



On-ground work demonstrates harvesting efficiency at a regional level

SRA demonstration trials are continuing across the Australian industry, delivering information according to local requirements and helping to optimise harvesting efficiency.

A series of demonstration trials over recent seasons are providing the Australian sugarcane industry with vital information around sugarcane harvest efficiency.

These trials are seeing SRA collaborate with local harvesting groups, milling companies, and growers to analyse different harvester configurations and aspects of efficient harvesting.

Within each region, each trial is formulated in direct response to local industry requirements for information, and includes aspects such as ground speed, fan speed, pour rate, crop conditions and new technology such as EHS chopper drums.

For example, a recent trial at Condong in NSW had a strong emphasis on providing the local industry with information around the reduced losses associated with EHS chopper drums.

SRA Adoption Officer Phil Patane (Ingham) and Technician Luke Giddy (Brandon) have been conducting the trials with the help of local industry, and Phil said the results provided practical and useful information that could help improve harvest efficiency.

The Condong trials saw two identical John Deere 3520 harvesters operating within the one 700-tonne paddock (managed by David Bartlett), with one harvester having standard drums and the other the EHS drums.

The trial gathered information on juice left on trash, as well as billet length, billet quality, and extraneous matter measurements.

The result was useful information around tonnes of sugar left in the paddock as well data around tonnes of cane per hectare and CCS.

"We have conducted three of these trials in 2014, two in 2015, and another four in 2016," Phil said. "The first one in Queensland showed a 32 percent reduction in juice on trash via the EHS drums, as well as 10 percent more sound billets and 7 percent fewer mutilated billets.

"The EHS drum is new technology and previous trials have shown a reduction of juice on trash due to the geometry of the drums, which has a larger gap. Instead of a 76mm gap it has a 106mm gap, and we are not seeing the squishing effect on the end.

"This trial, and a stationary conveyer belt trial in the Herbert in October, are providing more information in addition to what we gathered in 2014 and 2015.

“Having demonstration trials gives growers and millers an opportunity to come out and see how SRA conduct harvesting,” Phil said.

“The harvester is very good at hiding the evidence of sugar loss, so there is a huge value in each region observing how we measure cane and sugar loss in the paddock.”

Other demonstration trials this season have also looked at issues such as ground speed and fan speed. One trial at Bundaberg showed a stark difference between a 700 rpm fan speed at 6.5km/hour compared to 850rpm at 8km/hour.

More information

Phil Patane
 (07) 4776 8202
 ppatane@sugarresearch.com.au

Billet quality	EHS	Standard
Sound	72.4%	62.3%
Damaged	27.5%	30.7%
Mutilated	0.1%	7%

Above: Example of results from one of the recent EHS chopper drum demonstration trials.

Treatment	Fan-speed (rpm)	Ground speed (km/hr)	Trash in field (t/ha)	Sugar loss in paddock (t/ha)	CCS delivered cane	Delivered cane (TCH)	Harvesting operations		CST operations		Revenue	
							Time to harvest (hr/ha)	Haulout trips to siding	Average cane bin weight (t/bin)	No of cane bins required (bin/ha)	Value of sugar left in paddock (\$/ha)	Value of sugar delivered (\$/ha)
T1	850	8.0	30.5	2.26	16.03	108	1.05	9	5.62	20	\$1,017	\$6,866
T2	700	8.0	22.2	1.21	16.03	121	1.05	11	5.16	24	\$544	\$7,701
T3	700	6.5	22.3	1.13	16.27	123	1.23	11	5.44	23	\$511	\$7,957

Above: Information from recent SRA demonstration trials.



One of the demonstration trials in action at Condong, NSW, in October.