Project Catalyst

Grower story

Ray & Leah Vella - Investing in innovation - improving water management

Mill Region: Proserpine
Property Size: 3844ha
Area Under Cane: 1120ha
Years Farming: 25 years

Globally, the need to find a balance between farming and environmental health has never been more important. Project Catalyst sugarcane growers have been striving to improve water quality, whilst increasing productivity for more than a decade.

Innovations in farming practices have seen many farms install sediment traps (also known as recycle pits), adopting wider rows, green manure cover crops, reducing nitrogen inputs and embracing technology through GPS, telemetry and automation. With succession being one of the biggest challenges facing farming families, the recent sale of a significant property in the Whitsunday Region, is proving these practice change initiatives are attractive to investors.

Raymond (Ray) Vella is a third-generation sugarcane and cattle farmer from Mackay. With wife Leah and three young children, they've chosen to expand their farming interests to include the former Faust Farming property, currently involved in Project Catalyst trials. A 2012 Nuffield Scholar, Ray knows how important it is to secure valuable resources like water. "The water infrastructure and the scale of the property really impressed us. As every farmer knows, rainfall and water are a very valuable asset with this availability on farm, it provides security."

Travelling the world over 18 weeks for his studies, Ray's experience of California in particular changed his mindset forever. To relocate his grazing business, he required an area with high rainfall and storage infrastructure. With established dams, recycle pits and creeks, the Proserpine land ticked all the boxes. "The amount of water here, that's

Ray and Shane tour the farms water storage facilities and talk about future infrastructure upgrades.

available, and how it's recycled and captured. I think that's the way of the future for the cane industry, water is life and with it you can grow anything so there's no restriction there."

With an applied interest in soil health, maintaining ground cover is crucial. Pasture management through rotational grazing and grass budgeting - a system that utilises a formula based on the area size of the paddock and the amount of grass required per head, per day, has maintained soil health and increased productivity. Something Ray would like to integrate into sugarcane management practices. "With the cane we're looking into growing soy bean and mung beans and to feed our own cattle. Up to date it's been sacrificial crops in the cane. It all comes down to your soil health – getting that right from the ground up, trying to replicate what nature does and implementing that into our business."

Shane Butler has managed Faust Farming since 2013, overseeing Project Catalyst trials and adoption of practices to improve water quality. He admits in the past there have been bare fallows, but they're in the process of trialling break crops on fallow, last year they moved to a permanent bed. "We harvested the cane and planted soy beans through the trash blanket, spraying out the cane as it emerged. When we planted it last year the bed was so friable and we could always get on it soon after it rained, because the traffic zone was compacted with everything done on GPS."

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.

One of the original Project Catalyst members in the Burdekin region, Shane managed a corporate property there, installing recycle pits amongst other initiatives. Overseeing trials in skip row, changing chemicals to reduce Glyphosphate use, sub-surface slow release fertiliser adoption, and exploring solar energy, there is currently a worm casting trial under way. He credits the program for expanding his knowledge. "It's been a great forum to learn from other farmers, I've always looked over the fence no matter whether it was sugar or grain. We've virtually redeveloped this property for Faust Farming to recycle up to 95% of our water and I can see I'm going to learn a lot more about the cattle with Ray."

Kelsey Creek, runs through the property for more than 2kms. An example of the excellent water quality supporting an array of wildlife including Barramundi, Cod, Bream, Crocodiles, Turtles and birds.

No stranger to water quality initiatives, Ray has been involved with reef programs over a number of years, facilitating changes to their previous grazing business and intensifying farming through fencing off waterways and other infrastructure. They've (Government) been very helpful in delivering those initiatives, they're slowly listening to what's needed, however there's still a gap between the highest level and on the ground. More experienced people on the ground are needed, supplying the hands-on knowledge and connection with the people who are implementing environmental change."

Technology is playing an ever-increasing role in farming, with some growers including telemetry, automation, drones and fertigation. The next five years will be guided by the latest innovations and proven results for Ray and Shane. Ray plans to set up more advanced systems in irrigation and deliver minerals to stock through water troughs.

"We'd like to complement the existing practices, balance all the systems that are in place to ensure we maximise the business potential. On the pasture side of things, it's about fencing to reduce the size of some paddocks and capitalise on the area we have, even in the cane trying to utilise every bit of land all year round. If you haven't got cane in, have some other crop in there to reduce waste and maintain ground cover to keep the soil health at an optimum."

Further infrastructure is planned to facilitate Ray's cell grazing and pasture management.

Ray and Shane are about to start a new Project Catalyst Innovation Trial, funded through the GBRF and the Australian Federal Government, examining low risk strategies for growing legume crops and transitioning back to cane. Amongst other measures this will provide assessments of different N rates that are available following a green manure legume crop and the engagement of differing ground preparation strategies. Ideally, they will be able to develop a set of guidelines for low risk legume and ground preparation strategies that other growers can benefit from.

Ray is both passionate and enthusiastic about the future of farming, a vision shared by Manager Shane. Their combined experience and thirst for knowledge is sure to set an example in proven outcomes for water quality, the environment and productivity.

"Networking is very important in any industry – sharing that knowledge is so valuable and I like that about Project Catalyst."
Ray Vella

Harvesting one of the paddocks with 1.2km drills, burnt to facilitate improved irrigation management - reducing water usage and time.

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