

# MAPS NEWSLETTER/SHED MEETING BOOKLET

## MARCH 2021

### Approved Seed Cane Production

MAPS currently has Approved Clean Seed plots in three locations - Victoria Plains, Pioneer Valley and the North Coast. The production of clean seed is a lengthy and rigorous process.

- Stalks of selected varieties are cut and cold-soaked and then long hot-water treated (CSLHWT) before being planted into mother plots.
- Plant material from the mother plots is CSLHWT 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.
- At each of these stages, plots are inspected for pest and disease before the 'out of hand' stage and rigorously tested for Ratoon Stunting Disease (RSD) at maturity.

### Clean Planting Material

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, leaf scald and chlorotic streak. Growers are encouraged to:

- Collect one variety of Clean Seed Cane each year to maintain a continual on farm supply of disease-free planting material for commercial blocks
- Plant Clean Seed into **fallow blocks** to reduce the risk of disease contamination and mixing of varieties from diseased volunteer stools
- Contact their MAPS Productivity Officer before planting to inspect their plant source
- Ensure planting equipment is sterilized beforehand
- Source plant or first ratoon material from approved seed cane for commercial cane blocks

Remember, it is vital that all planting gear (planter, plant cutter / harvester, tipper bins) is sterilised beforehand and between varieties to avoid the risk of introducing RSD.

### Effects of Ratoon Stunting Disease

The disease is caused by a bacterium that infects the xylem (water transport) vessels within the stalk of the cane.

On average, yield losses are 15-20% but can be as high as 60%, depending on variety and moisture stress.

RSD can be spread by using infected planting material or by contaminated cutting implements. **It is highly contagious** and can be spread for many metres down a row after a planter or harvester cuts through a diseased stalk.



***RSD infected cane on the left, clean cane on the right***

Currently RSD is only found on 1% of Mackay Sugar farms. Recent communications with several of the northern milling areas suggests RSD levels are much higher, with 20 - 40% of farms affected. The importance of a high sampling effort, good uptake of clean seed and an emphasis on sterilizing equipment between farms cannot be overestimated to maintain our low RSD levels within the Mackay sugar region.

Implements that cut or come in contact with the cane juice can spread RSD. This includes **cane knives, chain saws, whole-stick and billet planters, harvesters, strippers/blowers, tipper bins and haul-out vehicles.** Dip planters and recirculating fungicide spray system on planters can also spread bacteria.



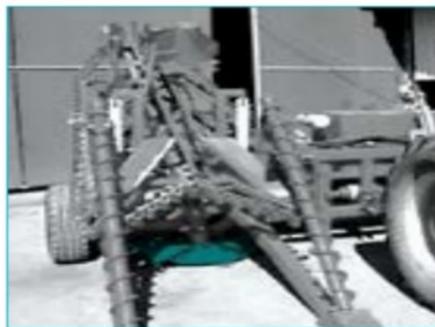
HARVESTER



BILLET PLANTER



STOOL SPLITTER



WHOLE STICK PLANT CUTTER



CANE KNIFE



STOOL SPLITTER (CLOSE UP)

**Key areas to focus on when sterilizing planting equipment**, taken from the SRA 'RSD Extension Toolkit for Growers & Contractors'.

## 2021 Approved Clean Seed Distribution

MAPS is again distributing Clean Seed in whole stick or billet form from three locations- Victoria Plains, Pioneer Valley and the North Coast.

### Victoria Plains

The Victoria Plains plot will operate as per previous years, opening for whole stick distribution in May. Weather permitting, billets will be offered in multiple rounds this season. The first round is set for July and the final will be in September.

Victoria Plains		
May – 31 August, Wednesday 7am – 12pm		
Varieties		
KQ228	Q240	SRA9
Q183	Q250	SRA12
Q208	SP80	SRA21
Q208R	Q253	SRA22

### Whole Stick Clean Seed

- All varieties are available for hand cutting
- Limited varieties can be pre-ordered and cut onto MAPS trailers
- Orders must be in to your Productivity Officer by **midday Monday for Wednesday pickup**
- Limited varieties can be pre-ordered and cut onto Growers trailers
- Trailers are to be delivered by Monday morning

Call your Productivity officer for available varieties and to place pre-cut orders. Grower trailers must be in good order, and transport is the responsibility of the grower. Please respect these conditions to avoid unnecessary setbacks. **Please remember whole-stick distribution will cease at the end of August.**

## **Billet Clean Seed - Victoria Plains**

- Selected varieties will be available
- First cut is likely to happen over 2 days in July
- Final cut planned for early September
- Cost is set at \$66/tonne. Own tipper bin is required

Again, check with your Productivity officer for details. Billet orders will be handled by MAPS Farm Manager, **Andrew Dougan - 0417 326 674**

### **Pioneer Valley & North Coast**

Plots will be open by appointment. Contact Ian Marais or Brendan Rae for details. Billet cost is set at \$66/tonne.

