Sugar Research Australia

VARIETY GUIDE
2024/2025

Southern Region


115
MAXXUM

HOW TO USE THIS GUIDE

This guide is designed to help growers in the Southern cane growing region with their agronomic considerations when selecting new varieties to plant and trial on their farms. The information comes from the best available data of regional variety performance and disease ratings. ***The information in the tables will help you understand:***

WANT TO KNOW WHAT IS HAPPENING IN THE OTHER REGIONS?

You can find all the regional variety guides on the SRA website. Visit **sugarresearch.com.au** *or scan the QR code.*

(Cover page) *A rainbow over 1st Ratoon SRA32(1) at the Bundaberg station. SRA32(1) is on hold for release with the next decision on its progress to be made at the 2025 RVC.*
(Opposite) *Weigh bin tipping into the haul out. Each 10m plot in a trial is weighed and extrapolated to give tonnes cane/hectare.*

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NEW AND RECENT VARIETIES AVAILABLE IN THE SOUTHERN REGION

Variety Recommendation and Release Process

Regional Variety Committees (RVC) are responsible for variety release decisions. SRA supports these groups with secretariat support and the provision of technical information to assist the committee making decission on particular varieties. RVCs are composed of voting memebrs and observers to ensure transparency in the decision making process.

The Southern RVC (Sugarcane Biosecurity Zone 4 and 5) voting membership consists of one grower representative, one miller representative and one Prod Board Services representative from Bundaberg, Isis, Maryborough and Rocky Point mill areas, in total 12 voting members. Rocky Point also sits on the NSW RVC as an observer. The Southern RVC requires a majority vote for progression of a variety through the breeding program and a majority vote for the release of a variety.

If you would like more information on new variety releases and regional variety committees, please visit the SRA website:
sugarresearch.com.au
*or scan the **QR code***

Presented below are the results of trials conducted in the Southern region. Yield (TCH) and Commercial Cane Sugar (CCS) for each new variety are compared with the trial results of various standard varieties.

Variety: SRA44Φ QS13-1279		***Parentage:*** *QS99-482 x QS00-2319* ***/ Summary:*** *High tonnes, low CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**AVG YIELD (TCH)**				**AVG CCS**				**# OF HARVESTS**
		SRA44Φ	**Q208**Φ	**Q240**Φ	**KQ228**Φ	**SRA44**Φ	**Q208**Φ	**Q240**Φ	**KQ228**Φ	
(2018 FATs): 2019	Plant	99	99	86	90	13.9	14.7	15.2	15.1	4
2020	1R	104	99	93	92	14.9	15.7	16.3	16.1	3
2021	2R	117	114	104	103	14.3	15.1	15.7	15.6	4
(2020 Repeated FATs): 2021	Plant	129	112	112	115	13.0	14.0	14.6	14.6	3
2022	1R	121	118	120	122	13.8	14.8	15.3	15.5	3
2023	2R	**95**	**95**	**96**	**100**	**13.3**	**14.7**	**15.2**	**15.1**	**3**
Overall Performance		**111**	**106**	**101**	**103**	**13.9**	**14.8**	**15.4**	**15.4**	**20**
Available 2024										
Comments:		Southern clone released in 2024. Heavy stalk and good disease profile. Resistant to Fiji Leaf Gall, Pachymetra Root Rot, Smut and Mosaic. Intermediate resistance to Leaf scald and Red Rot. Low short fibre and average fibre content. Good harvestability.								

Variety: SRA38Φ QS10-863		***Parentage:*** *QS92-339 x TCP87-3388* ***/ Summary:*** *High tonnes cane, moderate CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**AVG YIELD (TCH)**				**AVG CCS**				**# OF HARVESTS**
		SRA38Φ	**Q208**Φ	**Q240**Φ	**KQ228**Φ	**SRA38**Φ	**Q208**Φ	**Q240**Φ	**KQ228**Φ	
(2016 FATs): 2017	Plant	101	100	100	105	15.7	16.0	16.0	15.9	5
2018	1R	102	91	98	99	15.0	14.7	15.1	15.4	5
2019	2R	89	81	80	81	14.6	14.3	14.7	15.0	5
(2018 Repeated FATs): 2019	Plant	99	99	86	90	14.8	14.7	15.2	15.1	4
2020	1R	106	99	93	92	16.0	15.7	16.3	16.1	3
2021	2R	**115**	**114**	**104**	**103**	**15.5**	**15.1**	**15.7**	**15.6**	**4**
Overall Performance		**101**	**97**	**93**	**95**	**15.2**	**15.0**	**15.5**	**15.5**	**26**
Available 2022										
Comments:		Southern clone released in 2022. Maintains productivity in ratoons. Resistant to Pachymetra Root Rot, Mosaic and Fiji Leaf Gall and intermediate resistant to Smut and Leaf Scald. Good fibre quality trends and average fibre content. Lodging has been recorded in trials.								

SRA44(D)

SRA38(D)

