



A piece-by-piece look into Mr Average cane bin

This season, the Isis Central Sugar Mill has dissected three bins to examine extraneous matter levels.
 By Brad Pfeffer

The Isis Central Sugar Mill has taken a back-to-basics approach to get a clear picture of the extraneous material (EM) levels in cane bins being sent to the mill.

In recent years, EM levels entering the mill have steadily increased toward 15 percent, up from an average that in the past was about 7 percent.

In response, across the 2015 season the mill has dissected three bins by hand to look at the exact levels of EM. They wanted to see for themselves what made up the EM levels they were seeing on the near-infra red (NIR).

Each bin required about six people to separate the contents into sound billets, tops, trash, dirt and roots, and dead cane, over three days.

The second of these bins was shown to and discussed with contractor harvester owners and drivers in October and the third bin with growers in November, all with the purpose of starting an ongoing conversation about improving the mechanical harvesting process for everyone involved.

More field days and discussions are planned and the mill is targeting contact with all harvester operators and growers.

According to Isis Chief Field Officer Paul Nicol, the visual representation of what was actually in the bin was startling.

"We aimed to choose a Mr Average bin, and the first bin we dissected had over 14 percent EM, which was 790 kg out of the total of 5610 kg of cane sampled having no value for making sugar," he said.

"It was a time-consuming job, but it was an important illustration of the challenge and the opportunity that can come with improving cane quality.

"If we can reduce EM levels down from around 15 percent to 7.5 percent then we can deliver \$400/ha for growers.

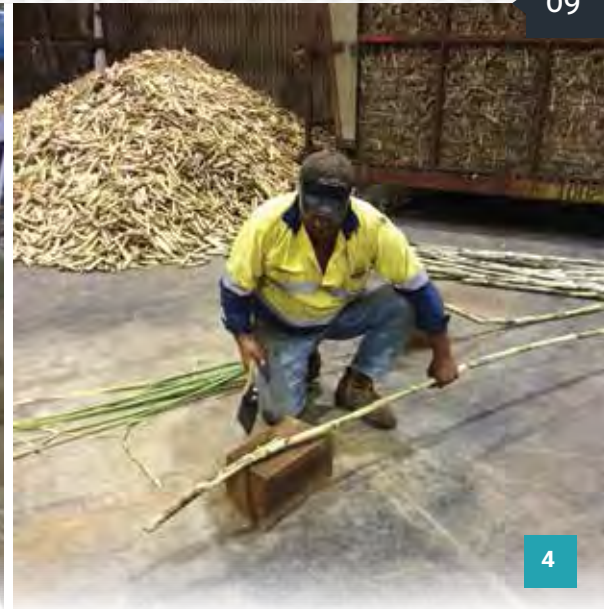
"A reduction in EM to that level would result in about one unit of CCS, which is about \$3.60/tonne for the grower. If the crop is yielding 100/t/ha that's \$360/ha."

Further gains could be made through improved mill performance, better ratoons leading to more hectares and tonnes, and more tonnes of cane in the paddock.

Mr Nicol said that the dissection of the bin also showed concerning levels of roots and dirt. "This is the source of next year's crop, which impacts everyone down the value chain when it is damaged or lost. Inspections in the field also uncovered significant shattering, which delays ratooning and diminishes stalks per metre."

He said that the Isis region historically would grow plant cane plus four ratoon crops, but for some people this had over time decreased to three ratoons and even two ratoons.

"At two ratoon crops, farmers are not in business. Also, if we can get back to three or four ratoons, then that is 3–4 percent more land under cane production, which is also another 13 days of harvesting for the average group."



1. A look inside a Mr Average cane bin at Isis mill, with clean cane separated from extraneous matter.
2. Stool, dirt, and roots from Mr Average cane bin at Isis mill.
3. A meeting of harvester drivers at the Isis mill to discuss the findings of the bin dissection.
4. Some visual demonstrations during the meeting.

The issue also has important ramifications at the mill. He said that the maintenance time for shredder hammers was becoming more frequent, which backed up the argument that the cane supply was becoming dirtier. It was also getting more difficult to attract premiums for sugar, which is crucial for value chain profitability.

Mr Nicol said that improving cane quality was a conversation that all parties needed to have, hence they were talking to contractors as well as farmers and including themselves as the miller. "It is about how we cut the pie and look at it as an opportunity."

He said there was an important role for farmers in field presentation, and there were also issues around harvester ground speed and extractor fan speed.

"We spoke to harvesting contractor drivers and we asked them what was important for them when purchasing a new machine, and the answer was horsepower. It scared us a bit that no one said the machine's ability to produce a quality product."

Mr Nicol acknowledged that there were extra costs associated with slowing down, hence the need for harvester operators to be paid more, but he added that there were other opportunities as well.

For example, he said that the Isis mill had been paying close attention to the ongoing conversation about harvest losses and the suggestions of 15 percent losses occurring in the paddock.

"If that is occurring, this is cane that the harvester has harvested but is not being paid for. It is also an extra 130,000 tonnes plus through the mill."

He added that, perhaps to the surprise of some people, improving cane quality also helped increase bin weight, which had positive outcomes for harvester operators.

Improving efficiency could also better match harvest operations to the demand for bins. "We can supply 10 bins per hour, on average, and we believe if the harvesters can focus on cutting cane for those 10 bins per hour then we can all benefit."

"We acknowledge that we need to work together to work out how we pay for it and how we cut the pie."

SRA is continuing to work with the entire value chain to deliver valued and useful outcomes with mechanical harvesting efficiency.

The most recent call for projects to begin in 2016/17 has had an allocation of \$300,000 for projects related to harvest losses, which adds to existing SRA work in this area. Successful projects will be announced in 2016.

SRA is also continuing to seek feedback from growers and millers – including Isis – on their needs for research in this area, including at a local level.

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