<b>Pioneer Valley</b>		<b>North Coast</b>	
<b>Ian Marais – 0417 326 669</b>		<b>Brendan Rae – 0417 326 393</b>	
Whole stick - Tannalo	Billets - Benholme	Whole stick – Wagoora	Billets – Mt Pelion
<b>SRA22</b>	Q253	<b>SRA22</b>	SRA9

The number of varieties available at the North Coast and Pioneer Valley billet plots has been kept to a minimum. The goal is to offer different varieties each year to allow growers easier access to clean seed. Dates for billet distribution will be set as the season progresses.

***Further information and viewing of varieties will be offered at the upcoming MAPS Field Day set for 7<sup>th</sup> May 2021.***

### **Regular Collection of Clean Seed**

Seed cane should not be more than 3 years past the hot water treatment date. To achieve this, make the most of the additional clean seed plots to collect your clean seed each year.

<b>Variety</b>	<b>Release date</b>	<b>Variety</b>	<b>Release date</b>
<b>Q208</b>	2005	<b>Q250</b>	2017
<b>Q183</b>	2006	<b>Q253</b>	2017
<b>KQ228</b>	2007	<b>SRA9</b>	2017
<b>Q240</b>	2012	<b>SRA12</b>	2018
<b>Q208R</b>	2015	<b>SRA21</b>	2019
<b>SP80</b>	2015	<b>SRA22</b>	2020

### **Fallow Management**

Fallow planting - provides time and opportunity to:

- Plan effectively for the next crop (soil sampling, land prep.)
- Remove volunteer stools to reduce the carryover of soil borne disease (Pachymetra)
- Correct nutritional disorders by applying soil ameliorants (lime, mud/ash, gypsum)
- Carry out earth works if necessary
  - Levelling for drainage or irrigation
  - Row configuration (spacing, profile, direction)
- Manage problem weeds
- Grow an alternative crop during the fallow period (legumes are a good option -cash / soil remediation)
  - Break the monoculture of growing a 'grass species'
  - Improve soil structure and organic carbon (reducing inputs needed for the next cane crop)
  - Encourage soil biota
  - Weed control of grass species

Plough out – replant - key issues:

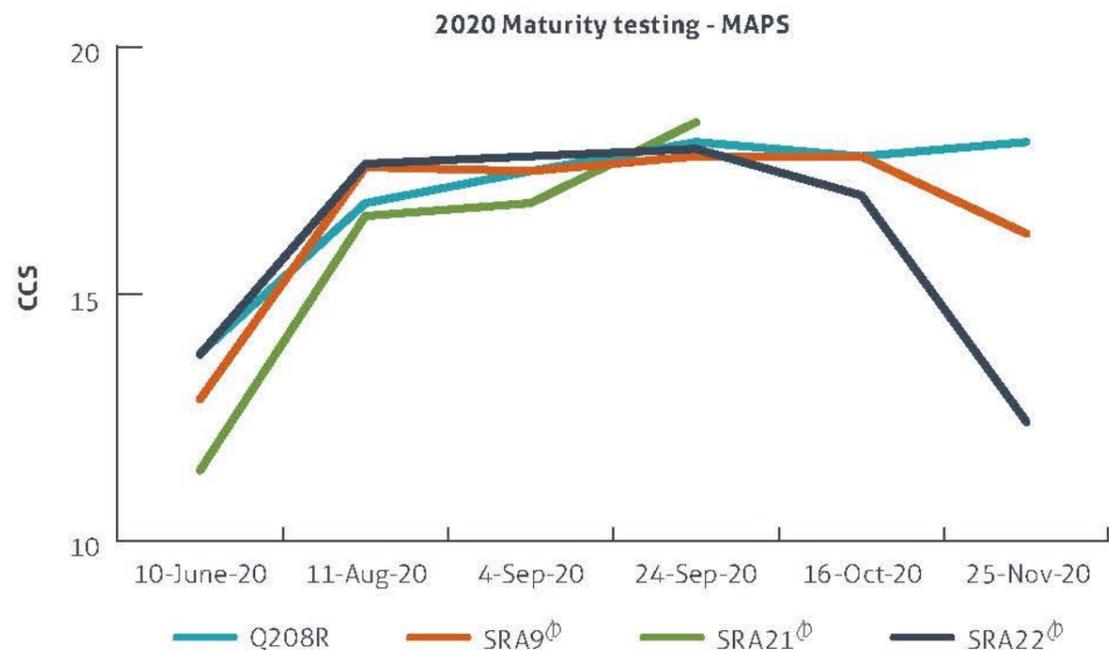
- Rapid turn-around between the harvest of the final ratoon and replanting
- Little opportunity for weed management, drainage, soil remediation
- Adoption of aggressive tillage, little opportunity to wait for ideal soil moisture levels
- Reduces soil structure and organic matter content
- Compaction and infiltration issues can be compounded rather than addressed for the next crop cycle