For more information on variety field trials contact:
Variety Officer Southern

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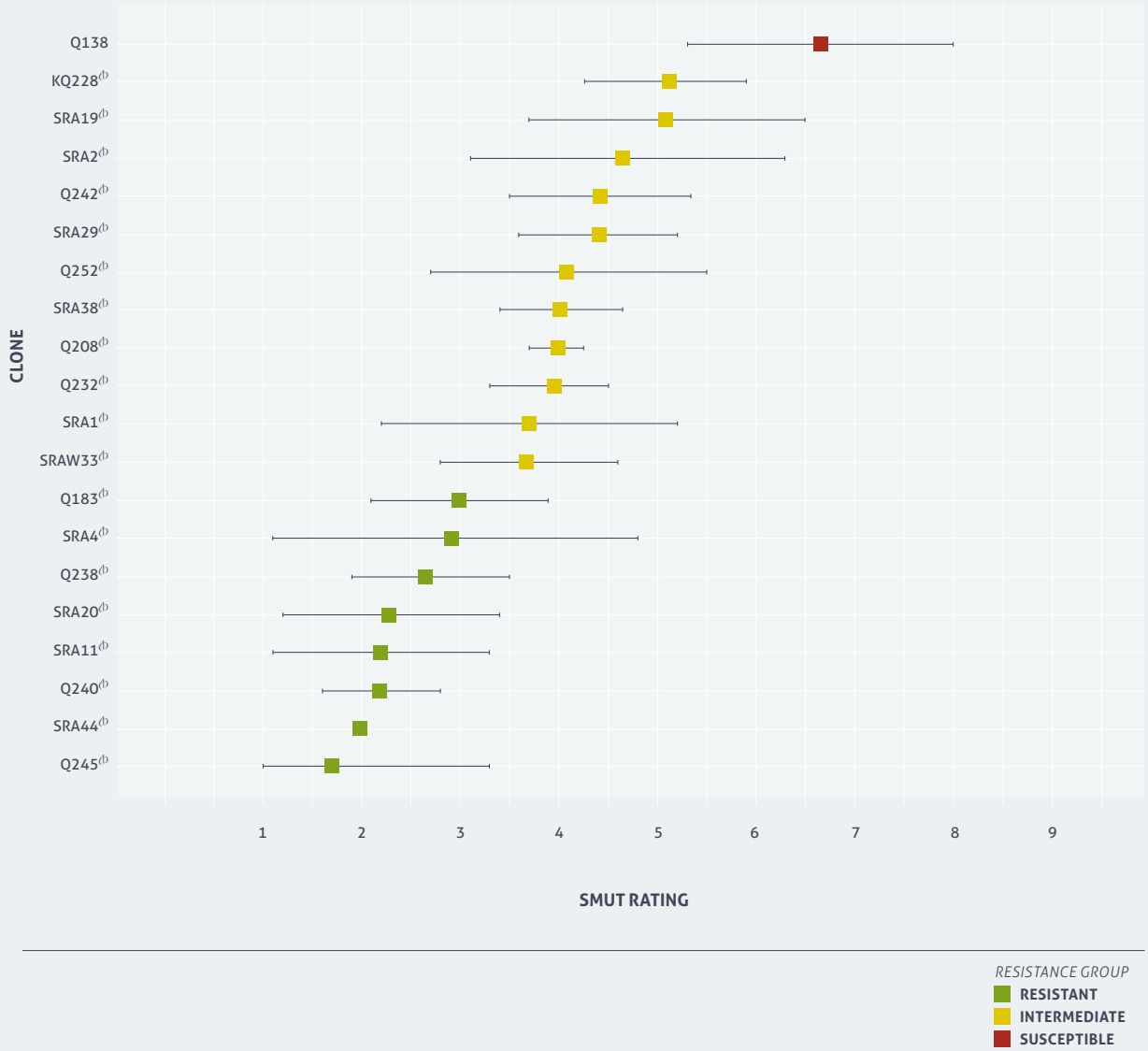
SMUT RATINGS

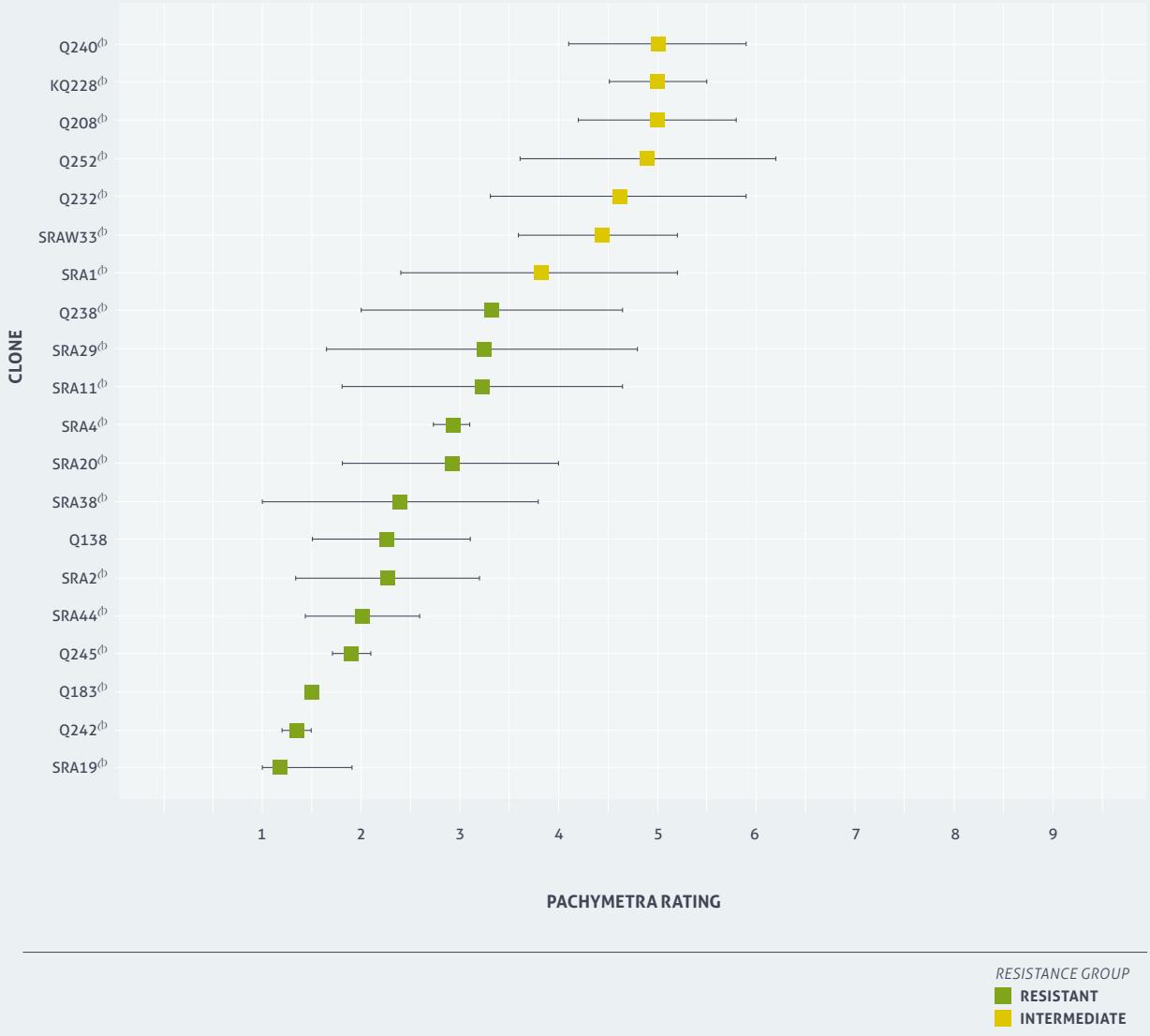
Smut resistance ratings are calculated in inoculated field trials by assessing the incidence and severity of infection compared to standard varieties. The graph below includes the rating and the 95% confidence interval for each variety. The confidence interval is influenced by the number of trials and the uniformity of smut infection, indicating a scale of resistance, rather than a fixed number. SRA44◊ has shown consistent results across trials and therefore has a confidence interval of 0. Q208◊ has a rating of 4 with a narrow confidence interval of 3.6 to 4.2. SRA20◊ has a rating of 2 with a confidence interval from 1.1 to 3.4. Rating confidence for varieties will improve as more data is collected.



