



The Deguara farm is located in Sandy Creek, just east of Mackay Queensland, Australia

Gerry, Barbara, Joe & Sam Deguara Bio

Second and third generation cane farmers in the Mackay Whitsunday region, the deguaras have always been leaders of innovation in the sugar industry.

This started from the early 1980's with major changes to their water infrastructure with the successful use of centre pivots for irrigation. More changes happened with the adoption of a two meter controlled traffic farming system with rotational legume fallow crops.

This meant many hours in the shed modifying farm equipment and harvesting gear over the last 10 years to get the desired results.

In 2009 he implemented a major change to his harvesting operations by

moving to reverse filling of haulouts on GPS.

They have also integrated other crops into their farming system by growing chickpea, soybean, peanuts, mung bean and other legumes during their fallow season. This included looking at a two year fallow as part of their new farming system.

The Deguaras also have a history of working closely with many industry bodies to investigate new technologies and future directions for improving farming practices.

This helps them incorporate the change into the present farming system without the depletion of natural resource condition.



Trial: Mill Mud Spreader

precision agriculture

Description:

The Deguara's were keen to find an achievable solution to improve the use of mill mud in their sugar growing enterprise. 7 million tonnes of sugar makes 700,000 tonnes of mill mud each year. Mill mud is an effective nutrient source able to be then spread back out onto blocks.

In doing their research the Deguara's confirmed the nutritional benefits and then developed a long term management plan to utilise mill mud and ash on their farms.

Issue being addressed:

It was identified that their farms have significant areas where yield is affected by high sodium levels in the soil.

Current practice to remedy this is an application rate of 250 to 500 tonnes/ha of mill ash applied across the whole block.

This is a similar practice to mill mud, which is applied at 150 wet tonnes/ha to provide a nutrient source for the next cane crop, specially phosphorus.

The Deguara's wanted to determine a more efficient and effective use of these valuable resources. and increase the viability of moving it away from the mill and into other areas.

Solutions being tested:

By using site specific application this valuable resource can be spread correctly and placed in exactly the correct spot for maximum benefit. The Deguara's manufactured a spreader to handle these products and have utilised their current GPS technology to deliver variable rate ash and mill mud to specific areas to enhance productivity.

With Deguara's farm, we're spreading a mill mud/ash mix at 28 - 34 tonnes/ha banded on top of the stool, which means they cover 5 times the area with the same amount.

Immediate results:

Gerry has now been using the spreader for 12 months with lower application rates with no decrease in yield.

Identified benefits to date include:

- reduction of nutrient input including not purchasing any inorganic phosphorus fertilisers.
- 1/3 reduction in chemical use
- cost savings

This is not a short term project. The Deguara's will only do a third of their farms every second year, because there isn't enough product to complete in one year.



"We've had good support throughout the trials. If we're going to survive in the long-term we need to thinking bigger and make our farms more viable for future generations."
Gerry, Sam and Joe Deguara - Variable rate ash and mud application