<b>Site and crop class</b>	<b>Plough out – replant (t/ha)</b>	<b>Legume- fallow crop (t/ha)</b>
<b>Mackay (plant)</b>	63	90
<b>Mackay (1<sup>st</sup> ratoon)</b>	92	116



**Replant on left, break crop on right**

# ONGOING MONITORING TO IMPROVE SRA22<sup>ϕ</sup> PERFORMANCE DATA



Note: SRA21<sup>ϕ</sup> was not tested after September as there was no cane left.

## SRA22<sup>ϕ</sup> was approved for release in the Central region by the Regional Variety Committee in 2019, and distribution to growers began in 2020.

SRA22<sup>ϕ</sup> has shown high tonnes and CCS in SRA trials and has excellent smut and *Pachymetra* resistance, making it a desirable choice for growers to plant, although it may not be suitable for poor soils.

However, in mid-November 2020, while conducting maturity testing on the MAPS farm, significant internal reddening of SRA22<sup>ϕ</sup> stalks was observed (see picture) as well as a sharp decline in CCS (see graph).

According to SRA pathologist Dr Shamsul Bhuiyan, internal reddening of stalks can be caused by several diseases such as Red Rot, *Fusarium*, and *Sclerotium* sett rot. To investigate further, whole stalks of infected SRA22<sup>ϕ</sup> were sent to Dr Bhuiyan at Woodford.

Dr Bhuiyan reported: "When split open, light to deep reddish lesions were observed throughout the tissue. No white patches across the lesion were observed. This implied that the stalks under investigation were not infected with red rot. The infected tissues were cut and plated on medium specific for fungal growth. No fungal growth was observed."

At this stage we do not know what caused these symptoms in SRA22<sup>ϕ</sup> and further investigation is warranted.

In 2020, SRA's maturity testing trailer was used to test some varieties for CCS throughout the year. SRA22<sup>ϕ</sup> was tested on six occasions, and only during the last test in mid-November were these internal reddening symptoms observed along with a sharp decline in CCS (see graph). These preliminary CCS results from the maturity trailer suggest that SRA22<sup>ϕ</sup> is better harvested early- to mid-season. These results agree with the limited commercial data available.

SRA will closely monitor plots of SRA22<sup>ϕ</sup> targeted for maturity testing in 2021 and will report any new findings to industry.

In summary:

- The cause of the internal reddening symptoms in SRA22<sup>ϕ</sup> is currently unknown and requires further investigation.
- SRA22<sup>ϕ</sup> is rated intermediate for Red Rot.
- Growers should plan for an early- to mid-season harvest of SRA22<sup>ϕ</sup>.
- Growers are asked to observe plant sources of SRA22<sup>ϕ</sup>, to have their plants inspected, and report any internal reddening symptoms to their local productivity services company or SRA.

## MAPS New Soybean Planter

MAPS has been assisting and advising growers on the benefits of growing legume break crops in the sugarcane fallow for many years. Although there are many reasons why growers are not able to plant a legume crop every year, one of the main drawbacks is the availability of adequate equipment when there is an opportunity to plant. In the recent past, MAPS were able to organise and deliver a seeder to growers to plant these crops, but this equipment is no longer available. After obtaining partial funding from DAF, Qld Government, MAPS decided to commission the construction of a seed drill from a local company, Donnelly's Engineering. We wanted the planter to be able to plant through cane trash on the old mound, as well as on worked ground; also to be adaptable for different row spacings, with the option of adding more planter leg units if further funding is available.