PACHYMETRA RATINGS

Pachymetra resistance ratings are calculated from the severity of infection in a test clone compared to standard varieties in inoculated bench trials. The graph below includes the rating and the 95% confidence interval for each variety. The confidence interval is influenced by the number of trials and the uniformity of pachymetra infection, indicating a scale of resistance, rather than a fixed number. Q183ф has shown consistent results across trials and therefore has a confidence interval of 0. Q208ф has a rating of 5 and has a narrow confidence interval from 4.1 to 5.6 while the newer variety.

SRA20ф has a rating of 2.9 and ranges from 1.6 to 4.0. Rating confidence for each variety will improve as more data is collected.



HARVEST MANAGEMENT

Select varieties for a harvest plan that can be followed to maintain maximum CCS throughout the year. The tables below indicate early, mid and late sugar varieties.

Bundaberg and Isis					
VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	TRASHING	LODGING
SRA38ф	Average	Average	Good	Free-Average	Poor
SRAW33ф	Average	Good	Good	Average	Average
SRA29ф	Average	Average	Average	Free	Average
SRA20ф	Poor	Average	Good	Free-Average	Average
SRA19ф	Poor	Average	Good	Average	Average
SRA11ф	Average	Good	Good	Free	Good
SRA4ф	Average	Average	Average	Average	Good
SRA2ф	Good	Good	Good	Free-Average	Average
SRA1ф	Good	Good	Good	Average	Poor
Q252ф	Good	Good	Good	Free	Average
Q247ф	Poor	Poor	Poor	Tight	Good
Q245ф	Poor	Average	Average	Average	Average
Q242ф	Average	Average	Poor	Average-Tight	Poor
Q240ф	Good	Good	Average	Free-Average	Average
Q238ф	Poor	Average	Average	Average	Good
Q232ф	Poor	Average	Poor	Tight	Poor
KQ228ф	Good	Good	Average	Average-Tight	Average
Q208ф	Average	Good	Good	Free	Average
Q151ф	Good	Average	Poor	Average-Tight	Average
Q183ф	Poor	Average	Good	Free-Average	Average
Q138	Poor	Poor	Poor	Average	Average

Maximise your profit at harvest: Selecting varieties for specific sugar maturity profiles, planting and harvesting them for optimal CCS maturity can make a significant difference in the profit your crop can make for you. Making harvest decisions based on in-field maturity maximises profit making decisions.

TRASHING
- FREE
- FREE-AVERAGE
- AVERAGE
- AVERAGE-TIGHT
- TIGHT

SEASONAL SUGAR AND LODGING
- GOOD
- AVERAGE
- LOW
- POOR
- UNKNOWN

Rocky Point

VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	TRASHING	LODGING
SRA38ф	Average	Average	Good	Free-Average	Poor
SRAW33ф	Average	Good	Average	Average	Average
SRA11ф	Average	Average	Average	Free	Unknown
SRA4ф	Average	Average	Average	Average	Unknown
SRA2ф	Good	Good	Average	Free-Average	Average
Q252ф	Good	Good	Good	Free	Average
Q242ф	Good	Good	Good	Average-Tight	Poor
Q240ф	Good	Good	Average	Free-Average	Average
Q238ф	Average	Good	Good	Average	Good
Q235ф	Good	Good	Average	Unknown	Poor
Q232ф	Poor	Average	Average	Tight	Unknown
KQ228ф	Good	Good	Average	Average-Tight	Average
Q208ф	Average	Average	Average	Free	Average
Q183ф	Average	Good	Good	Free-Average	Average
Q155ф	Good	Average	Average	Average	Average
Q138	Average	Average	Average	Tight	Unknown

Maryborough

VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	TRASHING	LODGING
SRAW33ф	Average	Good	Good	Average	Average
SRA29ф	Average	Average	Average	Free	Average
SRA20ф	Poor	Average	Good	Free-Average	Average
SRA19ф	Poor	Average	Good	Average	Average
SRA11ф	Average	Good	Good	Free	Good
Q252ф	Good	Good	Average	Free	Average
Q245ф	Poor	Average	Average	Average	Average
Q242ф	Average	Average	Average	Average-Tight	Poor
Q240ф	Good	Good	Average	Free-Average	Average
Q238ф	Poor	Average	Average	Average	Good
Q232ф	Poor	Average	Average	Tight	Average
KQ228ф	Good	Good	Average	Average-Tight	Average
Q208ф	Average	Good	Good	Free	Average
Q183ф	Poor	Average	Good	Free-Average	Average
Q138	Average	Average	Average	Average	Good

TRASHING

- FREE
- FREE-AVERAGE
- AVERAGE
- AVERAGE-TIGHT
- TIGHT

SEASONAL SUGAR AND LODGING

- GOOD
- AVERAGE
- LOW
- POOR
- UNKNOWN

VARIETY BY HERBICIDE SCREENING TRIALS

Sugarcane varieties are known to have variable responses to herbicides with some being more impacted than others. As a result, data outlining susceptibility is critical to optimise productivity outcomes.

Since 2014, SRA has conducted trials following a two-step process to obtain reliable data for the susceptibility of varieties to herbicide. This process is:

- a fully randomised replicated pot trial in year one to shortlist the most susceptible combinations of varieties and herbicides
- a fully randomised replicated field trial in year two to confirm that the shortlisted combinations have an impact on yield.

In year three, the two-step process starts again, with new combinations of newly released varieties and herbicides.

In these trials, products are applied at their maximum label rate (and their minimum water label rate) when plant cane is at four- to six-leaf stage.

In the pot trials, weekly phytotoxicity ratings are conducted using the European Weed Research Council (EWRC) rating scale **Table 1** and the aerial plant dry biomass is measured 10 weeks after spraying.

In the field trials, plant cane yield is measured at harvest using a weigh truck.

In all trials, KQ228$^{\Phi}$ is assessed and used as a susceptible reference variety to compare to other tested varieties.

Table 2 describes the phytotoxicity symptoms obtained on KQ228$^{\Phi}$ and their expected severity. All varieties present identical symptoms but their severity may vary between varieties.

