NEWSLETTER

JULY 2022

2022 Approved Clean Seed Distribution

MAPS Clean Seed plots are now open for distribution in an endeavour to support growers in the uptake of clean seed. Although there are no new varieties released this year, now is the ideal opportunity to collect a new source of an older variety you are continuing with from one of the MAPS Approved Clean Seed plots. MAPS recommends updating your plant source on an annual basis.

Victoria Plains		
Open Wednesdays **7am – 12noon**		
Varieties Available		
KQ228 **Q183** **Q208** **Q208R**	**Q240** **SP80** **Q253**	**SRA9** **SRA21** **SRA22**

Whole Stick Clean Seed

- All varieties available for hand cutting
- Limited varieties can be pre-ordered and cut onto MAPS trailers
- Limited varieties pre-ordered and cut onto Growers' trailers
- Set orders in to your productivity officer and have trailers delivered by Monday morning

Billet Clean Seed

The wet weather has stopped MAPS having a billet distribution round in July and billet distribution will now be weather dependant. A text message seeking expressions of interest will be sent out in the next couple of weeks.

- Selected varieties will be available
- Cost set at $66/tonne, own tipper bin required

Check with your Productivity Officer for details.

Billet orders will be handled by MAPS Farm Manager,
Ian Marais 0417 326 669

Pioneer Valley & North Coast

The whole-stick and billet plots are open by appointment. Contact Ian Marais or Brendan Rae. Billet cost is set at $66/tonne.

Pioneer Valley	North Coast
Ian Marais **0417 326 669**	**Brendan Rae** **0417 326 393**
Whole stick **Tannalo**	**Billets** **Mount Pelion**
SRA9, SRA21, Q208R, Q253 & Q240	**SRA22 & Q208R**

Collecting clean seed is the foundation for a healthy, productive and profitable crop. Taking time to collect clean seed on a yearly basis is the best investment for your business and now the exercise is more accessible through the MAPS billet plots. Billet plots play an important role in making it easier for growers to obtain clean seed every year from an approved plot.

Renewing one or two varieties every year is an effective way of improving productivity without much effort or cost. Purchasing clean seed is a relatively low-cost investment when given the high cost of establishing a crop and forms the foundation for future disease-free plantings.

NEW STAFF

Hi I'm Mikayla, I have always had a passion for the sugarcane industry as I grew up on a sugar cane farm on my dads' property in Farleigh.

In 2014 I began working at Sugar Research Australia as a casual while I was still in high school.

After I graduated, I was promoted to the Plant Breeding Technician role between 2016-2019.

I left the industry for a couple years to study vet nursing and try my hand in the mining industry but it wasn't for me and have been presented with the opportunity to come back to the industry and work with the amazing team at MAPS as a Productivity Officer in the Eton/ Brightly area.

In my spare time I enjoy gardening and playing dungeons and dragons. I'm excited to meet all the growers, learn from them and assist with my current skills.

Please contact me on;

Mobile: 0429 326 671
Email: mbowman@maps.org.au

Sugar Research Australia

STERI-MAX LONGEVITY

Concerns were raised locally with regards to the longevity of Steri-max once it has been mixed with water for decontamination purposes.

With conflicting reports on how long it lasts and when it should be discarded, SRA Pathologist Dr Rob Magarey approached the manufacturer for clarification (Stewart Frankling, Regional Sales Manager, SIPCAM). The following points are worth considering.

Use:

- Steri-max is being used extensively in the banana industry both in footbaths and machinery disinfection (Panama TR4). As a result, detailed research into its effectiveness has been conducted.

Chemical break down:

- There are to be two factors that critically affect the longevity of the active constituent: -
  1. UV light
  2. Organic matter

Organic matter:

- In foot baths it was found that replacement of the formulated solution was needed in a matter of hours (3-4 hrs) when significant organic matter found its way into the footbaths. Organic matter quickly de-activates the active ingredient.

UV light:

- This also deactivates the chemical, so exposure of the solution to UV means that the effectiveness of the chemical may also be quickly reduced.

Longevity:

- In discussions with the Company representative, we understand that a 1:100 solution of the chemical (normal dilution) may last several weeks or longer when good quality water is used to make up the solution and the solution is stored in a tank that protects against UV light (or if the tank is stored in a shed).
- There are no prescribed longevity timelines with some exposure of the chemical to UV or organic matter - just depends on how much UV / what quantity of organic matter interacts with the active ingredient. Longevity could only be a matter of hours with significant exposure – but this unlikely in cane industry applications.

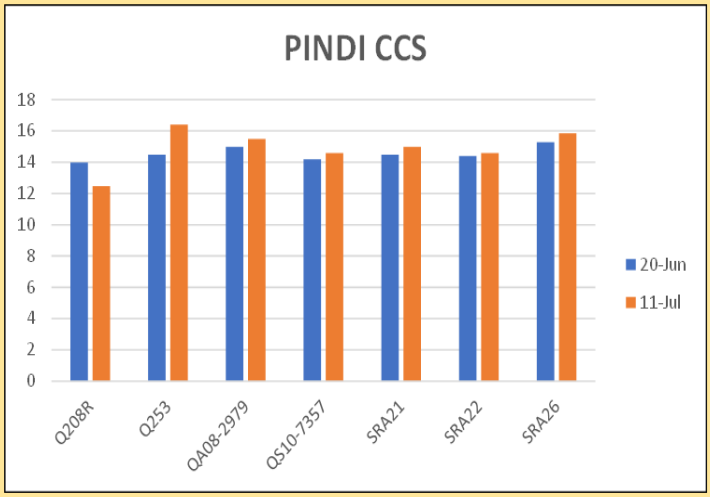
For any further information, please contact:

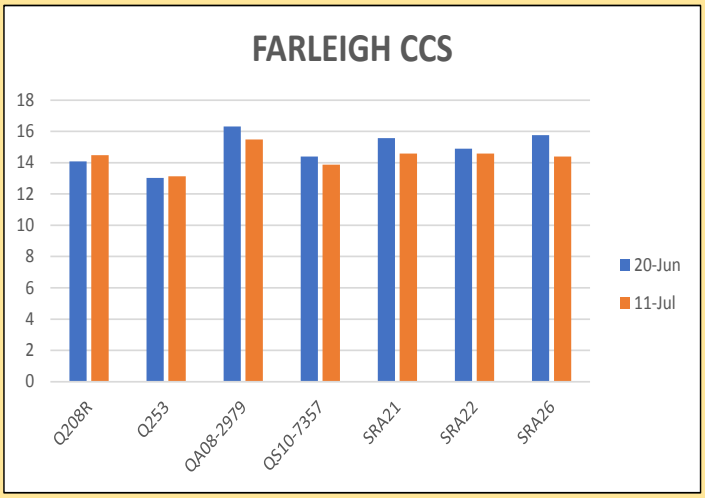
- Dylan Wedel, SRA District Manager – Central, 0490 029 387, DWedel@sugarreserach.com.au

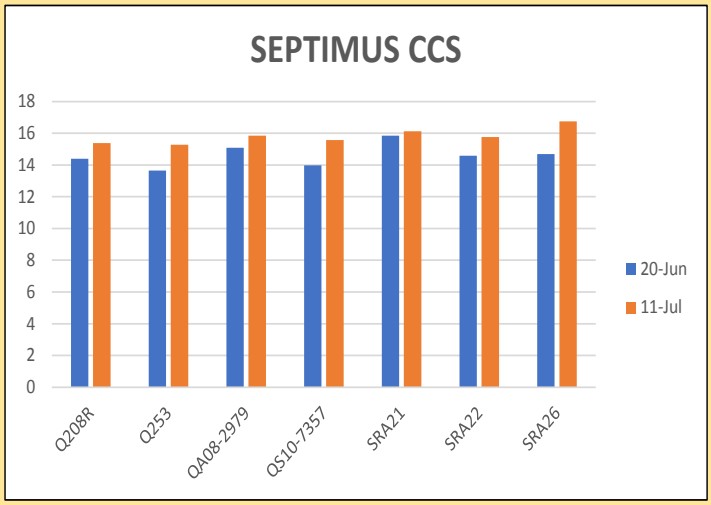
MAPS Observation Plots Maturity Testing

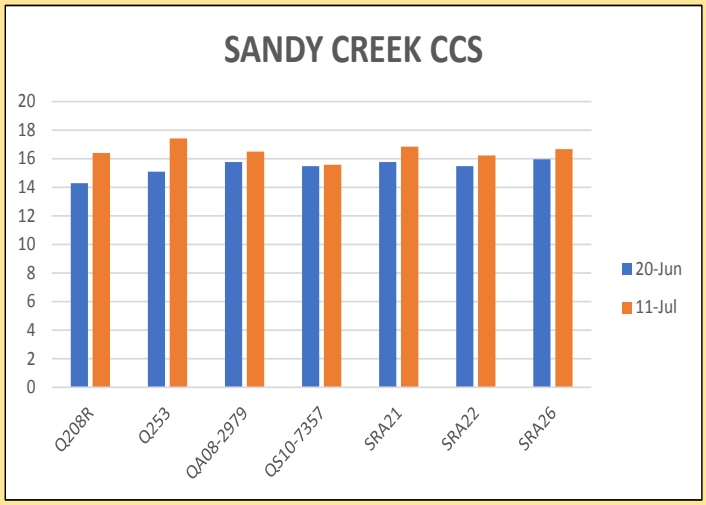
In collaboration with SRA, maturity testing has begun at five of the MAPS observation plots established throughout the Mackay Sugar region. The sampling commenced on the 20th of June and the plots will be sampled every three weeks throughout the 2022 season using the SRA maturity trailer. The trailer is a big time-saver in the field and by regularly measuring the maturity of the new varieties in the different plots allows us to compare the CCS against the recently released varieties. Two seedlings – QA08-2979 & QS10-7357 and SRA26 were introduced into the observation plots last year and again are being closely monitored. SRA26 has been released in the central region and will be available from MAPS plots in 2023, while QA08-2979 and QS10-7357 are two promising seedlings identified for a possible release in 2024. The regular testing helps build a better maturity profile of the seedlings/ new varieties and helps to identify a potential early testing variety. The maturity testing gives an indication of CCS levels of recently released varieties on different soil types throughout the Mackay Sugar region at the start of the harvest season.

