

## A Message Worth Repeating

The importance of clean seed to improving productivity is nothing new and is something you hear repeated at this time of the year. Without a doubt, as a grower it is the best investment to establishing a healthy productive crop to take advantage of the high sugar prices. We often hear that, the two main factors that have an influence on crop size is weather and harvest season length which are out of a grower’s control. Another influencing factor is clean seed, which is entirely in control of you, the grower, so make the smart move and use the MAPS Clean Seeds plots located throughout the Mackay region this year and give your crop the best possible start.

With no varieties released this year, it is an ideal opportunity to collect a fresh source of the older varieties that you plant on your farm. MAPS recommends that every four years you collect a fresh plant source from a MAPS plot to renew your plant source material. Collecting clean seed from an approved plot every year is now more accessible and convenient with the billet plots.

In an endeavour to support growers in the uptake of clean seed, MAPS have a mixture of both whole stick and billet cane available throughout the Mackay Sugar district. The dates for billet cane will be communicated with growers through text messages, with growers providing their own tipper bin transport. The billet price has increased this year to \$82.50/t reflecting the current sugar price assuring the billet plot holders are not out of pocket. If you require more information on billets or whole stick collection, please call your Productivity Officer.

Planting remains the single most costly activity for growers, hence the importance of clean planting material. The use of Clean Seed Cane is vital for all varieties as it eliminates the risk of introducing diseases such as ratoon stunting disease(RSD), leaf scald and chlorotic streak. MAPS goes through a rigorous and lengthy process every year to make sure that our plots are disease free.

- Stalks of selected varieties are cut and cold-soaked and then long hot-water treated (CS/LHWT) before being planted into mother plots.
- Plant material from the mother plots is CS/LHWT for two consecutive years then planted into approved seed plots.
- The plant material from the approved seed plots becomes the approved Clean Seed Cane supplied to cane growers.
- Every year plots are inspected for visual signs of pest, disease and weed infestations before the ‘out of hand’ stage by walking every row. Then once cane is mature enough, we then walk back through and collect a sample every 20 paces for every row. MAPS now use the Leaf Sheath Biopsy (LSB) method as seen in Figures 1&2. While the LSB method is more time efficient in the paddock, getting the samples ready for analysing takes considerably more time in the office. Once the samples are prepared they are sent away for RSD testing at the Sugar Research Australia labs using a method called qPCR which is a highly sensitive testing method that detects any RSD bacteria in a sample.

MAPS is proud of the strict vigilance that goes into our triple check regime which gives us the best possible opportunity of detecting any diseases in the clean seed plots. The Mackay Sugar region has the lowest levels of RSD in the state with less than 1% RSD affected farms. Growers collecting cane from the MAPS plots plays an important role to maintaining our low RSD levels.

Victoria Plains			
Whole stick		Billets	
Ian Marais – 0417326669			
SRA40, SRA26, SRA22, SRA21, SRA9, Q253, Q240, Q183, KQ228, Q208R		SRA40, SRA26, SRA22, SRA21, SRA9, Q253, Q240, Q183, KQ228, Q208R	
Pioneer Valley	North Coast	Racecourse	Marian
Billets Dows Creek	Billets Pindi Pindi	Billets Bakers Creek	Billets Marian Hampden
Ian Marais – 0417326669	Brendan Rae - 0417326393	Indiana Zarb - 0439557839	Shane Hare - 0417326668
SRA26	SRA26	SRA26	SRA26

We not only test for RSD during plant inspections, but we look for signs of other diseases and issues like smut, chlorotic streak, pest damage and mixed varieties to insure the best quality plants are used to establish a productive crop. Call your Productivity Officer for your upcoming plant inspections and plot opening dates.



Figure 1: Hole Punching LSB Sampling



Figure 2: LSB Sample

## A Changing of the Guard

After 16 years, MAPS Productivity Officer, Andrew Dougan, has stepped down from management of the Clean Seed farm at Victoria Plains. As growers well know, this farm is vital for the propagation and distribution of clean seed and new varieties.

While in that role Andrew achieved several milestones including improved drainage works, upgrades to the Hot Water Treatment facility and getting the farm Smartcane BMP accredited. As 5 years had passed since the BMP audit, reaccreditation came up on the calendar in late 2023 and thus became the responsibility of the new Farm Manager, MAPS Productivity Officer Ian Marais.

This meant that Ian had to become familiar with and review the original records and documents. It also became an opportunity to shift to keeping records on AgTrix rather than being paper based. Also, Ian has come into the role with new ideas and doing the reaccreditation was an opportunity to capture and test the ideas with colleagues.

Ian commented that it is one thing to observe BMP from the sidelines, but you get a completely different perspective from being involved in compiling the evidence and going

through the audit. The change across to AgTrix Farming was also easier than Ian had anticipated but did need some support from colleagues initially. The MAPS farm was successfully reaccredited with Ian continuing the high standard of quality seed cane.

MAPS BMP Officers Steve Garrad and Lorelle Flynn have had a busy start to the year with assisting growers through the BMP accreditation and reaccreditation process. The 2024 season will see a high number of growers go through the BMP reaccreditation process and with the help of Lorelle and Steve the process can be an easy one as MAPS Farm Manager, Ian found out.