Tables 3, 4 and 5 summarise all phytotoxicity, biomass and yield results obtained in the pot and field trials from 2014 to 2022.

These tables are updated yearly to include newly tested combinations of varieties by herbicides.

For more information contact:
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TABLE 1. EWRC selectivity rating scale

SCORE	SELECTIVITY
1	No effect
2	Very slight effects. Some stunting and yellowing just visible
3	Slight effects. Stunting and yellowing obvious, effects reversible
4	Substantial chlorosis and or stunting, most effects probably reversible
5	Strong chlorosis/stunting, thinning of stand (50% loss)
6	Increasing severity of damage (70% loss)
7	Increasing severity of damage (85% loss)
8	Increasing severity of damage (90% loss) a few plants survive
9	Total loss of plants and yield

TABLE 2. Summary of phytotoxicity ratings and symptoms obtained on the reference susceptible variety KQ228$^{\Phi}$

	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY SULFURON	AMICARBAZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
DESCRIPTION OF SYMPTOMS	Small white spotty discolorations	Yellowing of the whole plant	Slight yellow blotching	Small white spotty discolorations	Bright yellow blotching	Slight yellowing of the whole plant	Large necrotic lesions	Small necrotic lesions	Slight yellowing of the whole plant	Large necrotic lesions
PHOTOGRAPH OF SYMPTOMS										
SYMPTOM SEVERITY ON KQ228$^{\Phi}$	Mild	Medium to severe	Mild	Mild	Medium	Mild	Severe	Medium	Mild	Medium to severe
KQ228$^{\Phi}$ PHYTO RATING RANGE										
	1.2 to 2.3	1.8 to 3.2	1.3	1.3 to 1.8	1.1 to 2.6	1.8 to 2.0	3.9 to 4.1	1.1 to 2.8	1.2 to 2.0	1.7 to 3.8

TABLE 3. Herbicide symptoms severity on the cane foliage for all testing varieties. (Legend: Refer to Table 1 (left) Page 10)

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228ϕ	**1.6**	**1.9**	**1.7**	**1.3**	**1.9**	**1.3**	**3.6**	**2.1**	**1.5**	**3.0**
Q208ϕ	1.5		1.6		1.8			2.0	1.4	2.9
Q232ϕ	1.6		1.8		1.9			2.2	1.6	3.0
Q238ϕ	1.7		1.8		2.0			2.3	1.6	3.1
Q240ϕ	1.6		1.7		1.8			2.1	1.5	2.9
Q242ϕ	1.6		1.8		1.9			2.2	1.6	3.0
Q249ϕ	1.6		1.7		1.9			2.2	1.6	3.0
Q252ϕ	1.6		1.7		1.8			2.1	1.5	3.0
SRA1ϕ	1.3	1.7			1.6			1.9	1.3	2.7
SRA2ϕ	1.7	2.0			2.0			2.2	1.6	3.1
SRA4ϕ	1.6	1.9		1.3	1.9	1.4		2.2	1.6	3.0
SRA11ϕ	1.6	2.0		1.4	1.9		3.7	2.2	1.6	3.0
SRA19ϕ	1.4	1.8		1.1	1.7	1.2		2.0	1.4	2.8
SRA20ϕ	1.8	2.1		1.5	2.0	1.5		2.3	1.7	3.1
SRA29ϕ	1.8	2.1		1.5	2.0	1.5		2.3	1.7	3.1

The predicted EWRC scores and associated colour code are presented for each tested combination of herbicides by variety. The predicted EWRC scores derive from the average EWRC scores for each trial series, using KQ228ϕ as reference variety, in an attempt to harmonise trial variations as symptom severity can vary between trials: weather conditions at application, and/or during the trial can alter cane growth and herbicide response. Predicted EWRC scores derive from average EWRC scores across the 10-week assessment period, which means higher symptoms intensity and scores could have been observed during the assessment period.

TABLE 4. Percentage sugarcane dry biomass reduction in the pot trial (10 weeks after spraying) compared to the untreated control. (Legend: bottom of page)

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228ϕ	**-19%**	**-46%**	**-55%**	**-15%**	**-16%**	**-14%**	**-36%**	no reduction	**-25%**	**-21%**
Q208ϕ	-29%		-33%		-12%			-51%	-21%	-50%
Q232ϕ	-13%		-42%		-26%			-33%	-13%	-33%
Q238ϕ	-40%		-34%		-62%			-35%	-32%	-39%
Q240ϕ	-36%		-28%		-41%			-7%	-21%	-37%
Q242ϕ	-14%		-12%		no reduction			no reduction	-7%	-12%
Q249ϕ	-54%		-46%		-61%			-24%	-7%	-65%
Q252ϕ	-38%		-11%		no reduction			-6%	-20%	-26%
SRA1ϕ	no reduction	no reduction			no reduction			no reduction	no reduction	no reduction
SRA2ϕ	no reduction	-5%			no reduction			no reduction	no reduction	-10%
SRA4ϕ	-19%	no reduction		-26%	-45%			-16%	no reduction	-47%
SRA11ϕ	no reduction	-9%		-33%	-57%		-49%	-18%	no reduction	-31%
SRA19ϕ	-38%	-52%		-38%	-85%	no reduction		no reduction	-10%	-66%
SRA20ϕ	-31%	-21%		no reduction	-96%	-6%		-4%	-37%	-18%

The predicted biomass reduction in the pot trials is represented in a green-to-red scale. The predicted biomass reduction derives from the biomass reduction for each trial series, using KQ228ϕ as the reference variety, in an attempt to harmonise trial variations : weather conditions at application, and/or during the trial can alter cane growth and herbicide response. Predicted biomass reduction compared to the untreated control is indicated in the table (a negative value indicates a biomass reduction compared to the untreated). Severe biomass reductions recorded 10 weeks after spraying are typical, as the plant metabolism has just been diverted into detoxifying the applied herbicide to the detriment of its growth. Usually yield loss by harvest time is less severe as the plant has had more time to recover from its growth delay.

TABLE 5. Percentage yield reduction in the field trial (at harvest) compared to the untreated control. (Legend: bottom of page)

The predicted yield reduction in the field trials is represented in a green-to-red scale. The predicted yield reduction is derived from the yield reduction for each field trial series. The percentage value compared to the untreated is indicated in the table (a negative value indicates a yield reduction compared to the untreated).