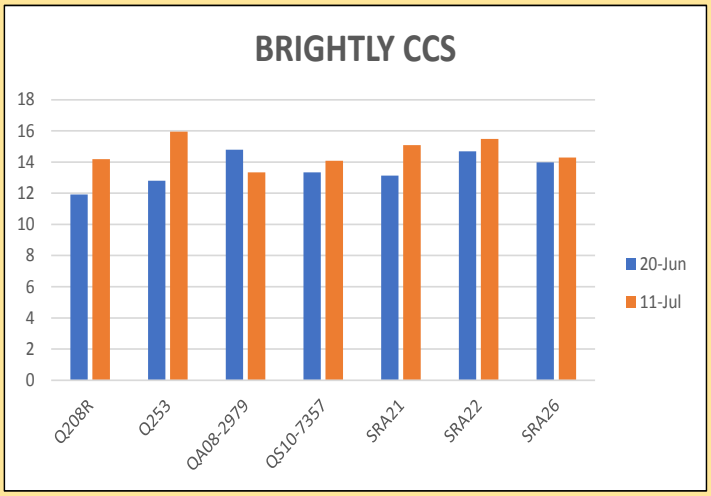
Apart from the maturity testing, the observation plots provide valuable information and data of potential varieties grown on different soil types under various farming practices throughout the districts. Field observations such as germination times, ratoonability, diseases (Chlorotic Streak), moisture tolerance and chemical susceptibility provides valuable information on the varieties as they get released.











Sugar Research Australia

OPTIMUM APPLICATION OF IMIDACLOPRID FOR GREYBACK CANEGRUB MANAGEMENT

What affects cane grub populations?

Cane grub abundance and damage levels are affected by many factors including chemical insecticides, soil moisture, rainfall dry period, soil type and natural enemies. We can control our use of chemical insecticides but have little control over other factors.

Soil properties and climate: Soil moisture levels will be influenced by rainfall, dry period and soil properties.

- Heavy rainfall and waterlogged soils will reduce survival of eggs and early instars. Free draining soils are less likely to waterlog
- In dry periods eggs may desiccate more easily and fewer early instars will develop. However later instars are less affected by wet or dry soils as they are larger and more mobile and will move up or down the soil profile according to the moisture level to escape wet or dry conditions
- The number and timing of flights of adult canegrubs is also affected because soil moisture and temperature affect pupae emergence.

Life cycle of canegrubs

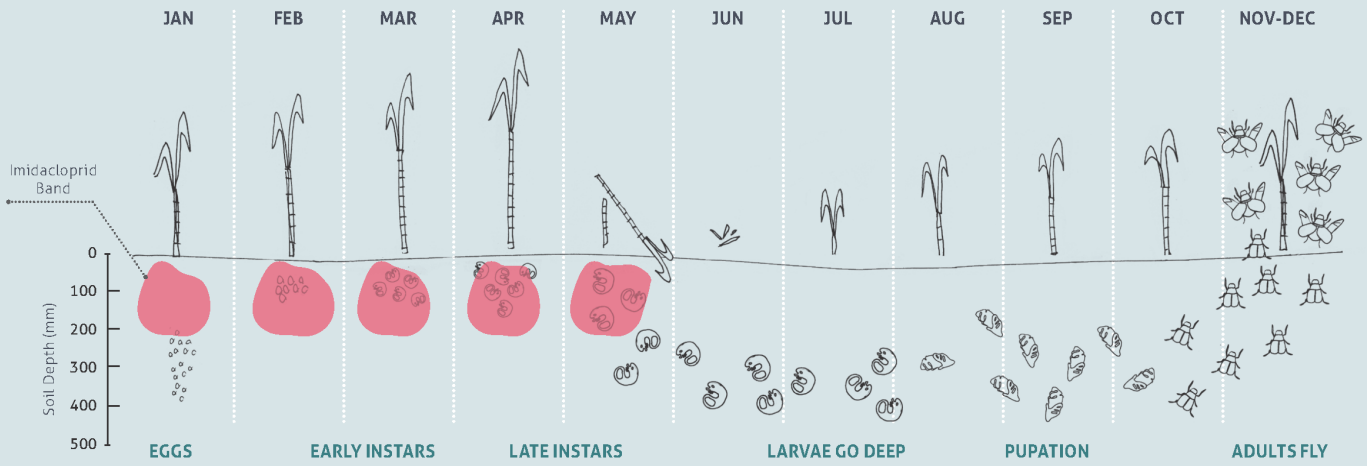
Greyback canegrub (***Dermolepida albohirtum***) has a one-year life cycle which is shown in Figure 1. Although the diagram shows a January-December timeframe the actual dates of each life-stage can vary depending on climate, cane-growing region and soil properties.

The important life-stages for chemical control are:
Eggs: Laid in batches of 20-30, at 22-45 cm depth. When the eggs hatch after a couple of weeks they develop into early (first) instars in January-February.

Early instars: First instars are small and feed on a mixture of soil organic matter, weeds and cane roots and gradually move up the soil profile. It takes about a month for them to develop into larger second instars.

Late instars: Second instars live for 5-6 weeks and cause more damage to cane roots than first instars. Third or late instar larvae, eat more cane roots and feed for several months causing significant damage. If not controlled effectively damage will result in stool tipping of mature cane in Autumn - Winter when more than two grubs are observed per stool.

