

Well Worth The Effort

Collecting clean seed from a MAPS plot does take time and effort and usually gets done when everyone is busy with planting and harvesting. However, the time spent collecting clean seed is the best investment you can make on your farm to increase productivity and reduce the risk of major diseases such as RSD. Research shows that the average yield of growers who regularly collect clean seed from an Approved Plot is approximately 10t/ha more than growers who don't. With today's high sugar prices, it's definitely well worth the effort in establishing the best foundation with clean seed to grow the healthiest and most productive crop as to take advantage of these great prices.

2023 saw more growers take advantage of the MAPS plot with another increase in the uptake of clean seed cane, with just over 2000 tonnes collected in whole stick or billet form. This is the largest uptake of clean seed the region has seen to date. A big thank you goes to Henry Barfield, John Simpson, Russell & Lachlan McLennan, Ross Williams, Albert DeBoni and Bill Jones for the great work they did in cutting the plants for growers.

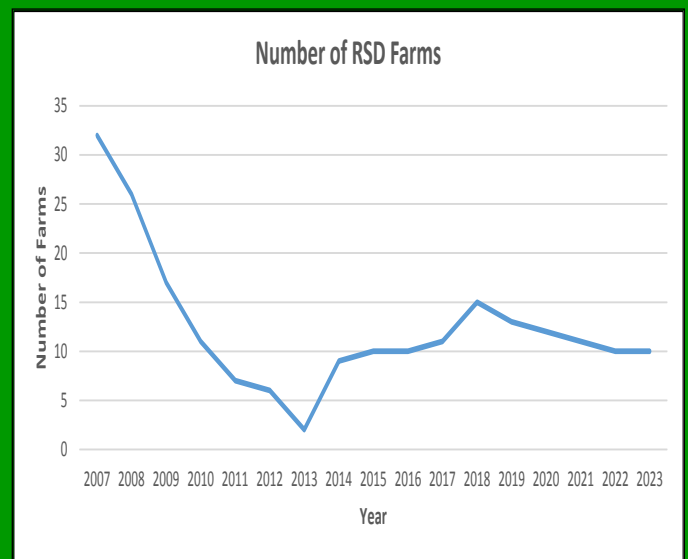
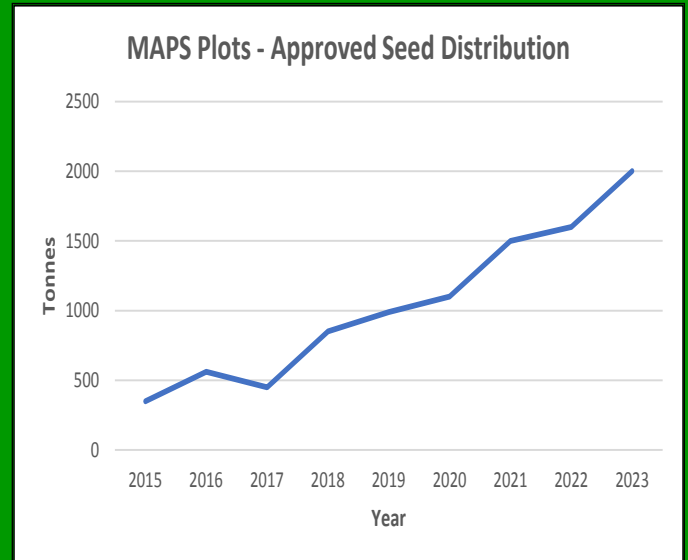
As more billet plots get established, it's vital that MAPS strict disease protocols and procedures remain in place to ensure the cane is disease free and of the highest quality. It's a huge effort from the MAPS team to establish all the clean seed plots throughout the Mackay Sugar district, whilst also organising the clean seed distribution amongst growers.

Mackay has one of the lowest RSD levels in the State's sugar industry with less than 1% of the farms recording RSD. This is an excellent result, considering a number of our northern neighbours have RSD levels up to 30-50% of farms infected. The low levels in our district is not due to luck, but the result of the hard work growers do maintaining their clean seed program and installing a regular sterilisation and hygiene program with the planting and harvester equipment.

MAPS staff conduct over 4000 plant inspections on Mackay Sugar farms and have recently finished a RSD survey of the region to reinforce the low RSD levels.

For the 2024 planting season, clean seed can be sourced from five MAPS approved plots throughout the Mackay Sugar region, located at Victoria Plains, Calen, Bakers Creek, Marian and Benholme.

For further details of the plots please contact your MAPS Productivity Officer.



As the year draws to a close, on behalf of staff and the Board, MAPS wishes you
a Merry Christmas and a safe and happy New Year.

Our office will be closed from 4pm Friday, 22nd December and will re-open Tuesday 2nd January 2024.