Mackay Sugar has 2 incentives available that are in place to help to secure the long-term sustainability of the Mackay Sugar Mills and growers. These are the 0% interest Plant Loan and the \$5/t Farm Development Incentive.

These incentives are available for growers who are looking to put new land under cane or to bring land back into production that has been used in the past to grow cane. The incentives are also available for growers that purchase farms that are producing on the lower side of the Productivity Zone average and are able to increase the yield above the zone average. The Incentives are tied into conditions that have to be met for inclusion in the program. For more information on the incentives or the conditions of the programs just get in touch with Damian Baxter on 0419294768 or [d.baxter@mkysugar.com.au](mailto:d.baxter@mkysugar.com.au).

Mackay Sugar are also exploring options for incentives that support pathways for younger growers to remain in cane farming and Damian is keen to hear from growers who are interested in this area and may have some thoughts around what can be put in place to assist. To provide input or to be a part of this discussion just get in contact.

# Getting To Know Your Varieties

Sugarcane varieties perform differently according to the season, soil type, agronomic practices, and timing of harvest. Knowing when to harvest a variety is a vital decision that can have a major impact on your bottom dollar. To assist growers to decide when to harvest a variety, there are several factors to consider.

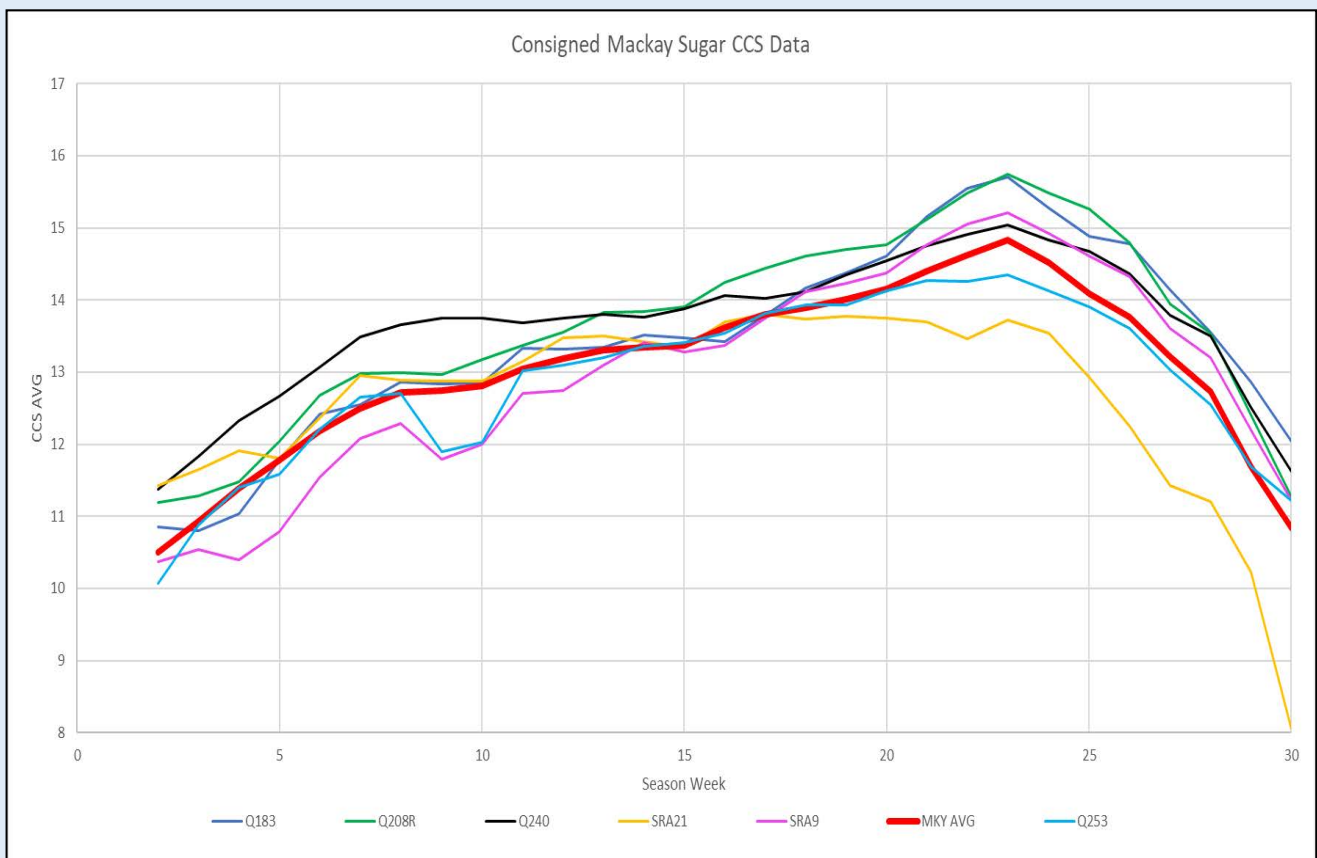
One is to talk to your local Productivity Officer as they have a wealth of knowledge about variety traits and performance. Another great resource available is taking the time to look at historical and current mill data, in both your local milling zone and your farm records. It provides a wealth of information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