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMI-CARBAZONE	ASULAM	METO-LACHLOR	METRI-BUZIN	MSMA
KQ228ϕ	no reduction	**-11%**		**-7%**	**-1%**		no reduction	**-1%**
Q232ϕ			-6%			no reduction	-4%	-1%
Q238ϕ			-8%			-3%	-5%	-13%
Q242ϕ			no reduction			-3%	-2%	-11%
SRA1ϕ					no reduction		no reduction	-9%
SRA2ϕ					-6%		-3%	-8%
SRA4ϕ					-8%		-3%	-8%
SRA11ϕ				-4%	-1%			

SLIGHT BIOMASS/YIELD REDUCTION IN POT/ FIELD TRIAL COMPARED TO UNTREATED

SEVERE BIOMASS/YIELD REDUCTION IN POT/ FIELD TRIAL COMPARED TO UNTREATED

NO BIOMASS/YIELD REDUCTION IN POT/ FIELD TRIAL COMPARED TO UNTREATED

MODERATE BIOMASS/YIELD REDUCTION IN POT/FIELD TRIAL COMPARED TO UNTREATED

Legend

% VALUE = BIOMASS/YIELD REDUCTION (-%) OR GAIN (+%) IN THE POT/FIELD TRIAL COMPARED TO THE UNTREATED

COMBINATION OF HERBICIDE BY VARIETY NOT TESTED

DISEASE RESISTANCE

The table below indicates disease ratings of the recommended varieties. Disease has the potential to lower the performance of varieties on your farm. This table will help you select varieties that will perform well given the diseases that may be present on your farm.

Southern Disease Ratings

VARIETY	MILL AREA RECOMMENDED	FIJI LEAF GALL	MOSAIC	LEAF SCALD	SMUT	CHLOROTIC STREAK	ORANGE RUST	BROWN RUST	RED ROT	YELLOW SPOT	PACHY-METRA
SRA44Ф	RP	R	R	I-R	R	U	U	U	I-R	U	R
SRA38Ф	B, RP	R	R	I-R	I-R	U	U	U	R	U	R
SRAW33Ф	B, I, M, RP	R	I-R	R	I-R	U	R	U	R	U	I-R
SRA29Ф	B, I, M	R	R	R	I-R	U	U	U	I	U	R
SRA20Ф	B, I, M	I	R	I	R	U	U	U	R	U	R
SRA19Ф	B, I, M	I	R	R	I	U	R	U	I-R	I	R
SRA11Ф	B, I, M, RP	R	R	R	R	U	R	U	I	U	R
SRA4Ф	B, RP	R	R	R	R	U	R	U	R	I	R
SRA2Ф	B, RP	R	I	R	I	U	I	U	R	I-R	R
SRA1Ф	I	I	R	R	I-R	U	R	R	I	I-R	I-R
Q252Ф	B, I, M, RP	I	R	R	I-R	U	R	U	R	I	I
Q247Ф	B	R	R	R	I-R	U	R	U	R	S	R
Q245Ф	B, I, M	R	R	R	R	U	R	U	S	R	R
Q242Ф	B, I, M, RP	R	R	R	I-R	I	R	U	I-R	R	R
Q240Ф	B, I, M, RP	I-S	R	R	R	I-R	R	U	R	I	I
Q238Ф	B, I, M, RP	I-R	R	R	R	S	R	U	I-R	S	R
Q235Ф	RP	R	R	R	I-R	I-S	I-R	U	R	R	R
Q232Ф	B, I, M, RP	I	R	R	I-R	R	R	U	I-R	R	I
KQ228Ф	B, I, M, RP	I	R	R	I	S	R	R	R	I	I
Q208Ф	B, I, M, RP	I-S	R	R	I-R	R	R	R	R	R	I
Q183Ф	B, I, M, RP	R	R	I	R	S	R	R	I	I-S	R
Q155Ф	RP	R	I	R	I-R	I	R	R	S	I	S
Q151Ф	B	R	R	R	R	U	R	R	I-R	U	I-S
Q138	B, I, M, RP	R	S	R	S	I-R	R	R	I-S	I	R

B BUNDABERG **M** MARYBOROUGH
I ISIS **RP** ROCKY POINT

Rotation of Varieties

Rotation of varieties for each crop cycle is important in the management of diseases. Arrange for your local productivity services officer to inspect your farm for disease. The *Diseases of Australian Sugarcane Field Guide* provides information on diseases including how to identify and manage them. The guide is available on the SRA website.
Visit sugarresearch.com.au or scan the QR code.

NOTE: You will note that RSD resistance ratings are not included in this variety guide. Varietal resistance is not one of the three pillars of RSD disease management; growers should continue to ensure that disease-free seed cane is used to establish crops, that crops are planted into volunteer-free land and equipment is decontaminated regularly.

No sugarcane varieties are resistant to RSD: they can all become infected, suffer yield losses, and further spread the disease. Some varieties are more sensitive to RSD and carry significantly higher levels of the bacteria. In situations where RSD is a high risk and hygiene measures are not guaranteed, it may be appropriate to avoid varieties such as KQ228Ф and Q252Ф.

- RESISTANT (R)
- INTERMEDIATE - RESISTANT (I-R)
- INTERMEDIATE (I)
- INTERMEDIATE - SUSCEPTIBLE (I-S)
- SUSCEPTIBLE (S)
- UNKNOWN (U)

VARIETY ADOPTION IN EACH MILL AREA

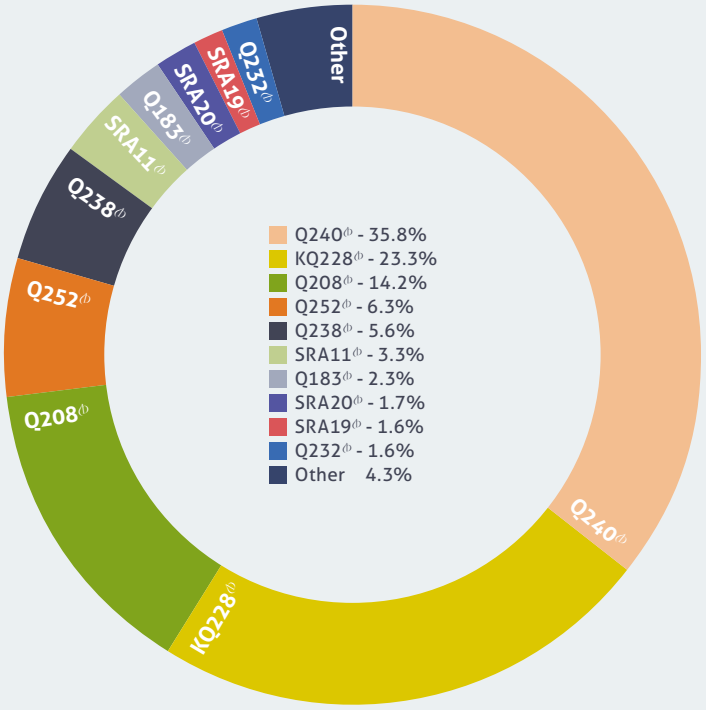
Use this information to assess yield performance of varieties over a number of years. Caution should be taken when comparing commercial performance of newer varieties (from plant and young ratoons) to older/established varieties (which include older ratoons).

