

Project Catalyst

Grower story



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Adrian Darveniza, South Johnstone - Compares early versus late planting

Grower Name: Adrian Darveniza

Entity Name: South Johnstone Farming

Mill Area: South Johnstone

Total Farm Area: 266ha

Area under Cane: 231ha

No. Years Farming: 10

Trial Subdistrict: South Johnstone

A fourth-generation sugarcane grower, Adrian Darveniza climbs down from his spray tractor in South Johnstone, (one and a half hours south of Cairns). It's late November and there is much to be done on the farm - home to wife Tracy and sons Kai, Sammy and Hamish, nestled in rolling hills of rich red soil that meets sandy loam in the lower levels.

When Adrian left school, he couldn't wait to explore the world. He settled in Sydney where he met Tracy and returned to the North Queensland house he grew up in, to raise his own family and take on the business his forebears had carved out of bushland by hand. Adrian's father liked to do things differently and did a lot of zonal work, which is one of the biggest changes made to their farming practices not recognised by neighbours at the time. "Zero till planting is my way of carrying that legacy on - trying to innovate practices further. When Dad started zonal till with the rotary hoe, the neighbours saw the advantage and started adopting it, so hopefully people see what I'm doing and if it works, they might consider doing it as well."

Managing the cane hasn't been easy for the Darveniza family over the past decade. Global market influences, changing government regulations and Adrian's commitment to leave the farm in as good a position as possible, both financially and environmentally, means putting in a lot of effort now. Project Catalyst has provided a platform for him to take his



Adrian explains the early vs late planting trial site

ideas and adopt other innovations from like-minded growers along the Queensland coast, through trials. His most recent trial is considered ground-breaking, thanks to friable soils. "Essentially the trial was started to see whether early planting would produce a production lift, many growers in the region have moved away from early planting. We've also done some other trials in the same area with a way disc for a minimum tillage trial, spraying the cane out to plant beans that grew really quickly."

Friable soils that crumble easily are beneficial when practicing minimum or zero till methods. Unfortunately, they also present problems when the wet season arrives, bringing metres of rain in a relatively short period. Adrian decided to trial early planting, spraying the legumes out in early April, then planting out his cane with zero tillage. The soaked ground made him concerned that the cane wouldn't

grow. "Wet conditions can kill the sett before it has a chance to get up. 208 was used (a slow striker in adverse conditions), but it still got a 100% strike."



Soil types can vary across farms

What it's about

Project Catalyst is a grower-led innovation project in sugar cane that was formed to explore and validate farm management practice change leading to improved water quality for the Great Barrier Reef. For more information on Project Catalyst please visit our website <https://www.projectcatalyst.net.au/> or phone Catchment Solutions on 07 4968 4216.

Adrian thought 2018 was a dry year, then 2019 presented another year of lower than average rainfall. The comparison crop was planted under dry conditions at the end of August, using water to add weight and conducting 2 passes with the wavy disc cultivator, going down about 3cm, helped to break up the ground. The legume crop had been sprayed out a couple of months earlier so the ground had baked hard on top. “When you get dry years like these it’s beneficial to plant early - after the wet season there’s always moisture in the soil, what we found through the trial was the strike rate was just as good where we didn’t disturb the soil. I’m not expecting this cane to catch up to the cane planted in May.”



Controlling weeds efficiently requires the right rig

Keeping his soil on farm and saving time has so far produced environmental and financial savings, but will it result in improved yields, thanks to the longer crop cycle? “Productivity is the driving force, however, the way I can become more productive is through better soils and better management of time, so if I can get my planting done in May that gives me more time to do other farm work through the season. With the zero till planting I know that I’m getting less erosion, which was one of the fears I had about early planting if you get a heavy downpour. But what I’ve seen after consistent rain for weeks is no erosion.”



Necessary implements including the wavy disc cultivator (right)

Whilst his approach may not work for all soil types, it looks promising for the region, particularly soils that aren’t compacted and have been lightly cultivated. Only time will reveal the overall influence successful trials have on practice change adoption, for Adrian there’s plenty of motivation and new ideas. “I’ve seen a few different trials further south at Ingham and I’m not quite there yet, what



Rich red friable soil makes light work of minimum till

they’re doing is inspirational, but each area has their own challenges. I’ve got a lot of hills that limits me in what I can or can’t do. I can’t work my ground in December, unless I want it all to wash out to the reef – which defeats the purpose.”

“Previously when we got heavy rain it used to wash the setts off the hill. By using a zero till approach we hope to reduce that erosion to retain soil and soil moisture.”

Adrian Darveniza

With a big focus on reducing sugar in products worldwide and consumers now more educated than ever, Adrian knows that it will never go out of style completely. “Sugar is getting a bad rap – I often joke that everyone hates sugar, but everyone likes to eat cake.”

Practices adopted:

- Fallow cover cropping
- Controlled traffic
- Inorganic nitrogen reduction
- Installation of a sub-surface fertilising system
- Mill mud and nutrient plan



<https://www.projectcatalyst.net.au/>