Older varieties Q240, Q208R and Q183 generally perform well over the milling season giving growers options to harvest throughout the season. Understanding when to harvest the newer varieties, Q253, SRA21 and SRA9 is important to getting the best out of the variety. The graph clearly shows that SRA21 is best suited for harvest early to mid and the later it's left, the CCS drops dramatically. SRA9 is not an early tester and its best time for harvest is mid to late, while Q253 is generally a mid-season option. Unfortunately, not enough consigned data for SRA22 was received to determine a sugar curve, however the limited commercial data collected indicates the variety needs to be harvested mid-season.

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.

This information is derived from all milling consignment's (Mackay Sugar Limited) over the 2023 season. It is vital that accurate variety consignment is recorded to provide precise data back to growers to determine a varieties sugar curve.



# HAVE YOU STARTED YOUR N&P BUDGET PLAN YET?

## AGTRIX MAY BE A VIABLE OPTION FOR YOU.

Taking soil samples and creating a nutrient budget plan for your farm is not just a legislative requirement of farming but it's a good way to identify underlying soil restraints and your crops nutritional needs so that you may maximise its potential yield.

For this reason, getting soil tests done as early as possible is highly recommended. Even taking them from blocks marked for plough out as soon as they are harvested. This gives you more time to get your test results back and then start making plans to ameliorate any underlying issues for the planting season ahead.

Once you have your soil tests in hand you can begin making your N&P budget plan. This is a fertiliser plan that displays the total amount of nitrogen and phosphorous you aim to apply across your farm area. There are many ways to make one and many third parties are available to help you through the process.

From excel spreadsheets to farm maps and computer programs, there is an option to suit everyone's needs.

In this space, MAPS have been working with software developers at Agtrix to develop upon our current data recording program to allow growers the ability to load their soil test results, add fertiliser recommendations to paddocks which will then auto calculate the total Nitrogen and Phosphorous across the farm area.

The picture below gives you an idea of what you can do with the program.

Soil Test, Recommendations, Action and Budget: Farm 02117A

The screenshot displays the Agtrix software interface for Farm 02117A. It includes a nutrient budget table, a paddock list, and a map with fertiliser recommendations overlaid on an aerial view of the farm.

**Soil Test Budget Table:**

	Total (kg)				
	N	P	K	S	HA
Soil Test Budget	21712	1470	13867	2080	135.65
Recommended	20056	1446	13032	2819	135.65
Actual Applied	19605	1457	12746	2779	135.65
Budget Status	-2107	-13	-1120	699	135.65

**Paddock List Table:**

Paddock...	Ha	Class	Variety	Soil	N	P	Last	Status
7-3 - 2	3.75	1st Ratoon	Q208	Solodic	160	0	2019	Actual
7-4 - 7	4.28	Plant	Q253	Solodic	160	0	2019	Actual
8-1 - 0	7.87	Fallow		Podzolic	140	30	2021	Actual
10-1 - 0	7.14	Fallow		Podzolic	140	30	2021	Actual
10-2 - 9	6.4	Plant	SRA9	Podzolic	160	15	2021	Actual
10-3 - 1	3.23	7th Ratoon	Q240	Black Earth	160	15	2021	Actual
10-4 - 2	1.59	3rd Ratoon	SRA9	Black	160	15	2021	Actual

**Map Annotations:**

- Recommended Products:**
  - Econo LOS+P 3.50 m3/ha
  - Econo LOS 3.50 m3/ha
  - LOS MKY 160P 3.40 m3/ha, FlowPhos 15 70.00 L/ha
- Map Labels:** 1-1, 3-3-1-1 Q208, 3-3-2-3-3 SP80, 3-4-3 SRA12, 3-1-1 Q208, 2-1-1 Q240, 3-2-4 Q253, 3-7-2 Q253, 6-1, 7-3-2 Q208, 7-2-8 Q208r, 7-4-7 Q253, 7-1-6 SRA12, 8-1, 14-1-1 SP80, 14-9-2 SRA9, 14-1-3 Q183, 14-5-1 SP80, 14-4-2 Q253, 14-1-7 Q208r, 13-2-1 Q240, 12-1-5 Q208, 11-1-5 SRA9, 10-1-2-9 SRA9, 10-5-1 SP80, 10-3-1 Q240, 10-4-2 SRA9, 14-6-1 SP80, 14-7-1 Q183.

If you are interested in getting access, it is free. You just need to contact your Productivity Officer and they can help create an account for your farm(s).

**AGTRIX** **LOGOTRIX**

- Farm Management Systems
- Crop Inventory Recording
- Logistics Management Systems
- GPS Tracking



mackay area productivity services

## Variety Development

The SRA breeding team in the Central region plants about 35,000 unique varieties each year to cater for the Central, Southern and NSW regions. A series of assessments over several years reduces that number down to a select few that are presented to the Regional Variety Committee (RVC) each year. The RVC are responsible for deciding which varieties are approved for release to the industry. The committee consists of 6 voting members (3 Canegrowers and 3 Miller Representatives), Grower co-operators, SRA and Productivity Services members.