MAPS Observation Plots Maturity Testing

MAPS has continued with the early maturity testing of varieties and seedlings observation plots planted throughout the Mackay Sugar region. The purpose of the maturity testing is to help identify seedlings worth releasing and gain more data and insight on the recently released commercial varieties.

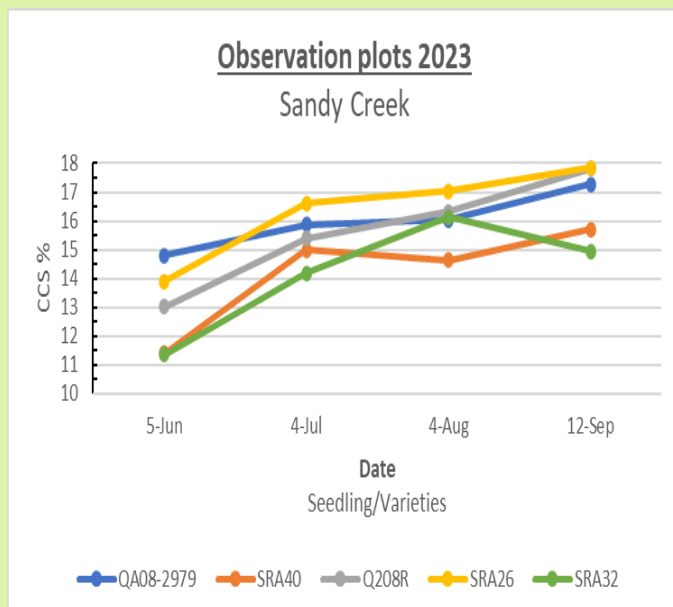
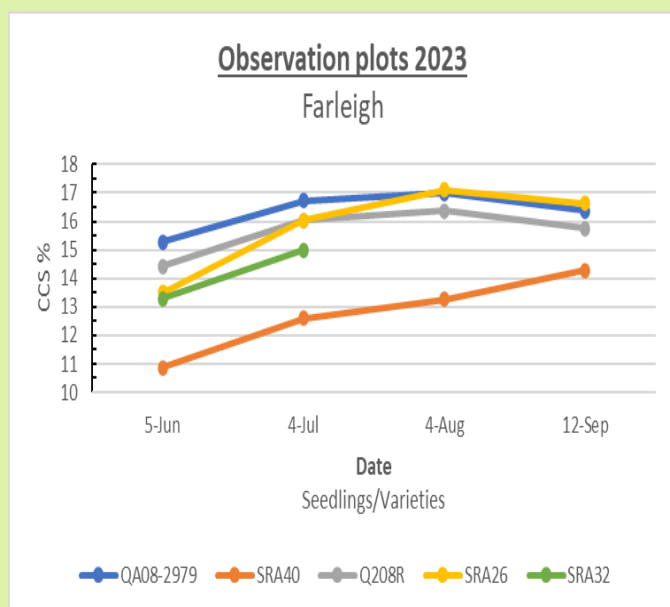
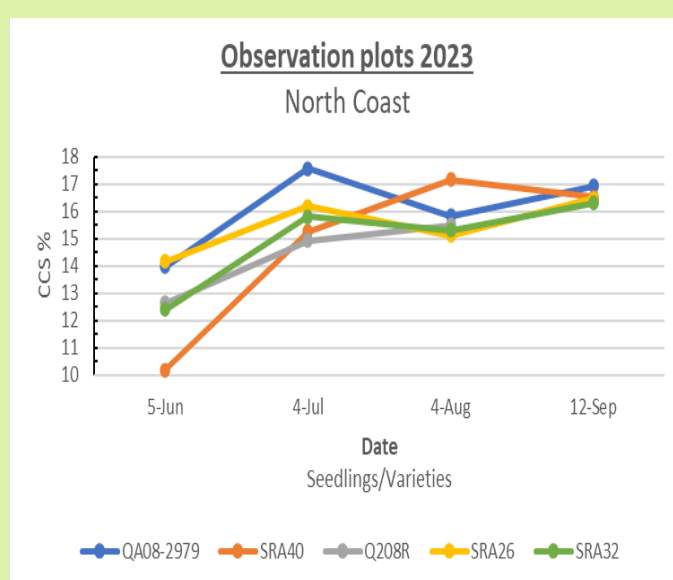
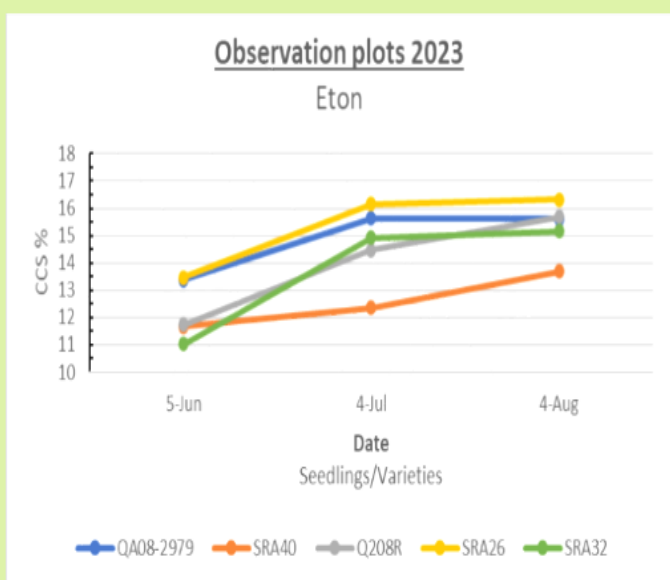
With SRA26 & SRA40 being released this year without any commercial data, testing in the observation plots will help to determine when to harvest the two new varieties. The sampling commenced at the start of June and went through to early September with plots sampled once monthly.

