2019

Side-by-side trial examines after-market chopper systems

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SIDE-BY-SIDE TRIAL EXAMINES AFTER-MARKET CHOPPER SYSTEMS

ALONGSIDE A SERIES OF FIELD TRIALS LOOKING AT OPTIMUM PARAMETERS FOR HARVESTING, SRA HAS ALSO COMPARED STANDARD CHOPPER DRUMS TO AFTER-MARKET OPTIONS AVAILABLE FOR THE AUSTRALIAN SUGARCANE INDUSTRY.

Standard Case and John Deere chopper drums have been compared to after-market low-loss chopper drums in recent field trials conducted by SRA.

The purpose of these trials was to complement work with harvesting groups across the industry to help optimise harvesting efficiency, and to understand the differences in sugar recovery with after-market drums, and also harvesters with optimised feed trains.

In New South Wales, one of these trials was conducted with the assistance of Woodburn Cane Harvesting Cooperative during the 2018 season, with the trial comparing standard John Deere drums on their two 3520 machines. While the group runs a CH570 and 3520 as their main machines, with a 3520 as a backup, the trial was done with the two 3520s to ensure a like-for-like comparison.

The harvesters ran in the same paddock on the same day with sugar loss assessed and measured by the SRA harvest losses team, as part of the Rural R&D for Profit Project that has been working across the industry on in-field trials for the last two seasons.

Based on the trial and earlier work, the NSW region’s milling company, Sunshine Sugar, is offering a subsidy for the installation of three or four blade per drum low-loss chopper systems and feed train optimisation for each harvester that will operate in the 2019 season.

CEO Chris Connors said they were impressed by the results.

“On average, using low loss chop systems means an extra 1.3 tonnes of sugar for each hectare harvested, which backs up work from Sunshine Sugar’s own trials at Harwood in 2016,” Mr Connors said.

“The extra sugar translates to an extra $225 per hectare for the farmer. Based on last year’s 16,000 hectares harvested this would return an extra $3.6m for NSW. Add the increased harvest group and mill revenue and it is something that we cannot ignore, particularly given the weather effects on the current and future crop.”

Broadwater region grower Stephen Wagner is a Director of the Woodburn Cane Harvesting Cooperative (Co-op) and said they were “blown away” by the data from the trial.

“On the day of the trial, we thought there would be some difference, but it was when we received the results of the new chopper system we had installed that we were surprised,” Stephen said.

“It was in a block of big cane nearly twice the yield of most of our blocks – over 250 tonnes per hectare – so we know that the numbers need to be scaled back proportionately.

“But, at the same time, it’s clear that the whole value chain stands to be winners.

“It is not often these days that new technology comes along in farming that can make such a big change. 10 years ago we made huge gains with costs and economics of scale, improved chemical usage and zero till. But in the last decade the gains have been smaller.

“But we see this as a real game changer in our burnt cane system.

“We are also grateful to Sunshine Sugar in being extremely generous and subsidising the cost of the investment.”

The current after-market drums on their 3520 are four blades per drum, but they have chosen three blades per drum for their CH570 this year.

SRA has also worked with the co-op on assessing harvesting parameters such as fan speed, ground speed and pour rate.

Graeme Bell is an employee of the co-op and spends most of the season in the harvester seat.

He said that, as a grower-owned co-op, their existing harvesting settings were not too far from the recommended settings, especially in big crops, but he also said the co-op still faced other factors in getting to the sweet spot with harvester settings.

“With burnt cane we have deadlines to meet to get it off quickly, and we also have deadlines to meet with the mill,” Graeme said.

While most of the cane is two-year, yields can still vary, especially in recent flood years or years like 2019 when there was severe drought over the summer.

The Rural R&D for Profit project is supported by SRA and the Australian Government Department of Agriculture and Water Resources.