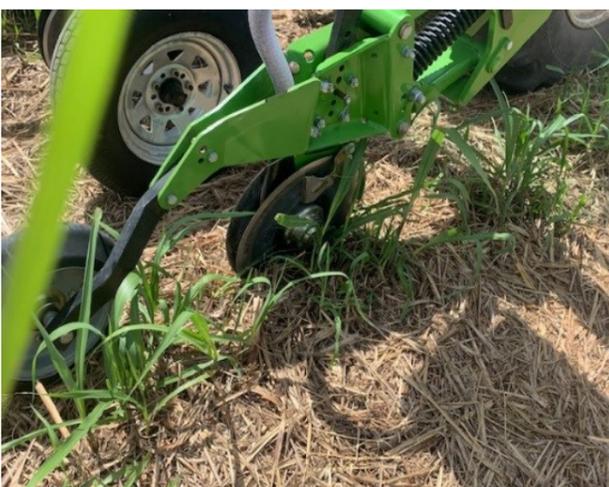
Examples of some blocks planted before the rains at Christmas –



Planting on the old stool through banded mud



45 days after planting



Planting into Q242 trash



High and dry after emergence



70 days after planting

MAPS will be demonstrating the planter at the MAPS/SRA Field Day on the 7<sup>th</sup> May and at other demonstration sites later in the year. Although the planter will not be lent out to farmers, it will be available to those growers who are involved with MAPS GBRF water quality project.

# HANDY TIPS TO GET THE MOST VALUE OUT OF HERBICIDES

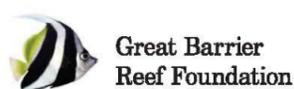
## MACKAY/PLANE CREEK

ACTIVE INGREDIENT	PRODUCT EXAMPLE	TIPS
amicarbazone	AmiTron	<ul style="list-style-type: none"> <li>• Use lower rates on lighter textured soils</li> <li>• At least 75mm soil cover over setts</li> <li>• Prevent slippage of treated soil into plant furrow</li> <li>• Do not use on very sandy soils (&gt; 90% sand)</li> <li>• UV stable</li> <li>• Activated with minimal rainfall</li> </ul>
asulam	Ausulux, Rattler	<ul style="list-style-type: none"> <li>• Best results with humidity above 80% and temperature above 17°C</li> </ul>
atrazine	Atrazine 900 WG	<ul style="list-style-type: none"> <li>• Incorporate with 25mm rainfall or irrigation within 10 days, or mechanically to 1 – 3cm depth</li> </ul>
diuron	Diurex WG	<ul style="list-style-type: none"> <li>• Do not use on very light sandy soils</li> <li>• Best results when incorporated with 25mm rainfall or overhead irrigation within 3 – 4 days</li> </ul>
diuron + hexazinone	Bobcat combi	<ul style="list-style-type: none"> <li>• Do not use on light sandy soils</li> <li>• Best results when incorporated with 25mm rainfall or overhead irrigation within 3 – 4 days</li> </ul>
flumioxazin	Valor 500 WG	<ul style="list-style-type: none"> <li>• Soil should be moist at application with follow-up irrigation or rainfall (at least 15mm) within 3 weeks</li> <li>• UV stable</li> </ul>
glufosinate-ammonium	Basta	<ul style="list-style-type: none"> <li>• Best results when humidity is above 50%</li> <li>• Do not spray in temperatures above 33°C</li> </ul>
imazapic	Spark	<ul style="list-style-type: none"> <li>• Efficacy reduced when soil pH &lt;5 and/or high levels of iron or aluminium</li> <li>• Crop injury can occur on sandy soils from leaching caused by rainfall/irrigation</li> <li>• UV stable</li> <li>• Activates with rainfall or overhead irrigation to depth of 5cm</li> <li>• Otherwise mechanically incorporate</li> </ul>
imazapic + hexazinone	Bobcat i-maxx	<ul style="list-style-type: none"> <li>• Best results with incorporation by rainfall or overhead irrigation to 5cm depth</li> <li>• In dry conditions incorporate with light cultivation</li> </ul>