Samples were analysed at Mackay Sugar's Marian Mill and at the SRA Station. The data comparing all the varieties in the plots is below.

QA08-2979 is a seedling being trialled in the plots. The early indication is that it has a higher CCS content compared to the other varieties in the plots. The seedling is pachymetra resistant and potentially could be released in the next few years based on the SRA trial data. The newly released SRA26 has tested well early in the majority of plots and continued to show good results as the season progressed. It is also a pachymetra resistant variety.

The MAPS Observation plots are not replicated trials, however the data collected in the plots provide valuable information for growers. When selecting a variety for your farm, ensure all factors are considered to achieve best productivity results possible as it's a financial decision which can impact farm productivity and profitability for seasons to come.

Contacting your Productivity Officer and discussing your variety options will assist you to select the right varieties for your blocks.



Keeping an eye on Sugar

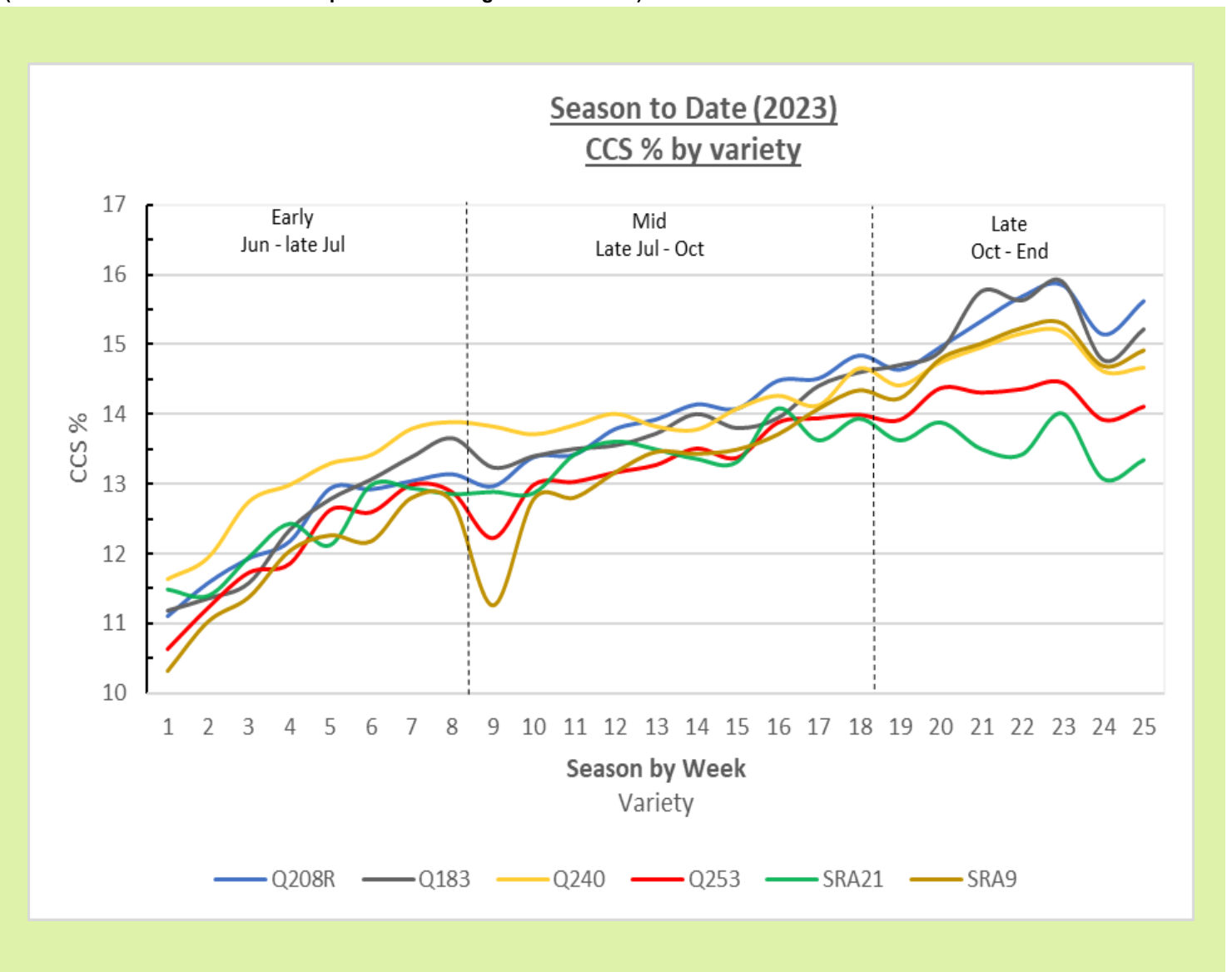
Sugarcane varieties perform differently according to the season, soil type, agronomic practices, and timing of harvest. Decisions made now have an impact on your farm for seasons to come. To assist growers to decide what to plant and where, there are several factors to consider.

