

Project Catalyst

Grower story



Allan & Karen Matsen with son Grant Matsen - Sharing knowledge - inspiring innovation

Entity Name: Clearacre Pty Ltd

Trial Farm No/Name: MKY-04670A

Mill Region: Mackay Sugar

Property Size: 600ha

Area Under Cane: 480ha

Years Farming: More than 40 years
(3rd generation)

Trial Subdistrict: Dawlish

Soil Type: Sunnyside soil – Deep soil with a sandy to loam topsoil over a grey to brown clay

The greatest challenge farmers face in the future is weather predictability. Having worked the land they live on, for more than 40 years, both Allan and son Grant know you can't just do the same thing every crop cycle. Located south-west of Mackay, water is a crucial element required in the right amount to grow a successful crop – as Grant is conscious of, "Every day's different, so that's the biggest thing – knowing what to do next and doing it at the right time. You're always trying to be two steps ahead of what's coming and a lot of the time the forecasts aren't right."

Approached by Farmacist Agronomists about Project Catalyst in 2017, the Matsens had been actively running trials with ash on their sodic soil, to improve crop results. Purchasing a spreader from the Burdekin region to apply varying rates of mud and ash the results were anecdotal. Progressing to recorded trials under Project Catalyst, they were keen to gain data that quantified any results from practice change. Grant is keen to learn, "You see different implements and hear new ideas from neighbouring growers, I've got a mate in Koumala doing different things, it's always good to catch up, try things and talk about it." Allan has similar insight, "It's not just one particular grower, it's multiple farmers you talk to and dissect the ideas to see what you can try on your farm."



Allan & Grant Matsen

It all comes down to what you can do in a cost-effective way according to Grant, when trialling ideas you don't want to invest more than you can afford, especially when it comes to machinery and implements. Grant completed a Fitter and Turner trade before returning to the family farm (in 2012), modifying implements to suit practice change for trials.

"When we first went to mounding fallow, we modified 3 or 4 implements that would've cost thousands of dollars and you're not sure if it will work or not." Modification in the shed is not new to Allan, "Ten years ago, we bought a planter – before Grant came home, I used to 'flat plant' the soybean and we found it wouldn't survive in the wet, so we started to mound it then. I made a single row implement from stuff we had here."

Seeing results, they purchased equipment

and mounding has since been adopted as a practice Grant appreciates, "We continue to throw the fallow into a mound, because you can get on it easier in the wet and spray, to keep weeds down. Keeping your fallow clean is a good start to keeping your plant cane clean." Taking the soybean fallow crop to seed over the last two years has proven beneficial both financially and in improving management of the land, fixing nitrogen and reducing weeds.

For Allan, practices have changed dramatically from the way his father Dave worked the ground manually. The introduction of digital technology like GPS has presented new opportunities and challenges. "Dad worked all his ground, chemicals weren't a thing then, he only had 200-250ha under cane that he ploughed maybe ten times to prepare for planting, we've gone to zonal tillage and green harvesting with 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.



Mounded rows of soy fallow



Grant's modified implements



Grant's modified implements

Grant feels that increased knowledge of GPS capabilities will improve their current manual use of the technology and data. “More training on setting it up would be good but, finding the time to do it is another thing. I know a lot of farmers are up to speed, but some aren’t and it’s (impacting) the practicality of making it easy while you’re in the machine to get the best efficiency.”

Water quality improvement is taken seriously on farm with a 1-2 megalitre recycle pit capturing flood irrigation for reuse and an installation project of two settlement ponds (at the time of writing). Further water efficiency measures include investment in a new centre pivot towering over the plant cane. Allan’s experience with water is evident in their planning for the future.

“In your drier years it definitely takes a bit of worry out of having a crop for the following year, also in managing things like your fertiliser – we use dunder, (BioDunder is a liquid by-product of ethanol, produced exclusively in Sarina by Wilmar BioEthanol) water it into the soil and if you get a downpour hopefully we won’t lose as much.”

In the final year of a Project Catalyst surface vs sub-surface mill mud application trial, the results look promising. “We don’t want

to destroy the reef, that’s for sure – we both have tinnies and love to do a bit of crabbing and fishing. Dad goes on a fishing trip every year.” The last two years those trips have taken Allan to waters off Cairns and Cooktown where Project Catalyst growers continue to strive for improved outcomes, sharing their innovations through trial presentations at the annual Forum.

Seeing the different trials and being able to talk to other growers, from as far north as Mossman is a huge advantage of being involved in Project Catalyst as Grant explains. “The friendships you make and the knowledge you gain from their experience is priceless, we really enjoy attending the Forum and having that opportunity to network with like-minded farmers.”

Practice adoption by the Matsons includes:

- Controlled traffic
- GPS guidance
- Zonal tillage
- G-Dot moisture probes
- Soybean fallow crops
- Sediment trap/settlement pond
- Centre Pivot irrigation for water efficiency
- Mounding

CASE STUDY BACKGROUND

Initially, the Matsens sourced chicken and cow manure for use as fertiliser on their own farm, however this proved to be economically unviable. Therefore, the decision was made to trial sub surface applied mill mud instead. The burying of soil ameliorants below the surface of the soil has potential to improve soil qualities further down the profile, increase organic carbon levels and potentially expand the topsoil and root zone. The deep placement of ameliorants also reduces the likelihood of run off, promotes microbial activity and has the potential to increase a crops Nitrogen Use Efficiency (NUE).



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