F.1 GREYBACK CANEGRUB LIFE CYCLE



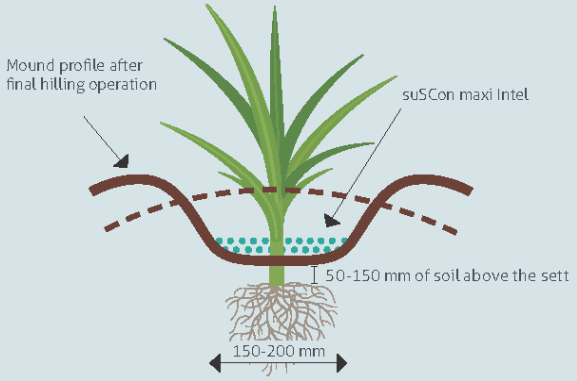
Nufarm

OPTIMUM APPLICATION FOR GREYBACK CANEGRUB

PLANT CANE

suSCon MAXI INTEL

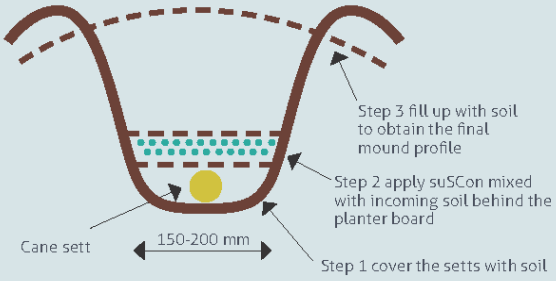
F.2A SUSCON MAXI INTEL BEST APPLIED AT FILL-IN OR HILL-UP



BEST APPLIED AT FILL-IN OR HILL-UP

- Sufficient soil between sett and application band
- Apply in a narrow band 150-200 mm
- Cover granules immediately with 50 mm of compacted soil or 100 mm of loose soil
- Granules should be covered by 150-200 mm of compacted soil once the row is finished and hilled up.

F.3A SUSCON MAXI INTEL AT PLANTING



APPLICATION AT PLANTING

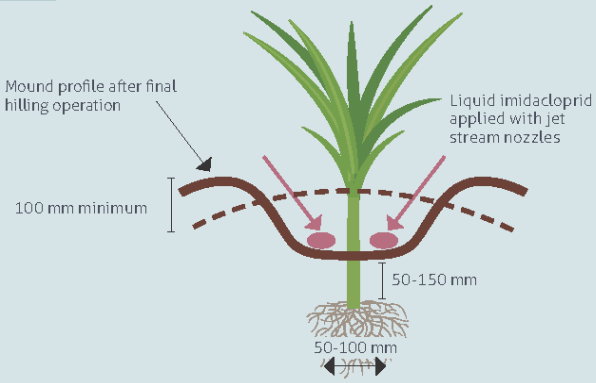
When applying suSCon maxi Intel at planting, follow the three-step process described in F.3A

- Place suSCon in a 150-200 mm band
- Mix suSCon granules with incoming soil behind the planter boards to form a layer 20-30 mm deep and 150-200 mm wide across the row
- Most suitable when there is 200 mm or less soil above the sett in the finished hilled row.

For other planting methods, always ensure the product is applied in a narrow band and there is 50-150 mm soil between the sett and the application band

Liquid imidacloprid

F.4A LIQUID IMIDACLOPRID BEST APPLIED AT FILL-IN OR HILL-UP



BEST APPLIED AT FILL-IN OR HILL-UP

- Sufficient active remaining when it is needed for grub control
- Sufficient soil between sett and application band
- Apply in a narrow band 50-100 mm* wide OR using one or two jet stream nozzles directed at the centre of the planting row
- Cover product immediately after application with at least 50 mm of soil. There should be at least 100 mm of soil over the treated layer after the final hilling operation.

*Refer to each product label for the correct application band width.

RATOON

F.5A LIQUID IMIDACLOPRID BY STOOL SPLITTING

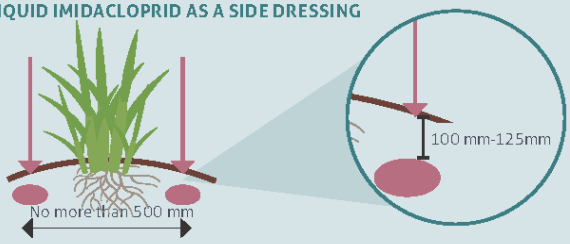
STOOL SPLITTING

One slit in the centre of the stool.

Slit depth 100-125 mm.

Close the slot after application.

F.6A LIQUID IMIDACLOPRID AS A SIDE DRESSING



SIDE DRESSING

Two slits no more than 500 mm apart.

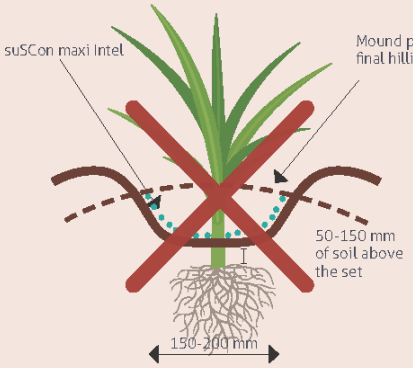
Slit depth 100-125 mm.

Close the slots after application.

Can be applied later than stool splitting but no later than November.

INCORRECT APPLICATION FOR GREYBACK CANEGRUB

F.2B INCORRECT SUSCON MAXI INTEL APPLICATION AT FILL-IN OR HILL-UP



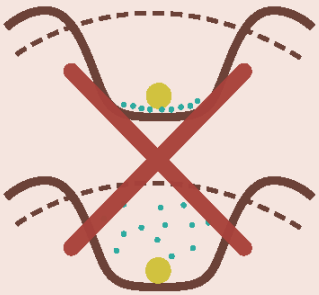
INCORRECT APPLICATION AT FILL-IN OR HILL-UP

Do not apply a band wider than 200 mm

→ Too diluted for adequate protection.