One is to talk to your local Productivity Officer as they have a wealth of knowledge about variety traits and performance. Another great resource available is taking the time to look at historical and current mill data, in both your local milling zone and your farm records. It provides a wealth of information on tonnes cut, avg bin weights, CCS, and fibre to name but a few.

Understanding CCS curves and how varieties perform over a season has an impact on farm harvest management and profitability. The below graph shows us how timing of harvest has an impact on CCS. Taking the time to accurately record on-farm harvest practices, especially consignment notes, improves the information available to you as a grower.

While varieties like Q240, Q208R and Q183 generally perform well over the milling season, the newer options like Q253, SRA 21 and SRA 9 generally compare well against the older varieties for most of the season. Q253 is better suited as a mid-option, SRA 21 (early – mid) and SRA 9 (mid to late). This information will vary from season to season, and while the local milling zones curves will differ to a Mackay regional curve (below) this is a great starting point for the 2024 season and how to possibly schedule your harvest program.

(Rainfall in week 9 and week 24 impacted on average CCS % levels)



This information is derived from all milling consignments (NordZucker, Mackay Sugar Limited) over the 2023 season. (CCS % averaged for the milling week by Variety, ending 15 November 2023) It is vital that accurate variety consignment is recorded to provide precise data back to growers to determine a varieties sugar curve.

Smartcane BMP a Wise Move

Dianne Hobbs was on a mission to do whatever was necessary to help her husband Bill through the Smartcane BMP process. The family have farmed 330ha up the Pioneer valley over the past 50 years. Capturing the accumulated experience and knowledge onto records, documents and maps proved a learning experience for both in this enduring partnership.

Over the course of visits, emails and conversations across the kitchen table, Dianne was able to build up several folders of information, checking them off a list of the evidence ultimately required on the day of the audit. Bill supplied a steady stream of information, usually with extra details to provide context.

The Nitrogen and Phosphorus (N&P) Budget that's required under legislation before commencing fertilising, was new for the Hobbs. MAPS generated a large spreadsheet that summarised the blocks, varieties, crop classes and soil types across the farm; matching them to several years of soil test results and recommendations, then attempted to find the best fit with fertiliser products and rates.

Implementation of the N&P Budget proved to be a challenge to the way fertilising had been done on the Hobb's farm. Initially the table was not easy for Bill and Dianne to work with, so a map with different colours to indicate the fertiliser product and the rate was generated. This led to the N&P Budget being rationalised as much as possible to keep the number of fertiliser products down to as few as possible with limited changes of rates. In the end Bill was able to see significant savings in the fertiliser bill, without compromising crop productivity.

They successfully passed the audit on 9th November, which also happened to be Bill's birthday.



Dianne said that they now have a better understanding of what is required of them and how to keep better records.

So far, over the 2023 year, the BMP program in the Mackay region has had 8 **new** accreditations totalling 1428 hectares and 8 reaccreditations. Next year there will be 24 reaccreditations to process.

These reaccreditations prove to be a good opportunity for growers to be made aware of any changes in regulations, as well as developments in best management practice.

To date, Mackay region has 36.3 % of the cane growing area BMP accredited. If you want to start the BMP program, MAPS has two BMP officers who will help you throughout the process to become BMP accredited.

Lorelle Fylnn - 0448 715 482

Steve Garrad - 0417 326 673

Don't Let Rats Eat Into Your Profit



MAPS has recorded a significant increase in rat damage throughout the region this harvest season resulting in yield and CCS losses. Ideal weather conditions and harbourage (standover cane) has allowed the pest to breed quickly causing the damage in this year's crop. To avoid a repeat of the crop losses, rat baiting is a practical option for growers to reduce the overall numbers. If you have already baited for rats or plan to bait, please let your Productivity Officer know the details straight away!

If you are going to bait, you can record your baiting on the MAPS website by following the links.

MAPS must have this information, so we can report to government every three months in line with our Permit. MAPS has secured a Damage Mitigation Permit from the Department of Environment and Science till November 2024.

