

MAXIMISING CANE RECOVERY THROUGH DEVELOPMENT OF A HARVESTING DECISION-SUPPORT TOOL IMPLEMENTATION OF NEW TECHNOLOGIES TO INCREASE THE INDUSTRY'S PROFITABILITY



SUMMARY

This project is developing a Harvesting Predictive Tool (HPT) with an integrated demonstration campaign. Through the life of the project, and through the long-term legacy of the HPT, this project will create an enduring positive impact for the Australian sugarcane industry and its surrounding regional communities. The demonstration campaigns will validate the benefits of Harvesting Best Practice (HBP) to assure growers and harvesting contractors of the increase in sugarcane yield and revenue from improved harvesting practices. The purpose of this investment in conjunction with the demonstration campaign is to develop a grower-friendly decision-support tool that applies the latest research findings, incorporates economic outcomes, and encourages adoption of HBP.

OBJECTIVE

The Australian sugarcane industry faces challenges in the form of competing land use from other crops and development activities. Industry profit margins are also under pressure, making it critical that the industry improves revenue and sustainability through increasing sugarcane yield. Significant opportunities to capture additional sugar yield from the paddock are available to the industry. The work of producing the best crop prior to harvest has already been done by the grower – this project investment focuses on reducing cane loss during harvesting leading to:

- an increase in cane yield of 5 tonnes per hectare and 700 kg of sugar per hectare each year, with an estimated industry revenue increase of \$69.3 million by 2030
- an increase in productivity per hectare by approximately 5%, contributing to improved supply of cane to mills and improved mill viability.

This will have significant benefit for the sugarcane industry and surrounding communities. Due to the increase in yield per hectare, demand for more harvesting operators will be required, in turn increasing employment opportunities and regional economic activity

VALUE CREATION AT A GLANCE



1.2 million tonnes
of cane



164,000 tonnes
of sugar



\$69.3 million
in revenue

Increasing the viability of the Australian sugarcane industry without horizontal expansion.

IMPLEMENTATION

The project will adopt a targeted participatory approach, involving all industry sectors, with the aim of driving the adoption of harvesting practices that economically optimise cane loss and cane quality, while aligning profitability drivers. Critically, the project will continue to create a framework recognising that practice change presents different risks and rewards for different sectors in the value chain. Through this work, industry will have information to allow benefits to be shared equitably and incentives paid accordingly.

The project from 2021–2023 will focus on:

- scale – 30% of growers supplying 70% of cane
- group and peer-to-peer learning
- Harvesting Predictive Tool
- demonstrating the economic benefits of HBP.

PROGRAM INVESTMENT

The project is funded through Sugar Research Australia and the Queensland Department of Agriculture and Fisheries over three years to develop the HPT and conduct demonstration campaigns for validation. If the project helps achieve increase adoption of improved harvesting practices by 40% during the life of the project, this would add 480,000 tonnes to the crop annually, worth at least \$34.4m to the industry at current sugar prices.

SCALEABILITY

The program will allow industry to use the HPT in conjunction with cane loss monitors currently available on the market. Setting guidelines with the HPT and monitoring the benefits from practice change through cane loss monitors will improve harvester efficiency and increase yield of both cane and sugar.

INDICATORS OF PROJECT SUCCESS

The use of the HPT.

- Measured performance and compliance against optimum practice parameters.
- Evidence of changed payment arrangements.
- Increased grower involvement in operational aspects of harvesting.
- Millers adapting harvesting pressures and time frames to facilitate harvesting best practices, realising productivity gains in factory operation and increased revenue in higher tonnage throughput.

MORE INFORMATION

- **Investigating losses from green and burnt cane harvesting conditions** – ASSCT journal article
- **Cost assessment of the adoption of harvesting best practice (HBP)** – ASSCT journal article
- **Economic evaluation of sugarcane harvesting best practice (HBP)** – ASSCT journal article
- **Adoption of practices to mitigate harvest losses** – Final Report