ACTIVE INGREDIENT	PRODUCT EXAMPLE	TIPS
isoxaflutole	Balance	<ul style="list-style-type: none"> <li>• UV stable</li> <li>• Do not use if: <ul style="list-style-type: none"> <li>• CEC is less than 3meq/100 g, or</li> <li>• clay content less than 10%, or</li> <li>• organic carbon content is less than 0.8%</li> </ul> </li> <li>• Do not apply at rates 125g/ha or higher: <ul style="list-style-type: none"> <li>• If soil organic carbon is less than 10%, UNLESS C.E.C is above 9.5 meq/100g</li> <li>• If soil C.E.C is less than 4.5meq/100g</li> </ul> </li> </ul>
metribuzin	Mentor	<ul style="list-style-type: none"> <li>• Do not apply to hot, dry soil</li> <li>• Best results when incorporated by rainfall or overhead irrigation from 2 – 7 days after application</li> </ul>
MSMA	Daconate	<ul style="list-style-type: none"> <li>• Best results when applied under hot, dry conditions</li> </ul>
pendamethalin	Stomp Xtra	<ul style="list-style-type: none"> <li>• Incorporate with 12 – 25mm rainfall or overhead irrigation within 3 – 5 days, otherwise</li> <li>• Mechanically incorporate</li> </ul>
S-metolachlor	Dual Gold	<ul style="list-style-type: none"> <li>• Do not apply on soils with less than 5% clay in the top 30cm</li> <li>• Best results when incorporated within 10 days with 15mm overhead irrigation or rainfall, or</li> <li>• lightly mechanically incorporate to 2.5cm</li> </ul>
Terbutylazine + isoxaflutole	Palmero TX	<ul style="list-style-type: none"> <li>• Do not use if: <ul style="list-style-type: none"> <li>• CEC is less than 3 mew/100g, or</li> <li>• clay content less than 10%, or</li> <li>• organic carbon less than 0.8%</li> </ul> </li> <li>• Do not apply at rates higher than 1 kg/ha if soil organic carbon is less than 1%, UNLESS the CEC is above 9.5meq/100g</li> <li>• Do not apply at rates of 1.25kg/ha or greater if soil CEC is less than 4.5meq/100g</li> <li>• Do not apply to recently burnt stubble/trash</li> <li>• Do not apply to newly limed soil</li> <li>• Best results when incorporated with 20 – 30mm rainfall or overhead irrigation within 2 – 3 weeks</li> </ul>
trifluralin	Triflur	<ul style="list-style-type: none"> <li>• Mechanically incorporate within 4 hours, to a depth of 7.5 – 13cm</li> </ul>

## ACKNOWLEDGEMENTS

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# MAJOR USEAGE RESTRICTIONS HERBICIDES MACKAY/PLANE CREEK

## Major usage constraints for some commonly used herbicides

### BUFFER ZONES

Observing buffer zones helps to minimise our impact on the environment and other land uses.

#### 2,4-D

#### Ground applied over the top of cane with boom sprayer

CONCENTRATION OF 2,4-D IN PRODUCT	EXAMPLE PRODUCT	PRODUCT RATE/HA	DOWNWIND MANDATORY NO-SPRAY ZONE (M)	
			Aquatic	Terrestrial
625g/L (excludes DMA salt only formulation)	Nufarm Amine 625	Up to 1700mL	20	20
	Nufarm Zephyr 625	Up to 3500mL	35	35
680g/L	Nufarm Estercide Xtra 680	Up to 2400mL	30	40
700g/L (excludes sodium salt formulation)	Amicide Advance 700	Up to 1500mL	20	20
		Up to 3100mL	30	30

#### Aerially applied – low application rates, application height 3 m or less above canopy

CONCENTRATION OF 2,4-D IN PRODUCT	EXAMPLE PRODUCT	PRODUCT RATE /HA	MINIMUM SPRAY DROPLET SIZE	DOWNWIND MANDATORY NO-SPRAY ZONE (M)			
				Fixed wing		Helicopter	
				Aquatic	Terrestrial	Aquatic	Terrestrial
625g/L (excludes DMA salt only formulation)	Nufarm Amine 625 Nufarm Zephyr 625	Up to 1700mL	VERY COARSE	95	90	90	85
			EXTREMELY COARSE	70	70	70	65
700g/L (excludes sodium salt formulation)	Amicide Advance 700	Up to 2000mL	VERY COARSE	110	100	95	95
			EXTREMELY COURSE	80	75	75	70
		Up to 1500mL	VERY COURSE	95	90	90	85
			EXTREMELY COURSE	70	70	70	65
		Up to 1800mL	VERY COURSE	110	100	95	95
			EXTREMELY COURSE	80	75	75	70

