’s research portfolio and the impact this research is having on the Australian sugarcane industry.

INVESTED IN RD&A ACTIVITIES DURING 2018/19

$38.1 MILLION

INCREASE OF $100,000 COMPARED TO 2017/18

ACROSS 184 RD&A PROJECTS

INCREASE OF 10% FROM 2017/2018

AGGREGATED RETURN ON RD&A INVESTMENT

4.0:1.0

INCREASE FROM 2.9:1.0 FOR 2017/2018

OUR IMPACT PATHWAY

OUR LOCATIONS

164 FULL-TIME EQUIVALENT STAFF

43% FEMALE STAFF

& 57% MALE STAFF

IN OUR PRODUCT & SERVICE USAGE & RATINGS

<table>
<thead>
<tr>
<th>Service</th>
<th>% Using</th>
<th>Rating Out of 100% (Base: Use Product)</th>
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<tbody>
<tr>
<td>CANE CONNECTION</td>
<td></td>
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<td>FACTSHEETS</td>
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<td>E-NEWSLETTER</td>
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<tr>
<td>UPDATES, FIELD DAYS, ETC.</td>
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<tr>
<td>TECHNICAL MANUALS</td>
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<td>CANECLIPS</td>
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<td>WEBSITE</td>
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<td>ONLINE TOOLS</td>
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SOURCE: SRA GROWER SURVEY, JUNE 2019
OUR VALUE CHAIN

**3.1 cane varieties released**
100,000 tissue culture plantlets established
Methodologies for identifying high-efficiency integration pathways (HIEP) marketed developed
30 WPSF workers trained in use of WPSF and operational importance identified

**Base soil description of healthy sugarcane soil systems completed**
Subsoil sulphur levels are good in sugarcane production, with 45 to 50 per cent of the desired levels achieved in the most productive soils.
200 research plots established to investigate soil and water quality

**New progeny for new sources of Phytophthora resistance for SRA’s future plantations**
Protocol for Phytophthora-resistant rootstock developed, with 95 to 100 per cent survival.

**Molecular pathogen diagnostic assays developed**
Diagnostic assay developed for soil-borne plant pathogens, with 95 to 100 per cent accuracy.

**Proprietary in-field diagnostic platform for the detection and identification of disease**
Developed for the detection of Phoma root disease, with 95 to 100 per cent accuracy.

**Workbench diagnostic protocol developed**
Workbench diagnostic protocols developed highlighting the common diseases and pests of sugarcane root systems.

**1.5 million investment for a toolkit to improve root disease management**
Development of diagnostic tools and risk assessments for root pathogens.

**Development of a blueprint for the future production of sugarcane**
Development of a blueprint for the future production of sugarcane, with 95 to 100 per cent accuracy.

**Efficiency of irrigation systems and practices**
Efficiency of irrigation systems and practices improved by 20 per cent in the Wet Tropics, with 95 to 100 per cent accuracy.

**Strategies developed to increase the efficiency of irrigation practices**
Strategies developed to increase the efficiency of irrigation practices, with 95 to 100 per cent accuracy.

**Economic analysis showed 2:1 return on investment for some irrigation improvements**
Economic analysis showed 2:1 return on investment for some irrigation improvements, with 95 to 100 per cent accuracy.

**New equipment and technologies developed**
Development of new equipment and technologies for the milling sector.

**High-speed aerial drone sensors and new crop models in animal feed development**
High-speed aerial drone sensors and new crop models in animal feed development.

**2 PhD Scholarships, 13 Sugar Travel and Research Awards provided**
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**2 MillingMatters magazine, 4 CaneConnection magazines, 2 MillingMatters magazine, and field demonstrations held**
2 MillingMatters magazine, 4 CaneConnection magazines, 2 MillingMatters magazine, and field demonstrations held.

**MicroNIR successfully trialed for monitoring bagasse moisture**
MicroNIR successfully trialed for monitoring bagasse moisture.

**Strategies developed and tested for several endophytes against important pests and diseases**
Strategies developed and tested for several endophytes against important pests and diseases.

**New processes and technologies developed**
New processes and technologies developed.

**High-speed aerial drone sensors and new crop models in animal feed development**
High-speed aerial drone sensors and new crop models in animal feed development.

**Enhanced understanding of the relationship between crop yield and disease**
Enhanced understanding of the relationship between crop yield and disease.

**Development of a blueprint for the future production of sugarcane**
Development of a blueprint for the future production of sugarcane.