In 2022, the RVC approved the release of **SRA26<sup>ϕ</sup>** to Central region growers. It was distributed to growers in Proserpine and Plane Creek in 2022 and to Mackay growers in 2023. **SRA26<sup>ϕ</sup>** was first released in the Northern region in 2019 and has since been tested in Central region FAT trials. It's performance in these trials is shown in the table below, with new 2R data collected in 2023. **SRA26<sup>ϕ</sup>** is a variety that is resistant to smut, pachymetra, leaf scald, and red rot, and is intermediate to fiji leaf gall. It has been evaluated in plant, 1R and 2R crops in Central trials where it is slightly below in TCH & higher CCS compared to current commercial cane varieties.

**SRA26<sup>ϕ</sup>** is a reliable germinator with a semi-prostrate early growth habit, often up to and including at fill-in stage. It will straighten up to stand erect providing good harvester presentation. Preliminary experimental results and initial commercial experience in the Northern region suggest **SRA26<sup>ϕ</sup>** has RSD sensitivity similar to Q253<sup>ϕ</sup>. **SRA26<sup>ϕ</sup>** is a very sparse or non-arowing variety, is moderate trashing with hairy leaf sheaths and does not sucker readily. It is recommended in the North to be harvested mid- to late-season to maximise its CCS.

Chlorotic streak has been observed in **SRA26<sup>ϕ</sup>** by SRA and MAPs staff in low lying areas after rainfall events. Growers are advised not to source their **SRA26<sup>ϕ</sup>** planting material from, or to plant **SRA26<sup>ϕ</sup>** in low lying areas.

Variety: <b>SRA26<sup>ϕ</sup></b>		Parentage: QN97-2122 x Q146				Summary: Slightly below tonnes cane; higher CCS.				
Trial harvest year	Crop class	Yield (TCH)				CCS				# of trials
		<b>SRA26<sup>ϕ</sup></b>	Q208 <sup>ϕ</sup>	Q240 <sup>ϕ</sup>	SRA9 <sup>ϕ</sup>	<b>SRA26<sup>ϕ</sup></b>	Q208 <sup>ϕ</sup>	Q240 <sup>ϕ</sup>	SRA9 <sup>ϕ</sup>	
(2020 series FATs): 2021	Plant	119	128	121	130	17.7	17.1	17.3	16.8	3
2022	1R	126	133	127	126	17.4	17.1	17.2	16.7	3
2023	2R	77	79	79	85	18.1	17.8	18.0	17.4	3
<b>Overall performance</b>		<b>107</b>	<b>113</b>	<b>109</b>	<b>113</b>	<b>17.7</b>	<b>17.3</b>	<b>17.5</b>	<b>17.0</b>	<b>9</b>



**SRA40<sup>ϕ</sup>** was approved for release by the RVC in 2023. It's main features are consistently high tonnes in SRA yield trials, and combined resistance to smut and Pachymetra. It has a large stool with high

stalk number, the stalks have average thickness with good length. **SRA40<sup>ϕ</sup>** has sparse arrowing, remains upright even in large crops, and doesn't sucker readily even in sprawly crops. Trial data shows that it has significantly higher TCH than the standards used in the trials but has lower CCS when compared to the same standards (see table below). **SRA40<sup>ϕ</sup>** has performed well in trials for TCH on a range of soil types.

**SRA40<sup>ϕ</sup>** is also resistant to leaf scald, red rot, and intermediate resistance to Fiji leaf gall. **SRA40<sup>ϕ</sup>** may be a good choice for growers with blocks with poor soils and high Pachymetra. **SRA40<sup>ϕ</sup>** will suffer from brown rust similar to Q253; this moderate level of brown rust was observed in SRA FAT trials and also at the MAPS farm at Victoria plains.

Variety: <b>SRA40<sup>ϕ</sup></b>		Parentage: CP70-1547 x QA96-1492 Summary: High tonnes cane; low CCS.						
Trial harvest year	Crop class	Yield (TCH)			CCS			# of trials
		<b>SRA40<sup>ϕ</sup></b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	<b>SRA40<sup>ϕ</sup></b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	
(2014 series FATs): 2015	Plant	105	95		15.7	17.4		4
2016	1R	112	104		16.0	16.8		4
2017	2R	86	84		17.2	18.5		4
(2018 series FATs): 2019	Plant	115	91	96	15.2	16.9	16.7	3
2020	1R	100	103	99	15.6	16.8	16.8	3
2021	2R	105	102	104	16.6	17.8	17.8	3
<b>Overall performance</b>		<b>104</b>	<b>96</b>	<b>*</b>	<b>16.1</b>	<b>17.4</b>	<b>*</b>	<b>21</b>

\*Q240<sup>ϕ</sup> was only evaluated in the 2018 series FATs and can only be compared against those particular plant and ratoon crops.