SEE FIGURE 2A FOR CORRECT APPLICATION

F.3B INCORRECT SUSCON MAXI INTEL APPLICATION AT PLANTING



INCORRECT APPLICATION AT PLANTING

Do not apply in a manner in which the granules fall below the sett at planting

→ Too low in the soil profile for adequate protection against greyback canegrub.

Do not mix throughout the soil profile at planting

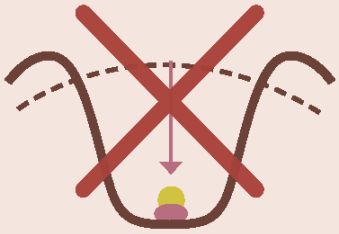
→ Too diluted for adequate protection

→ Risk of runoff losses.

Do not apply any wider than 200 mm.

SEE FIGURE 3A FOR CORRECT APPLICATION

F.4B INCORRECT LIQUID IMIDACLOPRID APPLICATION AT PLANTING



DO NOT APPLY WITH THE SETT AT PLANTING

→ Too low in the soil profile

→ Too early: insufficient active remaining when it is needed for grub control.

SEE FIGURE 4A FOR CORRECT APPLICATION

F.5B INCORRECT STOOL SPLITTING

INCORRECT STOOL SPLITTING

Do not surface apply.

Do not apply shallower than 100 mm.

Do not leave the slot open

→ Risk of runoff and UV degradation.

SEE FIGURE 5A FOR CORRECT APPLICATION

F.6B INCORRECT SIDE DRESSING

INCORRECT SIDE DRESSING

Do not surface apply.

Do not apply shallower than 100 mm.

Do not leave the slot open

→ Risk of runoff and UV degradation.

SEE FIGURE 6A FOR CORRECT APPLICATION

CHEMICAL CONTROL

Although the life-stages targeted by chemical insecticide are the root-feeding early to late instars, which occur from January to May, insecticides are applied several months earlier. Because of the movement of the early and late instars in the soil it is important to ensure insecticide placement is made at the correct time, rate, depth and width to maximise this control option (Figure 2A - 6A).

Incorrect application of imidacloprid based products will result in inadequate protection from cane grubs, economic losses and potential environmental losses (Figure 2B - 6B).

When moderate to high grub pressure is expected (> 2 grubs / stool), use high label rates. Imidacloprid has three modes of action - it is toxic on ingestion, acts as a repellent and acts through contact with the grubs cuticle - therefore correct placement is essential to maximise efficacy (Figure 7).

Key references

Horsfield, A., *et al.* 2008. Role of climatic factors on damage incidence by *Dermolepida albohirtum* (Coleoptera: Scarabaeidae), in Burdekin sugarcane. Journal of Economic Entomology 101: 334–340.

Illingworth JF & Dodd AP. 1921. Australian sugar-cane beetles and their allies. Bulletin of Queensland Bureau of Sugar Experiment Station, Division of Entomology 16, 1–104.

Jarvis E. 1926. Notes on Queensland cane insects and their control. Bureau of Sugar Experiment Stations, Division of Entomology Bulletin 19, 1–72.

Sallam, N. 2011. Review of current knowledge on the population dynamics of *Dermolepida albohirtum* (Waterhouse) (Coleoptera: Scarabaeidae). Australian Journal of Entomology, 50: 300-308.

Ward, AL. 2003. Does soil texture influence the distribution of the greyback canegrub, *Dermolepida albohirtum* (Waterhouse) (Coleoptera: Scarabaeidae), in the Burdekin River sugarcane growing area? Australian Journal of Agricultural Research 54, 861–868

REGISTERED IMIDACLOPRID FORMULATIONS

- Liquid formulation: Nuprid® 350SC and a range of generic liquid brands
- Controlled release granule: suSCon maxi Intel®.

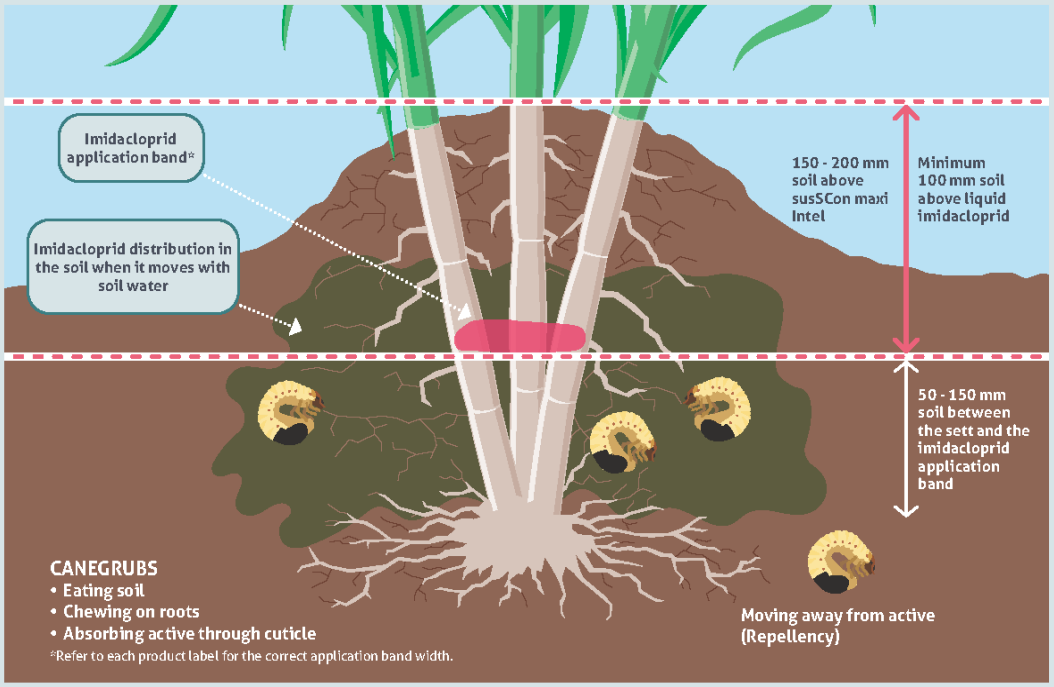
Rates of application are expressed in ml or g active per 100 linear metre of row, which means your rate per hectare varies with your row spacing (Table 1).