Only use Ratoff, ZP Rat or Racumen for baiting of rats on farm.

Failure to report your baiting and the use of non-registered baits will spell the end of our Mackay Sugar wide Permit. It will then be up to each and every Mackay grower to deal with government when they want to bait for rats.

Good in-crop weed/grass control and keeping non-crop grass/weed patches

around the farm mowed or grazed will reduce rat breeding and rat damage. Standover is the perfect harbourage for rats, so baiting now will help to limit further crop losses.



Real On-farm Practice Change

Matthew Fenech, a Bakers Creek grower, has previously used Dunder contractors for surface application when fertilising his farm. Concerned with the possible nutrient losses through denitrification, volatilisation, and surface runoff associated with surface application, Matt aspired to transition to subsurface fertilisation. Due to a lack of essential equipment, he opted to engage in the Major Grants project to acquire the necessary gear for subsurface fertilisation. The project is part of the Mackay Whitsunday Water Quality Program, funded by the partnership between Government's Reef Trust and the Great Barrier Reef Foundation. Matt easily qualified for the grants, meeting one of the conditions as a BMP grower and worked closely with MAPS to access the Major Grant to implement the on-farm practice change.

Through this initiative, Matt acquired essential tools, including a stool splitter, fertiliser box, disc openers, liquid supplement tanks, and a rate controller. The acquisition of these resources has brought immense satisfaction to Matt, as he can now independently conduct fertilisation at his convenience. This is particularly crucial as he plans to shift to subsurface application, thereby mitigating nutrient loss and facilitating greater nutrient uptake by the sugarcane. Matt worked with MAPS to develop his N&P Budget and throughout the process identified where nutrients savings could be made in his nutrient program.

The incorporation of a rate controller in his equipment arsenal empowers Matt to fine-tune the application of nutrients across weaker and stronger blocks. This precision allows him to optimise yield and profitability, marking a significant enhancement in his farming practices, whilst improving water quality outcomes. Matt has seen the benefits of the Agtrix Farming program and views his next farming improvement is to incorporate the digital spatial recording program into his daily farming activities.



Great Barrier
Reef Foundation

Emergency permit for Imidacloprid use in Mackay

The last few weeks has seen some heavy cane beetle flights throughout the Mackay districts. If you are seeing beetle numbers similar to Figure 1 there is a very high chance you will have grub damage in next year's crop if you have not treated.

CANEGROWERS has been successful in its application to the APVMA for an emergency permit to allow growers in the Mackay region with cane being harvested in December to treat ratoons with imidacloprid for cane grub control. Imidacloprid cannot normally be applied after the end of November.

MAPS recommends that cane at risk of canegrub damage be treated with imidacloprid as per the label. For further information please contact your local Productivity Officer.

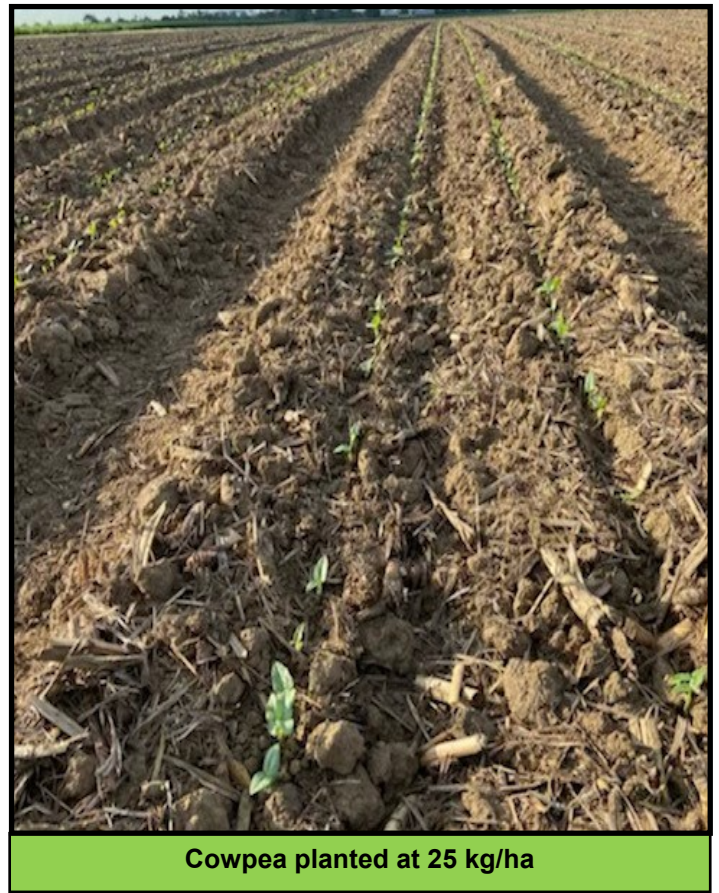


Figure 1: Beetles on flyscreen

What's New at MAPS

The **MAPS seed planter** which was fabricated two years ago has recently had a "face lift". The four seed boxes have been removed from the tool bar and replaced with an APV air seeder tank (300 Lt), with seed sowing shaft and fan. The four planter leg units are the original double disc coulters, as are the depth control wheels and the press wheels.