**SRA32<sup>ϕ</sup>** is a variety that was first released in the Burdekin region in 2021. In the Central region, it is currently being considered for release in 2024, pending a unanimous decision from the Regional Variety Committee in April.

**SRA32<sup>ϕ</sup>** has shown to be a fast germinator and reliable ratooner with rapid early growth, however, it does not respond well to hot water treatment. It has a large stool with a very high stalk count, and its stalks are of medium thickness with good length. **SRA32<sup>ϕ</sup>** has moderate arrowing and suckering and tends to lodge in larger crops. It has large bulbous eyes which are covered by moderate trash and side shooting has been observed on exposed edges.

In Central region Final Assessment Trials, **SRA32<sup>ϕ</sup>** has shown to be a very high yielding variety with CCS slightly below the average of the standards. Preliminary maturity data suggest that growers harvest **SRA32<sup>ϕ</sup>** later in the season to ensure the highest possible tonnes of sugar per hectare.

**SRA32<sup>ϕ</sup>** has an intermediate rating for smut and pachymetra. A moderate level of smut was observed in SRA 2R ratoon field trials, and farmers will need to manage their pachymetra levels to maximise the benefit from growing **SRA32<sup>ϕ</sup>**.

Variety: <b>SRA32<sup>ϕ</sup></b>		Parentage: QN80-3425 x QN86-2168 Summary: High tonnes cane; slightly below CCS								
Trial harvest year	Crop class	Yield (TCH)				CCS				# of trials
		<b>SRA32<sup>ϕ</sup></b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	<b>SRA9<sup>ϕ</sup></b>	<b>SRA32<sup>ϕ</sup></b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	<b>SRA9<sup>ϕ</sup></b>	
(2020 series FATs): 2021	Plant	139	128	126	133	17.8	18.0	18.0	17.5	3
2022	1R	138	124	114	119	16.8	16.9	17.1	16.6	3
2023	2R	83	70	71	79	18.0	18.3	18.3	17.9	3
(2022 series FATs):2023	Plant	139	119	119	145	16.7	17.1	16.5	15.9	3
<b>Overall performance</b>		<b>125</b>	<b>110</b>	<b>108</b>	<b>119</b>	<b>17.3</b>	<b>17.6</b>	<b>17.5</b>	<b>17.0</b>	<b>12</b>

**QA08-2979** is a new variety that has not yet been released in any region. SRA final assessment trials have shown that it has average tonnes of cane per hectare compared to the standards, with a higher CCS when compared to those same standards. Preliminary maturity data suggests that the optimal time to harvest **QA08-2979** is early to mid season, potentially making it a viable option for farmers chasing an early testing cane.

It has shown to be a fast and reliable germinator when compared to current commercial varieties like Q208<sup>A</sup>. It has a medium thickness stalk, and good stalk population with moderate loose trashing. It has very sparse arrowing, does not lodge readily, with light suckering which makes it present well to the harvester. **QA08-2979** has shown to be resistant to pachymetra, leaf scald and Fiji leaf gall, however, smut has been observed in field trials and observation plots which supports its current rating of intermediate for smut.

Variety: <b>QA08-2979</b>		Parentage: QC90-353 x KQ228 <sup>ϕ</sup> Summary: Average tonnes cane; higher CCS								
Trial harvest year	Crop class	Yield (TCH)				CCS				# of trials
		<b>QA08-2979</b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	<b>SRA9<sup>ϕ</sup></b>	<b>QA08-2979</b>	<b>Q208<sup>ϕ</sup></b>	<b>Q240<sup>ϕ</sup></b>	<b>SRA9<sup>ϕ</sup></b>	
(2017 series FATs): 2018	Plant	95	100	100	112	16.6	15.4	16.0	15.1	3
2019	1R	102	99	100	110	17.5	17.2	17.2	16.9	3
2020	2R	89	93	89	97	18.1	17.9	17.9	17.4	3
(2020 series FATs): 2021	Plant	119	128	121	130	17.4	17.1	17.3	16.8	3
2022	1R	132	133	127	126	17.1	17.1	17.2	16.7	3
2023	2R	79	79	79	85	18.0	17.8	18.0	17.4	3
<b>Overall performance</b>		<b>103</b>	<b>105</b>	<b>103</b>	<b>110</b>	<b>17.5</b>	<b>17.1</b>	<b>17.3</b>	<b>16.7</b>	<b>18</b>

SRA recommends that growers try new varieties on all management zones of your farm – eg. irrigation, soils, waterlogging.

# MAPS Observation Plots Maturity Testing

MAPS continued with the early maturity testing of varieties and seedlings observation plots planted throughout the Mackay Sugar region in 2023. 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.