T1 RATE CONVERSION FOR IMIDACLOPRID PRODUCTS

	Rate per 100 linear metre row for high grub pressure	Rate per ha, 1.5 m row spacing	Rate per ha, 1.56 m row spacing	Rate per ha, 1.65 m row spacing	Rate per ha, 1.8 m row spacing	Rate per ha, 2m row spacing
Liquid (i.e. Nuprid® 350SC)	22 ml	1.47 L	1.41 L	1.33 L	1.22 L	1.1 L
suSCon maxi Intel®	225 g	15 kg	14.4 kg	13.9 kg	12.5 kg	11.25 kg

In dual row, apply half the rate on each row.

F.7 ILLUSTRATION OF OPTIMUM IMIDACLOPRID PLACEMENT FOR GREYBACK CANEGRUB CONTROL



Scan the QR to watch an animated video on placement of imidacloprid for Greyback Canegrub control.

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Getting Full Value From Mill Products

With the huge increases in fertilizer prices experienced in recent months, cost effective nutrient management is essential for growers to maintain economic viability. Mill mud and mud/ash have long been a component of many growers' nutrient programs and with the escalating price of standard inorganic fertilizers, the economic case for using mill mud products has never been so strong. While they have also increased in price, the increases for the mill mud products are very much lower than for other fertilizer products. This is illustrated in the table below, which shows the escalation in value of the nutrients contained in mill mud:

	Nutrient Value in Mill Mud - June 2021		Nutrient Value in Mill Mud - June 2022
	Available nutrients in 150t mud in first year	Nutrient value in first year	Nutrient value in first year
Nitrogen	80	$150	$252
Phosphorus	120	$412	$659
Potassium	40	$57	$124
Sulphur	10	$7	$15
Calcium	360	$162	$112
		$788	**$1162**

The high nutrient value in the mill mud products make it essential that these nutrients are fully taken into account in the total fertilizer program.

Mill mud products have the following attributes:

- In addition to the major nutrients they contain (nitrogen, phosphorus, potassium and sulphur) they also supply calcium, magnesium, zinc, copper and manganese.
- Improve soil texture and structure
- Improve soil water storage
- Increase soil pH

Mill ash is also a very important supplier of silicon which is becoming deficient in some soils, and helps improve soil permeability and treat sodicity.

Not all the nutrients in mud products are available straight away. The table below shows the nutrients the cane can use in the first year and their dollar value.

	Nutrient Value $/kg	Mill Mud		Mud/Ash	
		Available nutrients in 150t mud in first year	Nutrient value in first year	Available nutrients in 150t mud/ash in first year	Nutrient value in first year
Nitrogen	$3.15	80	$252	50	$158
Phosphorus	$5.49	120	$659	100	$549
Potassium	$3.11	40	$124	120	$373
Sulphur	$1.46	10	$15	10	$15
Calcium	$0.31	360	$112	270	$84
			$1162		**$1179**

The following example indicates how taking into account the nutrients in mill products can reduce the total cost of a fertilizer program. Consider a replant crop requiring 150kg/ha nitrogen, 20kg/ha phosphorus, 100kg/ha potassium and 10 kg/ha sulphur. Applying 150t/ha of mud/ash would supply all the sulphur and potassium required plus 50kg of the nitrogen and 20kg/ha of the phosphorus. This has a total value of $594 which could be deducted from the cost of the inorganic fertilizer.

Note that additional nutrients in mill products become available during the remainder of the crop cycle, adding further economic value which has not been considered in the example above.

Note that if you apply more than 100 t/ha of mud it must be accounted for under reef regulations.

Mill mud can also be utilised in growing a break crop: a little nitrogen at the start of planting makes a difference and doesn't affect nodulation. Banded mill mud at 50t/ha is easily accessible and will supply all the nutrients needed. There will also be a carryover of N, P and calcium for the next cane crop (see table below). The best time to plant a grain crop is Dec/Jan, while a green manure crop can be earlier. Get in touch with your MAPS Productivity Officer to discuss your options in getting the best value out of the mill products.