The unit is powered by the tractor battery and has a control box which is mounted in the cab. The seeding shafts can accommodate different seed sizes and rates; calibration is done electronically, once the relevant data, such as seeding rate, tractor speed and row width, has been entered. The seeder has already been busy, planting sunflower, cow pea and soybean. Contact your Productivity Officer if you would like to plant a cover crop in your fallow.



Cowpea planted at 25 kg/ha

New Weather Stations

MAPS has entered into a collaboration with the Queensland Government, Department of Environmental Science, to erect 24 weather stations to be placed on farms in the Pioneer and Sandy Creek catchments. The stations will measure rainfall, wind speed and direction, air temperature and relative humidity.

DES will be responsible for the operating costs for the next three years, after which the cost will be the responsibility of the relevant landowner. MAPS will advise and assist landowners with their maintenance. A website is being developed where all the stations' data will be publicly available. The MAPS website will have a link to this site.



Water quality update – imidacloprid in paddock run-off water

Over the last three years of our Cane to Creek Mackay Whitsunday water quality project, we have reported peak concentrations of imidacloprid in paddock run-off water in ratoons ranging from 1.2 $\mu\text{g/L}$ to 19.4 $\mu\text{g/L}$. In these trials the liquid imidacloprid had been applied to best practice, specifically a stool splitter implement. We also observed a range of run-off imidacloprid concentrations in a plant cane paddock where liquid imidacloprid and granular slow release treatments had been applied at fill-in stage, as shown in Figure 1.

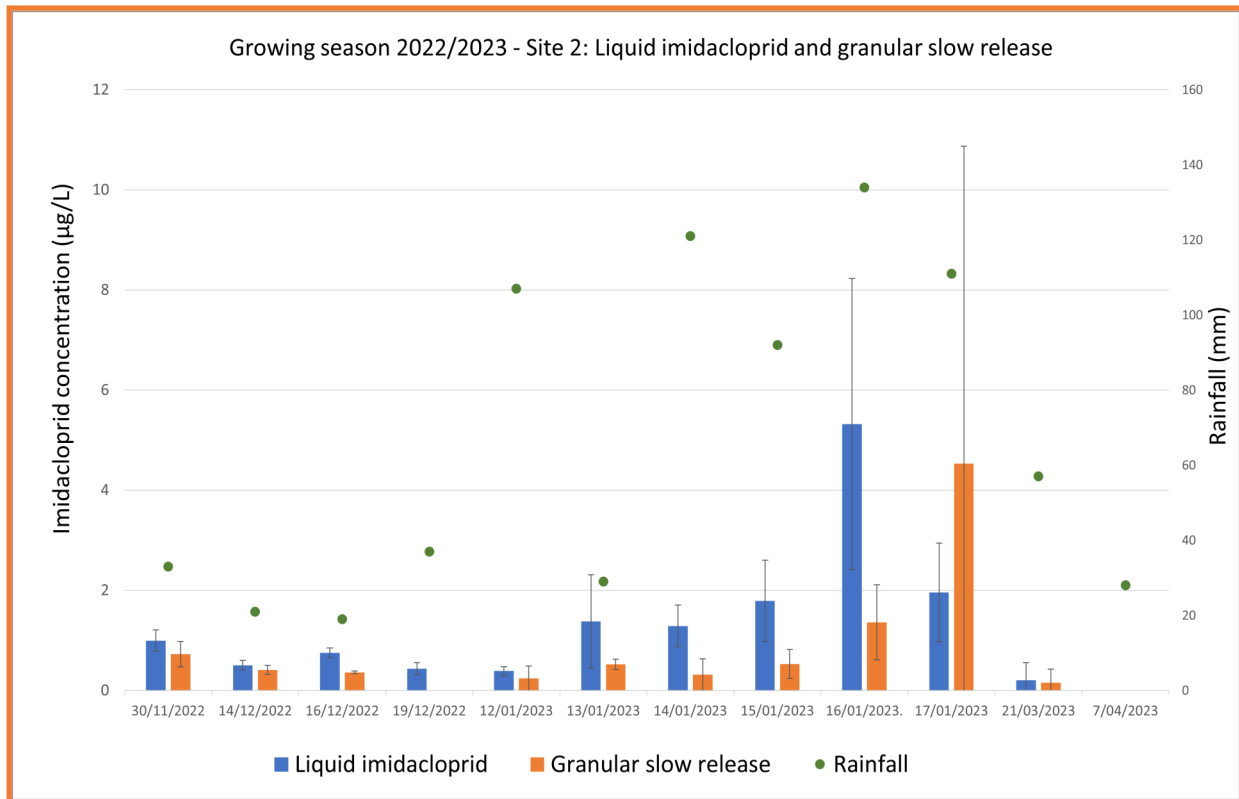


Figure 1: Concentration of imidacloprid in run-off water at trial site 2 comparing liquid imidacloprid and granular slow release in plant cane.