**Aerially applied – high application rates irrespective of spray droplet size**

CONCENTRATION OF 2,4-D IN PRODUCT	EXAMPLE PRODUCT	PRODUCT RATE /HA	APPLICATION HEIGHT ABOVE CANOPY (M)	DOWNWIND MANDATORY NO-SPRAY ZONE (M)			
				Fixed wing		Helicopter	
				Aquatic	Terrestrial	Aquatic	Terrestrial
625g/L (excludes DMA salt only formulation)	Nufarm Amine 625 Nufarm Zephyr 625	Up to 3500 mL	<3	180	170	150	140
			>3 to max 5	425	400	250	225
680g/L	Nufarm Estericide Xtra 680	Up to 1150 mL	<3	75	110	70	100
			>3 to max 5	140	220	120	160
		Up to 2400 mL	<3	130	250	120	180
			>3 to max 5	300	550	190	300
700g/L (excludes sodium salt formulation)	Amicide Advance 700	Up to 3100 mL	<3	170	160	150	140
			>3 to max 5	400	375	250	220

**2,4-D + picloram**

**Ground applied over the top of cane with boom sprayer**

PRODUCT RATE/HA	EXAMPLE PRODUCT	DOWNWIND MANDATORY NO-SPRAY ZONE (M)	
		Aquatic	Terrestrial
Up to 700mL + 1000mL 2,4-D Amine 500	Tordon 75-D	10	10
Up to 1500mL + 1000mL 2,4-D Amine 500		15	15
Up to 2400mL		20	20

**Aerially applied**

RELEASE HEIGHT (M)	EXAMPLE PRODUCT	PRODUCT RATE/HA	DOWNWIND MANDATORY NO-SPRAY ZONE (M)			
			Fixed wing		Helicopter	
			Aquatic	Terrestrial	Aquatic	Terrestrial
<3	Tordon 75-D	Up to 700mL + 1000mL 2,4-D Amine 500	70	70	70	65
		Up to 1500mL + 1000mL 2,4-D Amine 500	85	85	80	80

**Other herbicides**

ACTIVE INGREDIENTS	EXAMPLE PRODUCT	PRODUCT RATE/HA	DOWNWIND MANDATORY NO-SPRAY ZONE (M)	
			Aquatic	Terrestrial
amicarbazone	AmiTron	All rates	30	10
atrazine	Atrazine	All rates	60 (natural or impounded lakes or dams)	na
diuron	Diurex WG	280 – 500 g (900g/kg formulation)	25	50
		2000 g (900g/kg formulation)	100	200
diuron + hexazinone	Barrage Bobcat combi	All rates Used alone	100	200
		All rates Mixed with paraquat	25	50
imazapic	Spark	All rates	50	na
metribuzin	Mentor	All rates Applied ground spray rigs without droppers	30	75
S - metolachlor + atrazine	Primextra Gold	All rates	20 (waterways)	na
			60 (natural or impounded lakes or dams)	na
terbuthylazine + isoxaflutole	Palmero TX	<1000g (boom height 0.5m or lower)	30	30
		<1000g (boom height > 0.5m)	80	75
		Up to maximum label rate (boom height 0.5m or lower)	45	45
		Up to maximum label rate (boom height > 0.5m)	140	130

**Other usage constraints also apply to most herbicides – always read and follow label instructions.**

## No-spray windows for Mackay Whitsunday Region

### Diuron-based herbicides

MONTHS	PRODUCTS CONTAINING DIURON ONLY (E.G. DIUREX WG)		PRODUCTS CONTAINING DIURON AND HEXAZINONE (E.G. BOBCAT COMBI, BARRAGE)			
	Up to 450g diuron active/ha (mixed with paraquat)	More than 450g up to 1.8kg diuron active/ha	Up to 450g diuron active/ha (mixed with paraquat)	1.4 to 1.8kg diuron active/ha		
	<b>Plant and ratoons</b> Blanket spray.	<b>Plant and ratoons</b> After cane emergence. Directed band spray over maximum 60% of crop area.	<b>Plant and ratoons</b> Directed spray.	<b>Ratoons</b> Before cane and weed emergence.	<b>Plant and ratoons</b> After cane emergence. Directed band spray over maximum 60% of crop area.	1kg product/100L spot spray for Guinea grass. Maximum 5% of total farm area.
November	Spray	Spray	Spray	No spray	No spray	Spray
December to April		No spray				
May		Spray				
June to October		Spray		Spray	Spray	

### Amicarbazone (AmiTron)

October to December	No spray
January to September	Spray

### 2,4-D

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is due to confirm no-spray windows for herbicides containing 2,4-D sometime during 2021.

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## MORE INFORMATION

Phil Ross **Regional Coordinator** [E PRoss@sugarresearch.com.au](mailto:PRoss@sugarresearch.com.au) **T** 07 4963 6823

# Reef Program Update

The Great Barrier Reef Foundation water quality program is underway and available for cane growers in the Mackay region. Funding provided by the Australian government is assisting growers to better understand the impact their farming practices have on the environment, combined with financial grants.

