



# Research looks at cane cleaning options that could reduce the need for cane fires in NSW

*New research is hoping to provide innovative solutions that could greatly reduce the need for sugarcane burning in NSW, which is still commonly needed immediately before harvest in this region of the sugarcane industry.*

Key Focus Area
Farming systems and production management
Project name
A non-pneumatic cane cleaning system with no cane loss
Project number
2014/035
Project providers
QUT
Primary investigator
Floren Plaza
Project end date
01/12/2017

Currently, the high-yielding sugarcane crops in the NSW region are burnt because of their size, because of the two-year crop cycle, and because the soils and climate do not allow the sugarcane trash to break-down into the soil. Also, sending the trash to the mill can greatly reduce sugar quality.

But according to Sunshine Sugar CEO, Chris Connors, the industry is looking for proactive solutions for what to do with that sugarcane trash and reduce the need to burn.



**Above:** Sunshine Sugar CEO Chris Connors.

“We don’t want to burn, the growers don’t want to burn and we know that the community does not want us to burn. But at the moment we have no choice,” Mr Connors said.

The new research, being conducted by the Queensland University of Technology (QUT) and funded by Sugar Research Australia (SRA), is looking at ways that the whole crop could be brought to the mill.

The research is looking at a new method of cleaning the cane by removing the trash and other impurities after harvest but before it enters the mill.

Existing cane cleaning methods such as on the harvester have served the industry well, and are still required. However, financial pressure is resulting in harvesting operations where increased levels of extraneous matter and cane loss are the result.

The new research is looking at a method that uses less energy, has less cane loss, and can work in wet or dry conditions, and is working to scale up a concept previously developed at QUT.

Mr Connors said that this research was an important piece of a broader puzzle that needed to be solved.

The next step would require a look at the logistics of moving cane around that had much more trash, as this was a lighter and less efficient load.

There was also the important step of harnessing the best value from the trash.

“Sunshine Sugar has a keen interest in that side of it, because we are still of the view that we want to take all of the crop in. There is this crop sitting out there where we are throwing so much away and only taking the stalk in the middle,” Mr Connors said.

“There is another 25% of material there that we can do something with.”

SRA CEO Neil Fisher said that this research formed part of SRA’s strategic plan, which focused on eight Key Focus Areas of research investment for the Australian sugarcane industry.

"This research has useful implications for both growers and millers. It has positive implications for the farming system and its efficiency, and also for product diversification and value-adding," Mr Fisher said.

"It has strong collaborations between QUT and Sunshine Sugar in NSW, and it also will deliver practical and useful outcomes for the entire Australian sugarcane industry."

The project is being led by Floren Plaza at QUT and it builds a concept developed in a PhD study by Chris Henderson. The PhD study involved a relatively small design, and this new project has an objective of scaling-up the technology.

Details of the process are not identified as there is an intent to patent the concept.

"Trash in cane supply has a lot of negative impacts such as wear and tear, less quality, and sugar loss,"

QUT's Dr Geoff Kent explained at recent milling research workshops.

"The fibre is also gaining in value. Yes, there is value for it in the field, but there is more there than there is needed for that purpose."

**Opposite:** An investigation into a new cane-cleaning system could eventually lead to a reduced need for cane fires in some situations.

## Milling research delivered direct to industry

**Milling researchers have hit the road in early 2016 to bring the latest research findings and information to the millers of the Australian sugarcane industry.**

The forums were a collaboration between Sugar Research Australia and the Queensland University of Technology, which is one of SRA's main research partners into milling efficiency and technology and also product diversification and value addition.

Researchers from QUT and SRA spoke at the events held in Mackay, Innisfail, Townsville, Bundaberg and Broadwater. Speakers included Eloise Keeffe and Jo Stringer from SRA and Geoff Kent and Ross Broadfoot from QUT.

The aim of the seminars was to communicate some of the research that is currently being conducted in the milling sector. SRA thanks all of those who attended the events.



**Above:** Wilmar staff at the event in Townsville hear from Dr Geoff Kent from QUT. This was one of five events held recently.