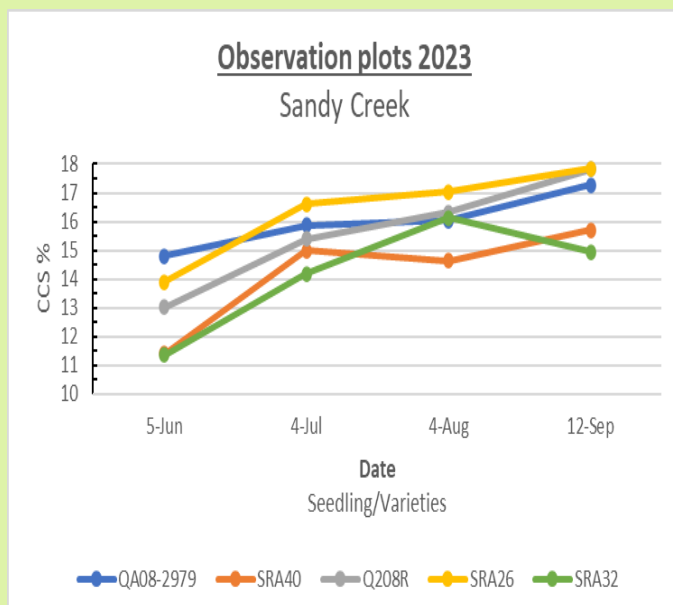
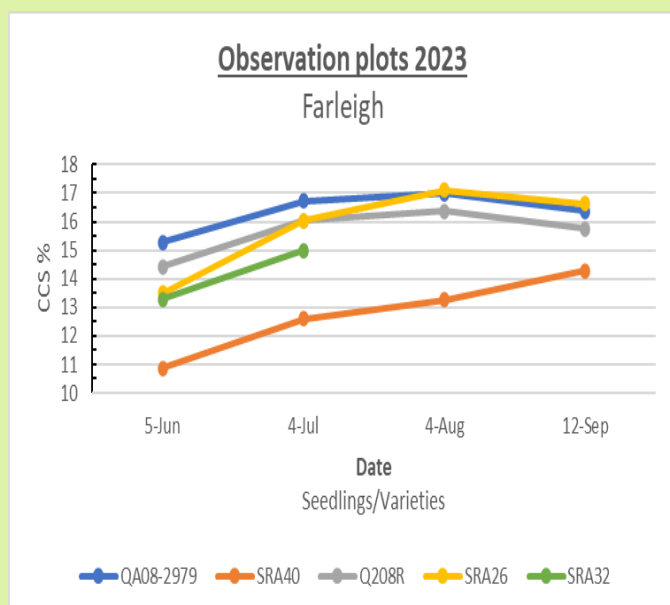
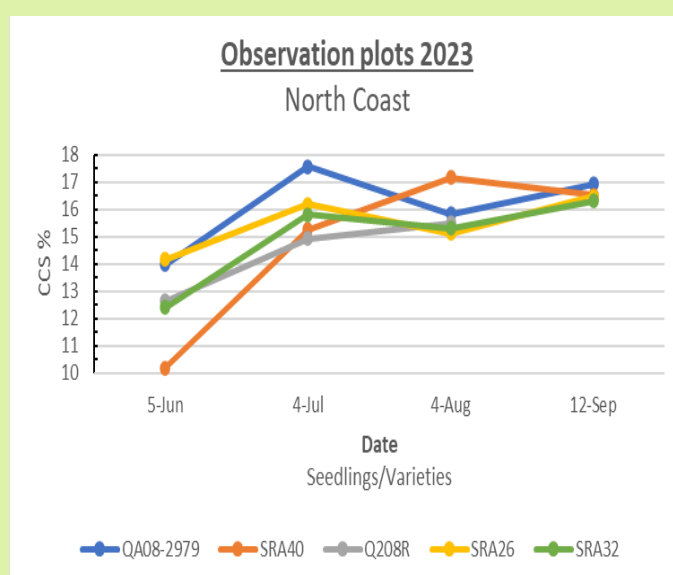
With SRA26 & SRA40 being released last year without any commercial data, testing in the observation plots will help to determine when to harvest the two new varieties. The sampling commenced at the start of June and went through to early September with plots sampled once monthly.

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.

