Project Catalyst

Grower story

Frank Mugica - Striving to improve farming with a global view

Mill region: Kalamia

Property size: 119 ha

In 2013, Frank Mugica moved his family farming operation from Clare (and previously Dalberg) to Kalamia, which are all areas of the Burdekin. Understanding soil and water is key to many of the practices they've adopted since joining Project Catalyst in 2013. Frank has spent his life on farm learning from his father, who is an early adopter of change.

Frank Mugica displaying a "G Dot" moisture probe in the paddock

"My father began green trash blanketing in 1987. There's a lot of farmers who are sceptical of new methods – they don't think outside the box, or they're set in their ways. When I heard about Project Catalyst I thought why not grab it with two hands to try it and have a go. My neighbours were saying a lot of things would not work – I found that challenging."

Another challenge was tailoring management practices, the previous owners of the Kalamia farm had applied high amounts of mill mud and introduced restrictions which would reduce the amount available to growers. Frank knew he had to do something differently and looked at another method.

"Project Catalyst offered alternatives and a banded mill mud trial commenced in 2014, lowering the rate and targeting application where the soil benefits would be maximised. That's now standard across my farm and I've actually adopted another method of burying the mill mud sub-surface and then bed forming it, either planting cane or a legume crop in that area – the idea of the rotational legume crop is to improve soil health quicker."

Mugica Farm water recycle pit – to capture and re-use run-off water

A further trial established in 2016 aims to Identify the runoff characteristics under a furrow irrigation system of the UV stable products, Balance (Isoxaflutole) and Flame (Imazapic), monitoring waterways at various times after application. Previously the runoff characteristics were unknown, and the expected outcome hopes to provide recommendations on use and capture of tailwater from blocks sprayed with these UV stable residual herbicides.

Frank has adopted several innovations over a relatively short time.

"During my time with Project Catalyst I've built a recycle pit, which captures all my runoff. Then I've also adopted moisture monitoring probes –(GDots) which tell me when I should correctly apply water. I've gained confidence to take on board the advice we're given and adopt it, or at least have the chance to adopt and it'll make agriculture more environmentally sustainable."

A strong advocate for change within the industry, Frank feels strongly about his

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.

daughters having the option to manage the family farm. Predominantly a male oriented industry, he is striving for schools to adopt a more agricultural and technological focus in the Burdekin, so children understand all the career options available to them. A high percentage of them have a rural background and technology has changed the way farms are managed.

"Project Catalyst has opened my mind to one day handing over the farm to my daughters and how that could be managed. Through all the relationships I've formed, taking advice from the NRM groups and agronomists, this will help my children in the future planning of the farm. They can employ people and consult with agronomists, to ensure the farm is run economically and remains environmentally friendly."

Business efficiency and productivity benefits of Project Catalyst aside, there is a reoccurring theme among growers who note the excellent knowledge sharing and networking opportunities. Not just restricted to industry either, as Frank explained.

"Besides engaging with NRM groups, agronomists and government officials, I like meeting members of WWF and discussing global issues that affect free trade. The delegate from WWF I met at Forum 2018, had one week earlier been in discussions with Costa Rican officials over the use of slave labour in sugar cane production. He made an interesting point revealing the response to criticising their unpaid labour practices, whilst pointing out impacts to other countries like Australia. Their immediate reaction was to criticise environmental practices in Australia, affecting the Great Barrier Reef. Growers must be aware that social media and negative press has global implications."

Frank's daughter Alaya with the Farmacist Agronomists

Frank Mugica and his father checking the crop

Aerial view of the water recycle pit

"Project Catalyst shows the world that the Australian sugar industry is always trying new ways of improving farm management."

Frank Mugica
Burdekin Grower

Growers in the Burdekin region, are proud to be part of the largest sugarcane producing area in Queensland. With a history spanning more than 100 years, each hectare harvested produces an average of more than 100 t of cane, compared with the average 85 t across Australia. Fertile soils and access to water for irrigation, are cited as reasons for the high tonnage per hectare. It makes sense therefore, to manage both for a sustainable future.

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