Bundaberg (% TONNES 2023)

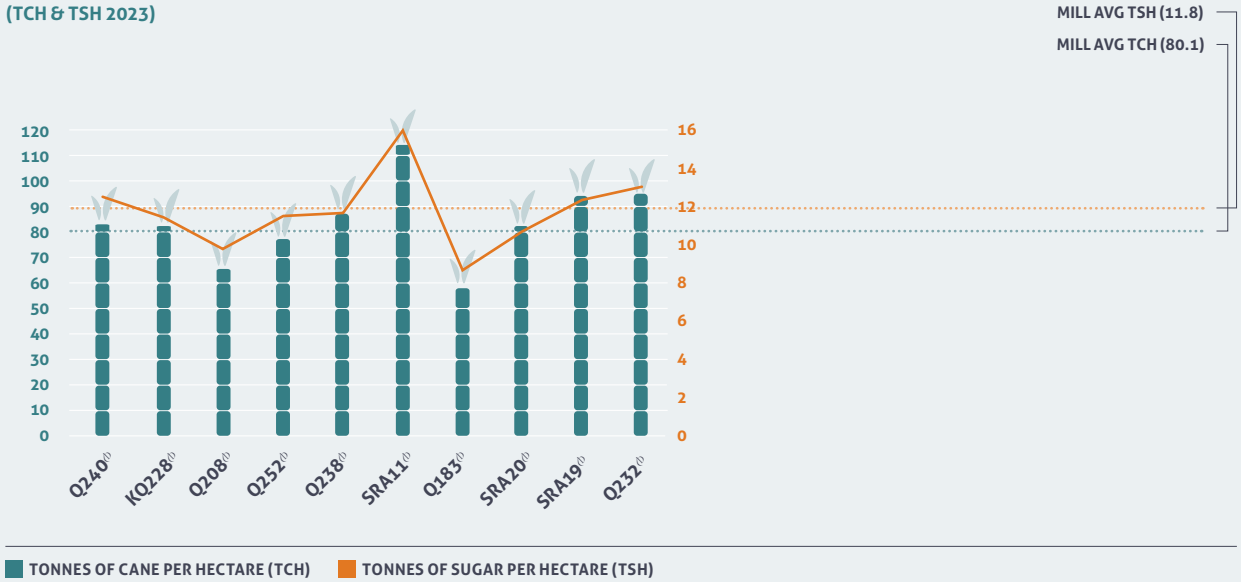
In 2023, a total of 989,298 tonnes of cane was harvested from 12,536 hectares in the Bundaberg region. The Bundaberg mill area had an average yield of 80.1 tonnes of cane per hectare and an average CCS of 14.7%.

Q240Φ continues its dominance as the majority variety in the Bundaberg region at 36 percent of production, similar to 2022. The top three varieties (Q240Φ, KQ228Φ and Q208Φ) together make up 73% of production. Production of SRA19Φ and that of SRA20Φ inecreased to above 1% of production in 2023.

Q183Φ, Q208Φ, Q240Φ and Q252Φ performed at or above mill average for CCS in 2023.



(TCH & TSH 2023)



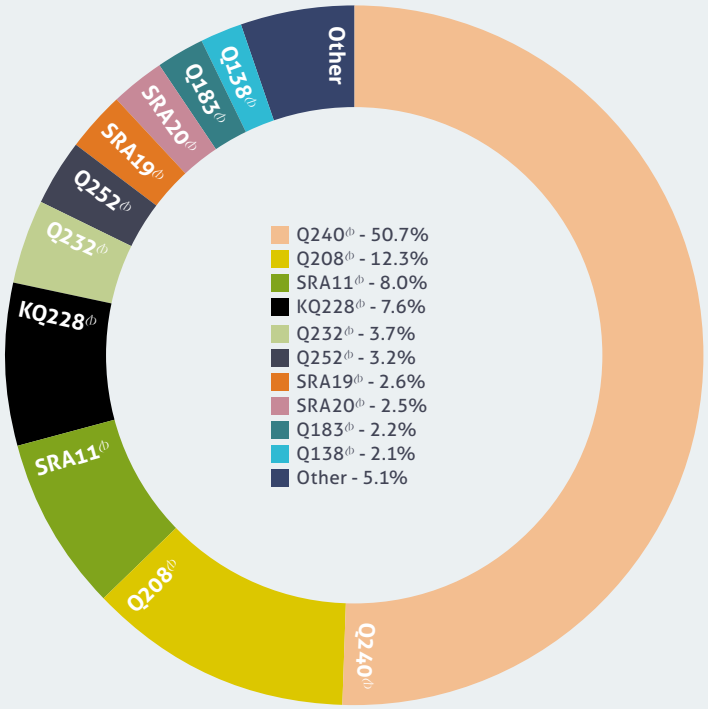
VARIETY ADOPTION IN EACH MILL AREA (CONT)

Isis (% TONNES 2023)