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Development of a blueprint for the future production of sugarcane.
## OUR PERFORMANCE

### OUTPUT PERFORMANCE RATING:
- **Delivered**: 100%
- **On Track**: 100%
- **No Issues**: 100%
- **Not Delivered / In Progress / A Risk but Not an Issue Yet**: 0%
- **Not Delivered / Serious Delays / Major Issues**: 0%
- **Performance Data Not Collected For 2018/19**: 0%

### OUR KEY FOCUS AREAS (KFAs)

<table>
<thead>
<tr>
<th>KFA</th>
<th>Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Performance Indicators</th>
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<tbody>
<tr>
<td><strong>KFA1 / Optimally-Adapted Varieties, Plant Breeding and Release</strong></td>
<td>$14.2 million 61 projects</td>
<td>SRA's sugarcane plant-breeding investment program produces new and improved sugarcane varieties and facilitates their release and distribution for commercial production.</td>
<td>23 RD&amp;A deliverables</td>
<td>A 2% genetic gain per annum, as measured by FAT test, achieved by 2022.</td>
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<td><strong>KFA2 / Soil Health, Nutrient Management and Environmental Sustainability</strong></td>
<td>$6.9 million 19 projects</td>
<td>Investments related to improving soil health, management of nutrients and chemical inputs, capability to predict and adapt to climatic conditions and sustainability and social license to farm.</td>
<td>18 RD&amp;A deliverables</td>
<td>Release of updated nitrogen management recommendations by 2020.</td>
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<td><strong>KFA3 / Pest, Disease and Weed Management</strong></td>
<td>$5.5 million 34 projects</td>
<td>Investments delivering improvements in pest, disease and weed management and SRA's Yellow Canopy Syndrome (YCS) research portfolio.</td>
<td>24 RD&amp;A deliverables</td>
<td>At least 20% of growers adopting new and/or improved pest management strategies within last five years.</td>
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<td><strong>KFA4 / Farming Systems and Harvesting</strong></td>
<td>$3.8 million 17 projects</td>
<td>Investments dedicated to optimisation of sugarcane farming and harvesting systems. Focus areas include precision agriculture, water management, cropping management and on-farm energy efficiency research.</td>
<td>12 RD&amp;A deliverables</td>
<td>Positive input-output efficiency ratios resulting from adoption of new technology and practices.</td>
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<td><strong>KFA5 / Milling Efficiency and Technology</strong></td>
<td>$1.7 million 10 projects</td>
<td>Investments in improving milling process efficiency and utilisation, optimising cane quality and transport and increasing sugar quality.</td>
<td>14 RD&amp;A deliverables</td>
<td>Millier Performance rating for SRA.</td>
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<td><strong>KFA6 / Product Diversification and Value Addition</strong></td>
<td>$1.7 million 3 projects</td>
<td>Investments including identification of new opportunities and uses for sugarcane, analysis of value-add opportunities and prioritisation of future industry diversification opportunities.</td>
<td>2 RD&amp;A deliverables</td>
<td>Millier satisfaction and performance with SRA.</td>
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<td><strong>KFA7 / Knowledge and Technology Transfer and Adoption</strong></td>
<td>$4.7 million 14 projects</td>
<td>Investments relating to adoption activities, research to understand and improve knowledge transfer, and projects to improve sugarcane farm business risk management and decision making.</td>
<td>8 RD&amp;A deliverables</td>
<td>Completion of technical review of diversification opportunities by 2015.</td>
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<td><strong>KFA8 / Collaboration and Capability Development</strong></td>
<td>$1.4 million 36 projects plus various cross-sectoral investment activity</td>
<td>Investments in capacity and capability development of industry and research personnel, and cross-sectoral collaborations to leverage knowledge, resources and impact.</td>
<td>12 RD&amp;A deliverables</td>
<td>At least 50% of growers producing less than 7,000 tonnes per annum adopting new practices and/or technology over two-year period.</td>
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<td><strong>KFA9 / Organisational Effectiveness</strong></td>
<td>$7.3 million</td>
<td>SRA’s corporate, finance functions and operations including facilities and farms.</td>
<td>15 RD&amp;A deliverables</td>
<td>SRA Investor performance Rating increase to 85% by 2022.</td>
</tr>
</tbody>
</table>

*DELIVERED / ON TRACK / NO ISSUES: 100%*
Acknowledgements

SRA acknowledges AgTrans Research for undertaking the impact assessments reported in this document and thanks its investors, including levy payers (sugarcane growers and millers), the Commonwealth Government and the Queensland Government.