p11

Australian Government
Department of Agriculture

Improving value chain efficiency through **cane cleaning**

Research is investigating new technology that could transform parts of the sugarcane harvesting and milling process, through a potential new cane-cleaning technology.

Project details

Key Focus Area:

KFA4

Project name:

A non-pneumatic cane cleaning system with no cane loss

Project number:

2014/035

Chief investigators:

Neil McKenzie and Floren Plaza

Project end date:

01/12/2017

The technology has been developed by QUT and is being investigated as part of a research project that is looking to increase the scale of the new cane cleaning technology, and also assess its feasibility and practicality for use at sugar mills.

It is a new type of technology that does not use air to clean the cane. By approaching it from a different angle, it means that the technology avoids many of the problems that come with air-cleaning of cane, particularly cane losses. It will also work well with both dew-soaked or rain-soaked sugarcane as well as dry cane.

The researchers also hope that the new technology will use less energy and prevent problems with dust emissions.

Being able to clean cane in this way has the potential to open new doors for the industry to harness more value from the sugarcane crop.

Once the trash is separated from the cane, it could allow for harnessing greater value from the whole sugarcane crop, provided that greater value can then be extracted from the trash. It also offers advantages in much cleaner cane supply into the sugar factory for processing.

This research, which is funded by Sugar Research Australia (SRA), is also synchronising with a Rural R&D for Profit project that is looking at optimising the harvesting value chain, funded by the Australian Government Department of Agriculture and Water Resources.

The research is currently in the phase of increasing the scale of the cane-cleaning technology, which cannot be described in this article in order to protect the intellectual property of the project. It has gone from a small scale to a scale that has allowed for throughputs of up to 6.5t/hour and separation efficiency of almost 60 percent, but it is very early days, according to the researchers. There was no cane loss throughout the range of tests.

These tests have already signalled some improvements that could be made, ahead of a plan to increase it to a semi-commercial scale with a target of 150 t/hour with acceptable trash separation. Before then, though, the researchers said that they needed the existing machine to show improved performance in throughput and cleaning efficiency. Work on the project has paused whilst the researchers seek feedback from the industry, and a mill site to carry out further testing of the existing machine.

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