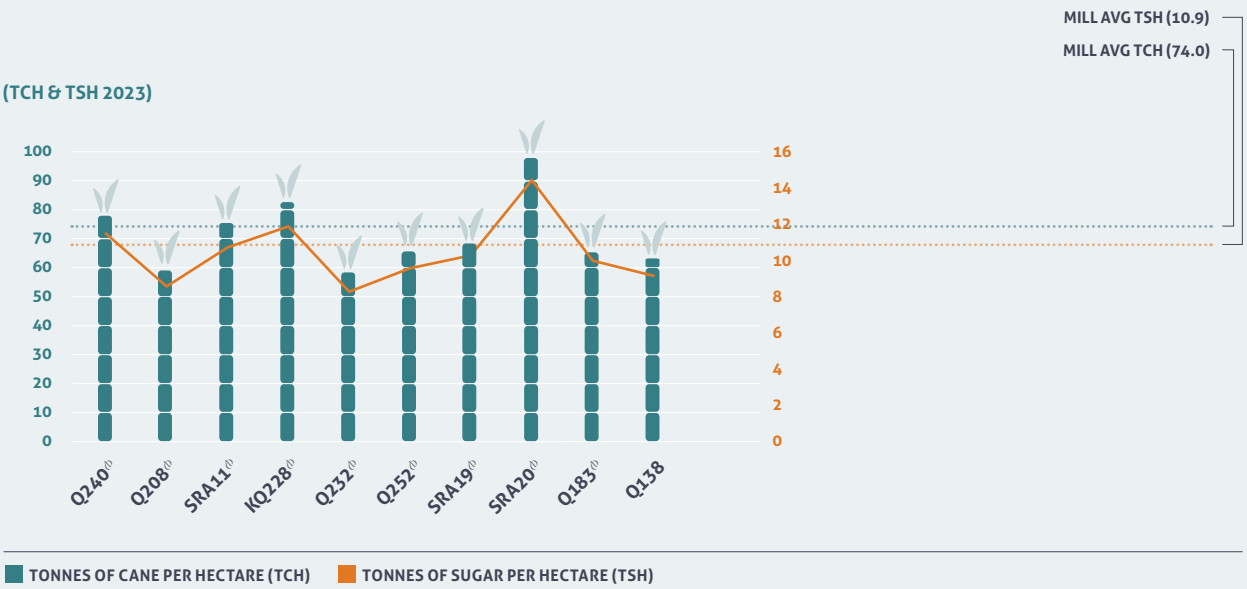
In 2023, a total of 1,035,609 tonnes of cane was harvested from 14,238 hectares in the Isis region. The Isis mill area had an average yield of 74.0 tonnes of cane per hectare and an average CCS of 14.7.

Q240Φ accounts for the majority of production in the Isis region with percent production up marginally from 50.4% in 2022 to 50.7% in 2023. Q208Φ had the second highest production at 12.3%. Varieties SRA19Φ and SRA20Φ have both moved to above 2% of production. A small quantity of SRA29Φ was also delivered to the mill (0.21% of production).

Q240Φ and SRA29Φ performed at or above mill average for CCS in 2023.



(TCH & TSH 2023)

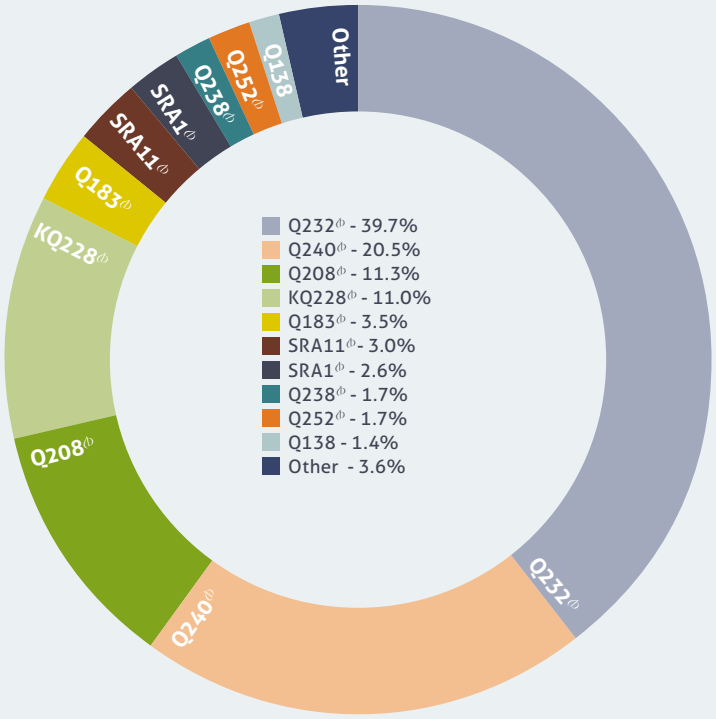


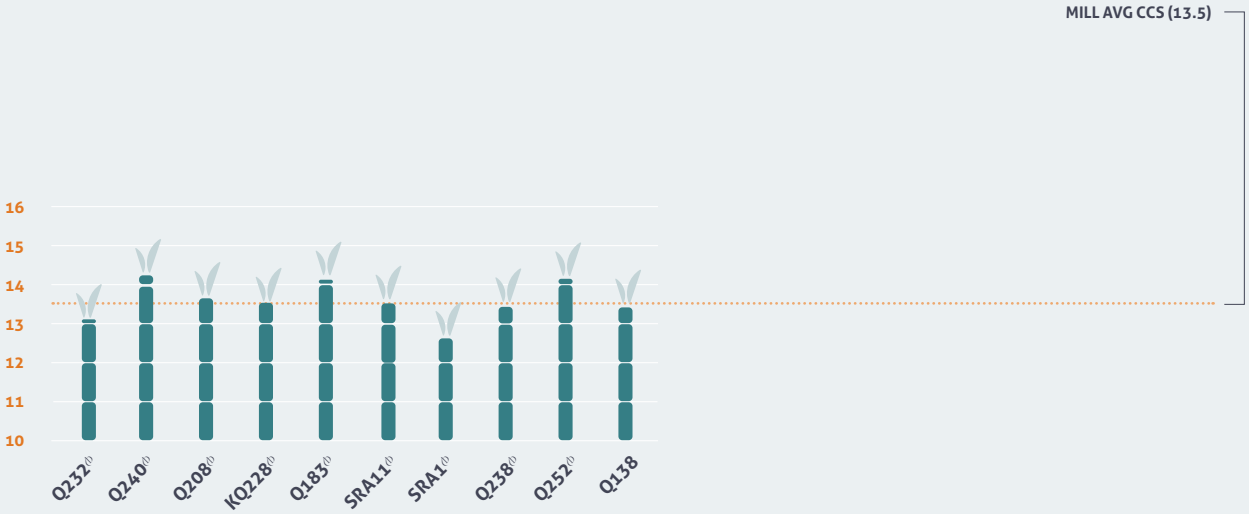
Rocky Point (% TONNES 2023)

In 2023, a total of 215,876 tonnes of cane was harvested in the Rocky Point region. The Rocky Point mill area had an average CCS of 13.5%. Area harvested was not reported.

Q232Φ remains the dominant variety in 2023, accounting for 39.7% of the total harvest, up 6% from the previous year. Q208Φ decreased by 7% to a total 11.3% of the crop while KQ228Φ and Q240Φ saw a 5% and 1% increase.

