



Mark, Tony & John have a sugarcane farm near Walkerston, Queensland, Australia

Mark, Tony & John Bugeja Bio

The Bugeja family are second and third generation farmers in the Mackay Whitsunday region.

John controls the harvesting operation and assists with farming and irrigation when he is free from harvesting duties.

Tony and Mark control all farming activities and assist John if help is needed on the harvester front.

The Bugejas moved to a 1.8 metre controlled traffic system in 2006 after looking at the benefits of the new farming system and realising change was necessary to remain farming large areas with a minimal workforce.

They have currently converted 75% of their farms with a substantial reduction in machinery applications on their blocks..

The Bugejas commitment to the sugar industry is shown by their willingness to commit to long term trial projects on their farms as well as working closely with various industry bodies.

The Bugejas have established a soil testing strategy based on an Electro Magnetic (EM) soil mapping and the use of a consultancy package to develop nutrient plans that have been ongoing since 2002 .

The Bugeja's are confident with the implementation of all these new farming practices that they will be able to farm more environmentally and economically sustainable.



Trial: Base cutter height precision agriculture

Description:

The Bugeja's are currently trialling the use of an automatic base cutter height adjuster on the harvester. This is a first in the Mackay Whitsunday sugar growing region and one of only a few in the Australian sugar growing industry.

It was installed on their harvester in late August 2009.

Issue being addressed:

Traditionally the harvester operator makes adjustments on his harvester by his own calculations for setting the base cutter height.

Problems associated with this practice includes, soil loss, driver fatigue, ratoon damage and higher fuel consumption as the machine works harder to cut into the earth.

By using ultra sonic sound waves the automatic base cutter height adjuster, changes height on the run without the controller having to make a judgement.

The concept is ideal because of the savings from stool damage and excess exporting of soil from the farming system, but at the moment the practical output

from this unit is not something that this enterprise would embrace fully as the only sustainable solution.

Solutions being tested:

After being trialled for a short amount of time, some initial problems were identified and will be working these out with the manufacturer, NORAC.

For the Bugeja's farm - 50% was covered in this trial and next year it will be 100% covered. Their harvester will be showcased to others to learn more and potentially adopt the technology.

Getting this technology installed in other harvesters is easy. it's the economic hardship to pay for it that will however limit uptake and grower participation.

Immediate results:

The automatic base cutter height adjuster was tested by an operator with 20 years experience who found it very convenient to use.

It is and will be an ongoing trial to modify both machinery and technology to make the basecutter height a useful tool for the sugar industry, but at the moment more work is needed.



Project Catalyst enabled me to think big and think broader. We want to show the rest of the world what we can do. It's a positive way to go."
Tony Bugeja