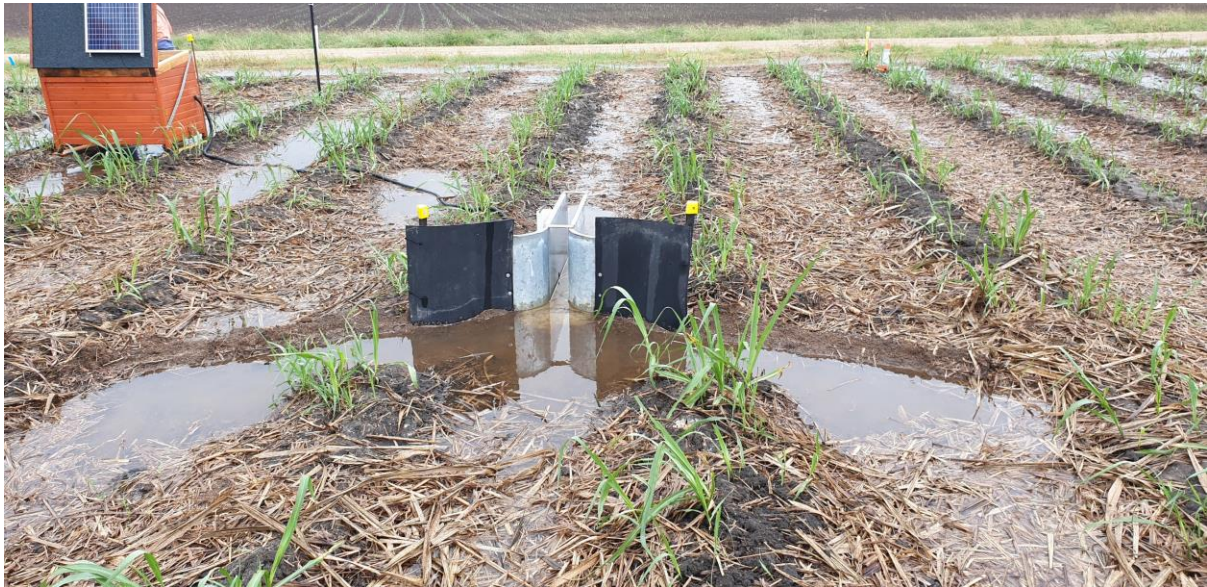




## Central Shed Meetings 2024 – SRA Water Quality Project

Sugar Research Australia (SRA) has executed project Cane to Creek Mackay Whitsunday over the last four years. The project is part of the Mackay Whitsunday Water Quality Program which is funded by the Great Barrier Reef Foundation and managed by Reef Catchments (Mackay).

During the project we have looked at farming practices and their effects on water quality and production. Water quality involved measurements of the nutrients, herbicides and insecticides in paddock run-off water during rain events.



*Figure 1: Trial paddocks consisted of six strips, each strip 6 rows wide with samples collected from the three middle inter-row spaces.*



*Figure 2: Automatic samplers collected water samples into a 9 L jar from which sub-samples were collected and sent for analyses.*

## Farming practices investigated

Year	Growing season	Trial site location	Purpose of trial site	Comments on water quality measurements
1	2020/2021	Rocky Dam Creek	Surface applied dunder compared to sub-surface applied granular fertiliser.	Similar concentrations of Dissolved Inorganic Nitrogen (DIN) in the run-off waters from both fertilisers.
			Diuron herbicide (diuron/hexazinone - Barrage) compared to non-diuron herbicide (imazapic/hexazinone - Bobcat i-MAXX).	Comparing the concentrations of the herbicides in run-off to results reported by others for the herbicides, diuron/hexazinone concentrations were low, whilst imazapic/hexazinone were typical. Majority of both herbicide losses happened in the first flush run-off rain event. This is in line with other reported measurements of herbicide run-off losses. The importance of the first flush for herbicides is the reason growers are encouraged to maximise time between application and the first run-off event. The time factor allows for the herbicides to incorporate into the trash and soil and therefore assist to minimize run-off losses.
2	2021/2022	Alligator Creek	Liquid imidacloprid (e.g., Confidor, NuPrid) in ratoons applied at 100–125 mm depth (label requirement) compared to applied at 40-50 mm depth (shallow).	Concentrations of imidacloprid in run-off water were approximately 70% higher for shallow applied product. Grub count zero in both treatments.
			Compare three common herbicides: imazapic (Spark), imazapic/hexazinone (Bobcat i-MAXX) and flumioxazin (Valor).	Unexpected storm (91 mm rainfall) resulted in significant run-off just two days after application. There were low concentration levels of flumioxazin in run-off compared to concentration levels of imazapic and imazapic/hexazinone. Herbicides are very vulnerable to run-off in the first 48 hrs after application.
		Balnagowan	Surface applied dunder compared to sub-surface applied granular fertiliser.	Similar concentrations of DIN in the run-off from both fertilisers.
			Liquid imidacloprid in ratoons applied at 100–125 mm depth (label requirement) compared to applied at 40-50 mm depth (shallow).	Concentrations of imidacloprid in run-off water were higher for the shallow application. Differences were not as large as those found at the Alligator Creek site. No yield impact due to treatments.
Dows Creek	LiquaForce (sub-surface applied) compared to granular urea-based fertiliser (sub-surface applied); liquid imidacloprid applied with both fertilisers; residual	Similar DIN and imidacloprid run-off results were found comparing sub-surface applied LiquaForce and sub-surface		