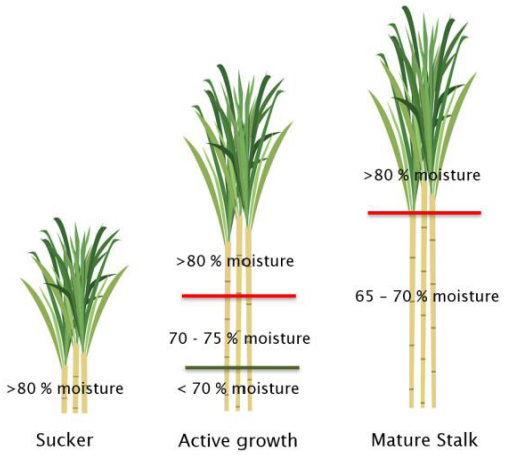
MUD	**50 t/ha**	Estimated **available** nutrients (kg/ha)		
Nutrients	Typical nutrient content (kg/ha)	1st crop	2nd crop	3rd & 4th crop
Nitrogen	140	25	15	0
Phosphorus	140	sufficient	sufficient	sufficient
Potassium	40	15	0	0
Sulfur	15	5	0	0
Calcium (0.7 t/ha lime)	280	Calcium needs met	Calcium needs met	Calcium needs met

SRA CENTRAL DISTRICT - CROP RIPENER DEMONSTRATIONS

Sugar Research Australia

What did we do:

- Selected two sites which had actively growing cane.
- Measured the cane to confirm that the average moisture in the stalk was above 70% (see the photo). This confirms that the cane is still actively growing.
- Applied Potus (250 g/L Trinexapac-ethyl) in May and harvested in June.
- Potus has the same active as Moddus.
- The aim was to artificially increase the maturity of the cane. We expected to see an increase in CCS and possibly a small reduction in cane yield at harvest.



What did we find:

- On average CCS in the Potus treated crop increased by around **0.8 to 0.9 units**
- On average yield of cane reduced by around 1 to 2 tonnes.
- The results were variable within each paddock, and the differences seen were not statistically significant.
- On average, the ripener acted as expected but variability within paddocks affected the results.
- On average the increase in sugar per hectare was greater than the cost of application.
- In the two trials it was in the range of **$312 to $440/ha** benefit to the grower after the application and chemical costs were deducted.

What are the learnings:

- There appears to be a potential benefit from the use of this crop ripener, but the specific selection of which crops to treat is an important consideration.
- Identify which crops are likely to benefit from the application of a ripener by testing moisture in the stalk. They must be actively growing and be harvested in 5 to 8 weeks after application.

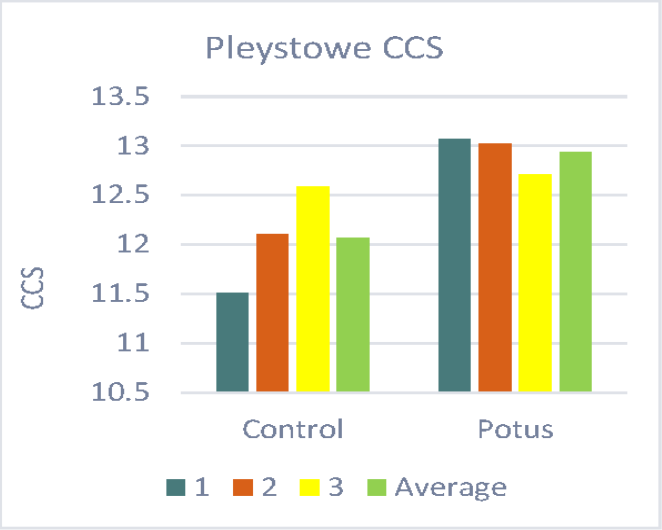
Trial design:

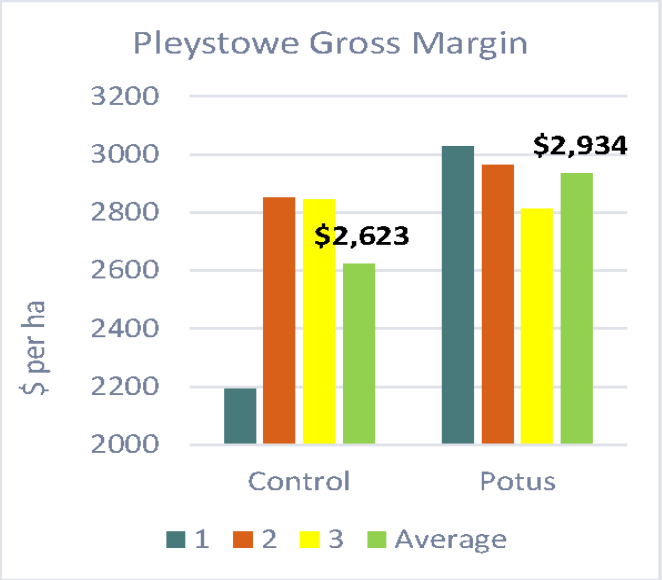
- The two demonstration sites were established in May, with harvest completed in the first 10% harvest round of the crushing season.
- Both demonstration sites prior to the treatment had an average moisture content of the stalk was >70% (measured with the SRA maturity trailer). That means both sites still had actively growing cane and would respond to Potus.
- Both demonstrations consisted of a control treatment and a Potus treatment (250 g/L Trinexapac-ethyl). Replicated strips were randomised across the paddock.
- Potus was applied as per label recommendation of 800 mL/ha and within the recommended window to harvest (5 to 8 weeks).
- The cost of product at time of application was $48 per ha, plus application cost.
- The treatments were applied through a drone due to the small, randomised treatments. In a commercial application, local helicopter contractors would offer a lower application cost ~$80/ha, for gross margin calculations, $130/ha for treatment (product + application).