The program includes four areas of support for a grower:

1. It includes funding for an agronomist working with the grower to look at soil tests, general farming practices and prepare nutrient management plans.
2. Access to data management program- Agtrix Farming support and workshops.
3. A \$2 000 grant that assists growers with improving their nutrient program, specifically upgrades to nutrient application equipment and options for additional soil testing.
4. There is the potential to apply for a major grant, which pays for a proportion of a capital expenditure project that demonstrates practice change in nutrient or herbicide management.

Currently MAPS are working with growers in the district, helping to improve their specific farming practices for productivity and environmental benefits. The program is still open for new entrants as growers need to meet GBRF eligibility criteria.

For more information interested growers contact:

Andy Humphreys

0407 334 141

[ahumphreys@maps.org.au](mailto:ahumphreys@maps.org.au)



# Mackay Sugar Plant Loan

After reintroducing the plant loan program in 2020 Mackay Sugar is happy to announce that the program is available for 2021 planting as well. The plant loan is available for new land, cane land out of production for at least two years or low yielding land under new management. So if you interested in a plant loan or think you might be eligible please don't hesitate to get in contact with the productivity department either by emailing the [caneproductivity@mkysugar.com.au](mailto:caneproductivity@mkysugar.com.au) or phone Tina Sorensen 07 4953 8366.

How does it work?

- A grower applies for a plant loan before planting in 2021
- Mackay Sugar checks the application and confirms if the application is eligible
- After planting, Cane Productivity Staff will check the planting and confirm planted area
- The loan amount will be paid to the grower's bank account in 2021 at the rate of \$1,500 /ha, up to 20 ha per grower
- Interest rate for 2021 application has been set at 0%
- Payback period is 1/3 of the loan amount in each of the 2022, 2023 and 2024 seasons



If you are considering **buying** or **leasing** or potential **selling** please consider getting in contact with the Cane Productivity Department. We may be able to provide alternative solutions.

## UPCOMING EVENTS

### • **SRA/MAPS Grower Update**

19<sup>th</sup> April 8:30am – 1pm

Windmill Motel

### • **MAPS/SRA Field Day**

7<sup>th</sup> May

7am start with a hot breakfast

Variety displays

In-field demonstrations

Static displays



# Tariff Review



**Background:** In December 2020, a MAPS farmer undertook a comprehensive tariff review of 2 irrigation pump accounts. One centrifugal pump, located on the Pioneer River, runs a soft-hose winch at night and fills the dam during the day. The second pump, located on the dam, is used to run a hard hose winch. All small business tariffs were examined. Different pump operation times, i.e. different peak and off-peak pumping times, were also considered to gain an understanding of how management impacts on energy costs. A limited number of tariff options are reported here.

## Pump site 1: Tariff Review

1. Long term records are best; 2 years of energy records were used here.
2. Account is classified as a 'Small Business' Account (uses less than 100,000 kW.h per year)
3. Y1 has almost 2x the energy usage of Y2 (large variation)
4. Currently using a 'Time-of-Use' tariff (T62), which is Obsolete.
5. After 30 June 2020, T62 will be removed and the account will move to T20 (the default Small Business Tariff)
6. The tariff review compared all 11 Small Business tariffs but only 4 possible options are shown here.
7. For this account:
  - a. In Year 1, T62 had a cost of \$9,075 with an average energy cost of 36 c/kW.h (combination of energy costs & daily supply charge). In Year 2, T62 had a cost of \$3,876 with an average energy cost of 27 c/kW.h. In both years, the cost was affected by the amount of peak and off-peak pumping, i.e. how the pumping time was managed.
  - b. T20 would have produced a lower energy cost in Year 1, but a higher cost in Year 2.
  - c. Over the 2-year period, T20 would have had a lower cost by approx. \$1,767 (saving 13.6%).
  - d. T33, T34 and T24 0% produce very similar results for both years. T33 would have produced savings of \$4,790 (37%).
8. All examples show a lower cost than the current tariff (T62) but many options will have a higher cost.

Dam Pump (37 kW)																
Year *	Total	Current T62		Default T20			Proposed T33			Proposed T34			Proposed T24 0%			
		kW.h	Cost \$	\$/kW.h	Cost \$	\$ Saving or Loss	\$/kW.h	Cost \$	\$ Saving	\$/kW.h	Cost \$	\$ Saving	\$/kW.h	Cost \$	\$ Saving	\$/kW.h
Y1	25,285	9,075	0.36	6,990	2,085	0.28	5,063	4,012	0.20	5,290	3,785	0.21	5,053	4,022	0.20	
Y2	14,385	3,876	0.27	4,194	-318	0.29	3,098	778	0.22	3,210	666	0.22	3,074	802	0.21	

\*Y1 and Y2 represents the time period of November 2018 – November 2019 and November 2019 – November 2020. Values are GST inclusive.