Year	Growing season	Trial site location	Purpose of trial site	Comments on water quality measurements
			herbicides applied to the trash blanket after application of the fertilisers.	applied granular fertiliser. Similar herbicide run-off levels in both fertiliser trial strips.
		Glenella	Inter-row cultivation (aerator) in ratoons compared to no aerator. Treatments applied in following order: dunder, liquid imidacloprid via a stool splitter, aerator in half the trial site, residual herbicides via boom spray.	Similar DIN, imidacloprid and residual herbicide run-off results were found comparing inter-rows treated with an aerator and non-treated inter-rows. No yield differences recorded.
		Reliance Creek	Banded mill mud and mill mud/ash compared to no mill mud products. Treatments applied in following order: granular fertiliser and liquid imidacloprid applied via a stool splitter, banded mill mud and mill/ash (two strips had no mill mud products); residual herbicides via boom spray.	Residual herbicides and imidacloprid recorded higher concentration levels in run-off in the mill mud treatments as compared to where no mill mud was applied. Mill mud strips compared to no mill mud strips recorded higher yield with lower CCS.
			Urea with a nitrification inhibitor (Enhanced Efficiency Fertiliser) compared to urea-based fertiliser without nitrification inhibitor. Three treatments – EEF at SIX EASY STEPS (6ES) N rate, EEF at 80% of 6ES N rate, and fertiliser without nitrification inhibitor at 6ES N rate.	At the first run-off event, the DIN concentrations in run-off were higher for the fertiliser without nitrification inhibitor compared to the EEFs, but in all subsequent rain events the EEFs displayed higher DIN concentrations in the run-off water. Due to the combination of the timing of the application of the treatments and subsequent rainfall events this trial was an example where the EEFs did not reduce DIN losses compared to a non-nitrification inhibitor product. Yields and CCS for the three fertiliser treatments were similar.
3	2022/2023	Reliance Creek	Liquid imidacloprid in ratoons applied with a stool splitter versus applied with a side dresser.	Mean concentrations of imidacloprid in run-off water were approximately 25% higher for stool splitting versus side dressing. Whilst the side dresser results were encouraging, the reduction compared to the stool splitter application was insufficient to attain the very low levels of imidacloprid required in paddock run-off, to avoid exceedances of freshwater guidelines for local streams.
		Balnagowan	suSCon maxi intel versus liquid imidacloprid applied at fill-in stage in plant cane.	There was a difference in imidacloprid concentrations in run-off between the liquid formulation and suSCon over the wet season. The liquid formulation had a higher concentration in run-off than suSCon. Overall, the levels

Year	Growing season	Trial site location	Purpose of trial site	Comments on water quality measurements
				for both were low, sufficient to avoid exceedances of the guidelines in local streams.
		Reliance Creek	Repeat of year 2 banded mill mud trial but with difference – replace mill mud/ash strips with banded mill mud with residual herbicides applied below the mill mud. Retain strips with banded mill mud and the residual herbicides applied over the mill mud and the strips with no mill mud.	Where the residual herbicides were applied under the banded mill mud, the residual herbicides concentrations in run-off were higher than those when the herbicides were applied above the banded mill mud. All mill mud trial strips had higher herbicide run-off than the no mill mud strips. Mill mud strips compared to no mill mud strips recorded higher yield with lower CCS.
4	2023/2024	Reliance Creek	Reduced N rate after accounting for application of banded mill mud compared to no reduction in N rate in the presence of banded mill mud.	At time of writing the full data set is not available. Early indications showed lower DIN in reduced N rate strips compared to full N rate strips.
		Reliance Creek	Mechanical incorporation of residual herbicides applied to a trash blanket in ratoons compared to no mechanical incorporation of the residual herbicides.	At time of writing the full data set is not available. Early data suggested no run-off benefit of mechanical incorporation.
		Reliance Creek	Liquid imidacloprid in ratoons applied with stool splitter versus applied with a side dresser (repeat of year 3 trial).	At time of writing the full data set is not available. Initial results showing a different trend to that recorded in the year 3 trial.



Great Barrier Reef Foundation

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mackay area productivity services

## **MAPS CONSTITUTION CHANGE GROWER DIRECTOR ROTATION**

### **What has changed?**

At the AGM in August last year, members (Canegrowers and Mackay Sugar) voted to change the MAPS constitution to introduce a new grower director rotation and retirement procedure after recommendation from the MAPS Board.

This new procedure will ensure that at least one grower director retires, and an election is called each year. The retiring director would be eligible for re-election, limited to serving a maximum of three 3-year terms.

### **Why did it need to change?**

Previously all 3 grower directors were required to retire at the same time and an election take place every 3 years.

In 2022 this resulted in 5 of the 6 MAPS directors being replaced (2 Miller and 3 grower). Having almost an entirely new board is not good governance as it can lead to a disruption to the business and the loss of corporate and board knowledge.

### **What will be the cost implications?**

It is understood that the previous arrangement of 3 yearly elections was in place to minimise costs. The cost of an appointed returning officer, printing and posting of ballot papers are significant.

To minimise the cost of now having elections every year, MAPS will be using an online voting service where growers will receive an email or SMS with a link to an online voting portal. This will be a simple and easy way to vote and will replace the paper-based ballot system. Telephone support will be available during the election period if growers have any issues with this new online process. Overall costs are expected to be similar to the previous election arrangements.

### **How will the change be implemented?**

The change to the constitution means that an election will be held in 2024 which is two years since the last election, not three years as would be under the old rules.

Since the current three grower directors were all elected at the same time, in 2022, a procedure has to be implemented to phase in the annual rotation process where at least one director position is up for election every year from 2024.

The constitution provides that if in any year there is no vacancy by rotation, then the longest serving grower director must retire. If the longest serving directors were elected on the same day they will agree amongst themselves who will retire and if agreement can not be reach it will be decided by ballot.

**The introduction of the new grower director election cycles will provide for better representation and continuity on the MAPS board. This is important to ensure that MAPS continues to be a relevant and valued service for all growers.**