How do we put this imidacloprid run-off data into perspective - what does the data mean? There are two considerations:

- The loss of imidacloprid into the local waterways is judged against the freshwater 95% species protection guideline for imidacloprid concentration of 0.11 $\mu\text{g/L}$. (Note there are such guidelines for all active ingredients used in herbicides and insecticides. The guidelines are for local waterways throughout Australia). Exceedances of the freshwater 95% species protection guideline for imidacloprid of 0.11 $\mu\text{g/L}$ do occur, as can be observed in Queensland Government's Pesticide Reporting Portal. For example, refer to the monitoring sites "Pioneer River at Dumbleton Pump Station Headwater" or "Sandy Creek at Homebush".
- Using an APVMA methodology to predict the concentration of a chemical in the environment following a run-off event, we determined that for imidacloprid, paddock run-off water concentrations above 2 $\mu\text{g/L}$ could lead to exceedances above the 0.11 $\mu\text{g/L}$ guideline.

We have reported that 60% of our trial paddocks had imidacloprid run-off above the 2 $\mu\text{g/L}$ "safe" level, even though the imidacloprid had been applied to best practice. If this is typical across the region, then it may help explain some of the exceedances (above the 0.11 $\mu\text{g/L}$ guideline) which are recorded at the monitoring stations.

In one of the ratoon paddocks where we measured high levels of imidacloprid in run-off, we also trialled side dress application of imidacloprid rather than stool split. The results are shown in Figure 2.

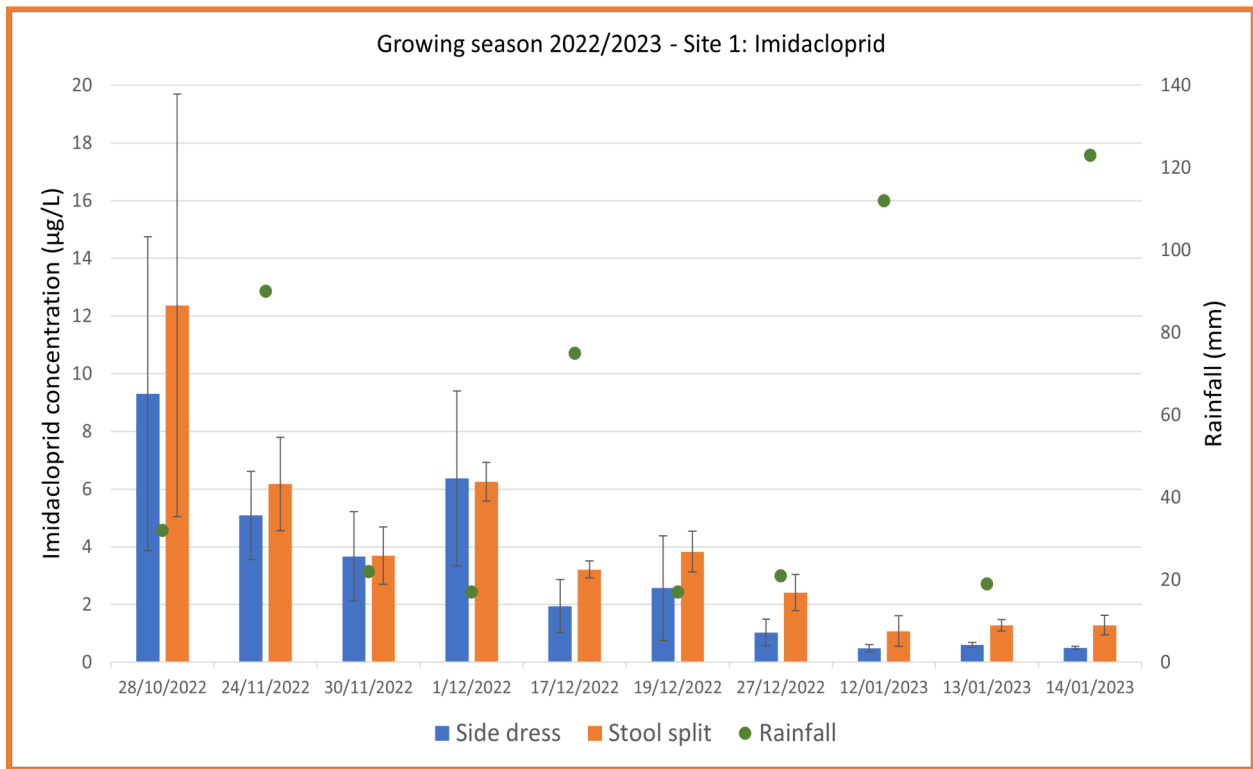


Figure 2: Concentration of imidacloprid in run-off water at trial site 1 comparing side dress and stool split applications.