## Things to consider:

1. The results shown here are specific to this account and this farmer's current management of the pump.
2. In the review, other tariffs were considered and showed a wide range of costs. Many showed higher costs than the tariff costs reported here.
3. The amount of peak and off-peak pumping time influences energy costs.

For further information contact Stephen Attard, AgriTech Solutions: 0418 155 844 or [steve@agritechsolutions.com.au](mailto:steve@agritechsolutions.com.au)

## Pump site 2: Tariff Review

1. Long term records are best; 2 years of energy records were used here.
2. Account is classified as a 'Small Business' Account (uses less than 100,000 kW.h per year)
3. Y2 has used approx. 31% higher than the Y1 energy usage.
4. Currently using a 'Time-of-Use' tariff (T62), which is Obsolete.
5. After 30 June 2020, T62 will be removed and the account will move to T20 (the default Small Business Tariff)
6. The tariff review compared all 11 Small Business tariffs but only 4 possible options are shown here.
7. For this account:
  - a. In Year 1, T62 had a cost of \$14,171 with an average energy cost of 35 c/kW.h (combination of energy costs & daily supply charge). In Year 2, T62 had a cost of \$15,536 with an average energy cost of 30 c/kW.h. In both years, the cost was affected by the amount of peak and off-peak pumping, i.e. how the pumping time was managed.
  - b. T20 would have produced a lower energy cost in both years.
  - c. Over the 2-year period, T20 would have had a lower cost by approx. \$5,012 (saving almost 17%).
  - d. T33, T34 and T24 0% produce very similar results for both years. T33 would have produced savings of \$12,060 (approx. 41%).
8. All examples show a lower cost than the current tariff (T62) but many options will have a higher cost.

River Pump (45 kW)															
Year	Total	Current T62		Default T20			Proposed 33			Proposed T34			Proposed T24 0%		
	kW.h	Cost \$	\$/kW.h	Cost \$	\$ Saving	\$/kW.h	Cost \$	\$ Saving	\$/kW.h	Cost, \$	\$ Saving	\$/kW.h	Cost \$	\$ Saving	\$/kW.h
Y1	40,015	14,171	0.35	10,751	3,420	0.27	7,702	6,469	0.19	8,085	6,086	0.20	7,707	6,464	0.19
Y2	52,483	15,536	0.30	13,944	1,592	0.27	9,945	5,591	0.19	10,460	5,076	0.20	9,966	5,570	0.19

\*Y1 and Y2 represents the time period of October 2018 – October 2019 and October 2019 – October 2020. Values are GST inclusive.

### Things to consider:

1. The results shown here are specific to this account and this farmer's current management of the pump.
2. In the review, other tariffs were considered and showed a wide range of costs. Many showed higher costs than the tariff costs reported here.
3. The amount of peak and off-peak pumping time influences energy costs.

### General Notes on tariffs:

**T20:** This is a default tariff, a small business flat-rate primary tariff.

**T33:** Small business flat-rate secondary tariff with interruptible supply. As a secondary tariff, it must be installed with a primary tariff (eg Tariff 20). If Tariff 33 is selected, farmers need to be aware that the energy supply will be available for a minimum of 18 hours daily. The times and duration when power is switched off may change every day. T33 could have energy 24 h per day. There may be additional costs if the existing meter box is too small or does not meet minimal electrical compliance. Additional costs (metering costs & electrical) may be incurred if 2 meters are required.

**T34:** Small business flat-rate primary tariff with interruptible supply. Supply will be available for a minimum of 18 hours daily but may be reduced in an emergency.

**T33 & T34:** Are very similar in how they are managed by Ergon, but the charging rates are different.

**T24:** Charges apply for daily connection, energy used and demand. The demand charges, are based on your average kilowatt (kW) demand for electricity used between 10am and 8pm weekdays (measured in half hour intervals), known as your daily chargeable demand. The demand charge is higher in the summer months compared to the non-summer months. *Farmer needs to avoid pumping during the chargeable demand period, weekdays 10 am to 8 pm, all year to maximise the saving.* In the two situations discussed, 'T24 0%' refers to no pumping during the chargeable demand period.