If you are interested in using a crop ripener on your farm, please give us a call:

- Dylan Wedel, District Manager – Central, 0490 029 387, dwedel@sugarresearch.com.au
- Stephanie Duncan, District Delivery Officer, 0459 863 298, sduncan@sugarresearch.com.au

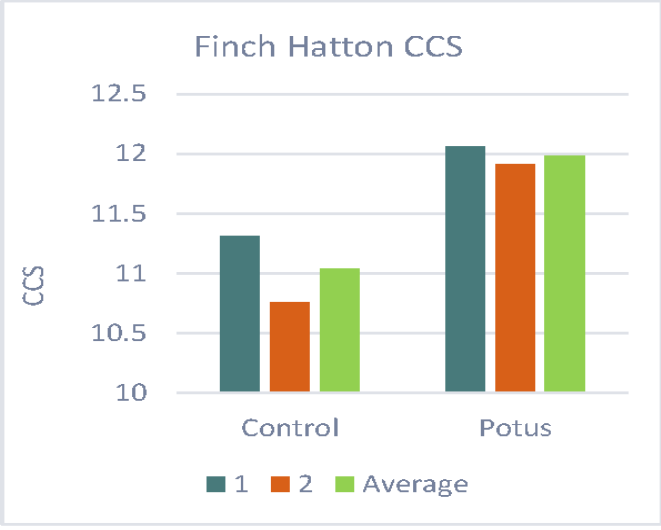
Pleystowe
Application Date: 5th May 2022
Crop Moisture at Time of Application: 75.21%
Harvest Date: 23rd June 2022
Variety: Q208
Area per Treatment: 0.8ha, **Total area**: 4.8ha
3 replicated strips of control and treatment
7 weeks from application to harvest

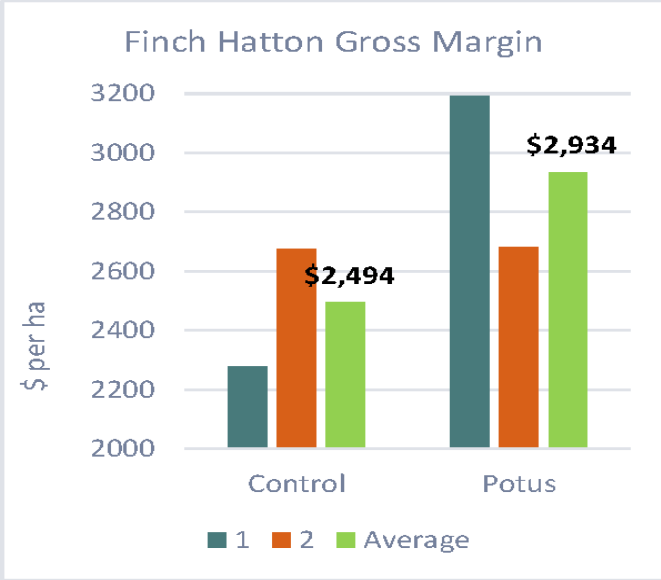




Average Results	CCS	t/ha	TSH
Control	12.07a	88.6a	10.7a
Potus	12.93a	86.7a	11.2a

Finch Hatton
Application Date: 27th May 2022
Crop Moisture at Time of Application: 73.15%
Harvest Date: 30th June 2022
Variety: Q183 Plant
Area per Treatment: 0.45ha, **Total area:** 1.82 ha
2 replicated strips of control and treatment
5 weeks from application to harvest





Average Results	CCS	t/ha	TSH
Control	11.04a	101.1a	11.2a
Potus	11.99a	100.0a	12.0a

Gross Margin Equation: (($550/t*0.009*(CCS-4)+1.12)*t/ha)-t/ha*$10/t(harvesting)-$130/ha(treatment)

Values followed by the same letter are not statistically different (P>0.05)

Mackay Sugar
Member of Nordzucker Group

Cane Productivity Team update

As of Thursday 21st July, 587,830 tonnes (12%) of the original 5.1Mt crop estimate has been harvested. The average CCS for the season is currently 11.79 and with the cold weather over the past month we should see this increase as we get further into the crush season.

While the recent rain has been good for crop growth, it has been difficult to keep the harvesting groups and mills working at capacity due to the wet conditions. We are anticipating an increase to our original crop estimate and as we get more of the crush over the rollers, we will provide an updated estimate of this year's crop.

As we started the crush, we said goodbye to Markus Reiners and welcome to Luke Malan who has taken on the role as Cane Productivity Manager. Luke comes to us from Townsville and has worked with growers in the Burdekin region over the past seven years. With a background in civil engineering and environmental science, Luke worked closely with growers to improve their productivity and profitability.

Luke Malan
Cane Productivity Manager

Our productivity incentive programs have generated significant interest with growers and resulted in substantial grower subscription to our 'farm development incentive', 'plant loan' and 'cane loss reduction incentive' programs.

Over the coming several months our focus in the Productivity Team is to become more proactive in minimising loss of acreage, with a hands-on approach to assist growers with improved productivity and profitability. The team will be assisting growers with farm sales and leases, generating interest in our incentive programs, and identifying opportunities for vertical and horizontal growth.