For most of the rainfall events the concentration of imidacloprid in run-off was lower for the side dress treatments as compared to the stool split applications. Whilst the lower run-off levels were encouraging, the impact of side dressing was insufficient to consistently get below the 2 µg/L as the target to avoid guideline exceedances, i.e., the side dresser treatments did not achieve the target until the fifth run-off event and the stool splitter treatment the seventh run-off event.

In summary we have found high levels of imidacloprid in run-off water in some paddocks, even though the imidacloprid was applied to best practice. These high levels may contribute to the recorded exceedances above the 0.11 µg/L guideline for imidacloprid in local waterways. What does this mean for the industry – (i) additional research to better understand imidacloprid’s movements in soil water for the soils in the Mackay Whitsunday catchments, and (ii) continued research into new biological and chemical alternatives to imidacloprid. For growers:

- At a minimum continue to apply imidacloprid to best practice. We have data from other trials showing that non-best practice further increases run-off losses. Therefore, aim for best practice (rate, depth, covered, nozzle pointing at the bottom of the opener slot, follow the label).
- Also consider application of imidacloprid only to cane blocks at risk following the integrated pest management of GrubPlan (available at SRA’s website https://sugarresearch.com.au/sugar_files/2020/08/Grub-Plan-2020-F_Web.pdf).

The results reported here are from the Cane to Creek Mackay Whitsunday project, which is funded by the partnership between the Australian Government’s Reef Trust and the Great Barrier Reef Foundation with support from Sugar Research Australia.

G'day, my name is Damian Baxter and I started in the role of Agri Manager at Mackay Sugar a couple of months ago.

The main focus of my role is to look at land under cane and productivity in the Mackay Sugar mill area, with the aim of ensuring there is a sustainable supply of cane to keep Mackay Sugar's mills viable.

Obviously mill reliability plays a big part, with the challenge being that as mill reliability improves there is a need to also ensure the supply of cane continues to be sufficient. This is not a challenge unique to Mackay Sugar but is relevant for the whole Queensland sugar industry, with the recent closures of the Maryborough and Bingera sugar mills demonstrating the end result of not having a viable supply of cane.

Currently Mackay Sugar has a couple of good incentives in place to encourage the planting of cane on new ground and to incentivise increased production on formerly low-yielding farms (the Plant Loan and Farm Development incentives).

Part of my role is to manage these incentives to ensure they are providing the results we are aiming for. Both incentives have now been running for several years and I am keen to hear grower feedback and discuss ideas on improvements or additions to the programs. I also want to look into additional options or incentives that could help maintain the land under cane or efforts to bring land back into cane and would like to hear growers' ideas about this.

My role is also tasked with exploring innovation in areas that support increased land under cane and improved productivity, which might include leasing arrangements, farm sharing, irrigation usage, and no doubt many others.

I can be contacted on **0419 294 768** or at d.baxter@mkysugar.com.au. I work out of the old Pleystowe mill site office, but am happy to meet on farm, over a meal, or wherever suits. I look forward to hearing everyone's thoughts and ideas.



Application of herbicide products containing Diuron for use in Sugarcane

For the Mackay region, there are a number of Diuron products that have commenced a closed spray window period for use from **1 November to 30 April**. In the case of products such as Bobcat combi WG a closed spray window runs from 1 November to 31 May. These closed spray windows are approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA), who are the Australian Government statutory agency responsible for the registration of all agricultural chemical products and approval of their labels in Australia.

What is a closed spray window?

Closed spray windows, also referred to as no-spray windows, are applied to certain chemicals where it has been deemed necessary to restrict the application of that chemical during certain times of the year. This may be due to the climatic weather condition like minimum rainfall that reduces the dilution factors of runoff waters, or climatic conditions that may reduce product efficacy.

Are other chemicals effected by close spray windows?

Yes. Apart from Diuron there are a number of chemicals that are subject to closed spray windows in the Mackay district such as Imidacloprid and 2,4-D products used in plant cane and ratoons. These may vary across different brands and products, so it is critical to check the label of the product that you are using.

When deciding on the use of herbicides or insecticides including Diuron, 2,4-D, and Imidacloprid products, it is **strongly recommended** that you refer to the label attached to the product you are using to identify when you can apply that product. You can review a range of different products and brand labels from the APVMA chemical database by searching "APVMA database" [which will guide you as to when that product can be used, as well as other conditions of use.](#)

For more information regarding chemical use, search for "using agricultural chemicals" at business.qld.gov.au, scan the QR code or contact your Mackay Region Department of Agriculture and Fisheries on 49998565.