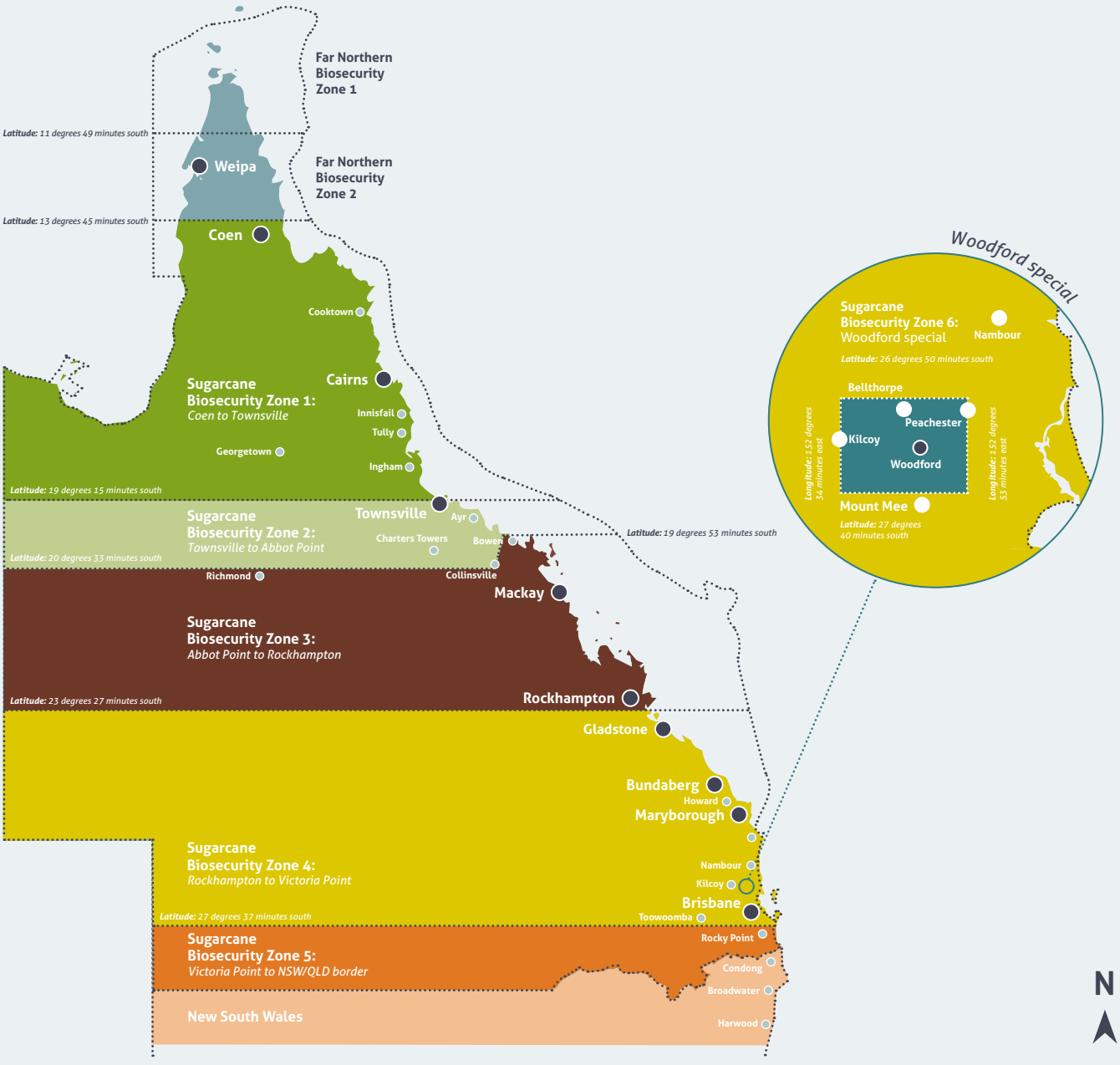
Q183Φ, Q208Φ, KQ228Φ, Q240Φ, Q252Φ and SRA11Φ performed at or above mill average for CCS in 2023.





Sugarcane flowering in a propagation plot. All flowering plots in trials are noted which is then relayed in this guide.

SUGARCANE BIOSECURITY ZONE MAP



- All appliances (harvesters and other sugarcane machinery) moving between sugarcane biosecurity zones must:
  - > be free of cane trash and soil
  - > be inspected by an authorised inspection person who will issue a Plant Health Assurance Certificate (PHAC)
  - > be accompanied during transportation by the PHAC.
- Machinery moving from NSW to Qld requires a Plant Health Certificate issued by NSW Department of Primary Industries.
- Machinery inspections can be arranged by contacting the local Productivity Service organisation.
- To move sugarcane plants (stalks, leaves, potted plants, etc) between biosecurity zones contact Biosecurity Queensland (13 25 23).

PROPAGATING NEW VARIETIES

Contact your local productivity services organisation for regional advice on varieties (see back page for details). They can supply approved planting material of varieties and place orders for tissue culture plantlets.

Billet planting

PLANT MATERIAL FROM AN APPROVED SEED SOURCE

Approved seed provides cane growers with the highest quality planting materials in terms of disease status and being 'true-to-type'. Approved seed (stalks, billets, setts or tissue culture plantlets used for planting) is a key control measure for systemic diseases of sugarcane, including chlorotic streak, Fiji leaf gall, leaf scald, mosaic, ratoon stunting disease (RSD) and smut. Provision of approved seed in each mill area in the Australian sugar industry is coordinated by SRA, in cooperation with the local productivity services group. SRA provides DNA fingerprinted new varieties which the local productivity services group then maintains and distributes the approved seed to growers.

GROW SUGARCANE SPECIFICALLY FOR PLANTING MATERIAL

The block selected for growing plant material should be weed-free and sugarcane volunteer-free. When selecting cane for planting material the cane should be less than one year old, erect and free from damage. Plan for two or more eyes per sett when harvesting for billets or stick planting. For non-irrigated regions plants should be well watered, have adequate nutrition immediately prior to harvest for billet planting. For irrigated regions you may need to reduce fertiliser rates, withhold irrigation, or plant late in the season. The cane should also have originated from an approved seed plot and therefore be no more than three years away from long hot water treatment.

The best "whole farm" disease risk minimisation and productivity strategies can be achieved through consistent access to approved seed. It is highly recommended that cane considered for use as planting material be RSD tested well in advanced of harvest so an informed choice can be made prior to planting.

SET UP THE HARVESTER FOR CUTTING HIGH QUALITY SOUND BILLETS

Rubber coating rollers and optimising the roller speeds to chopper speed will produce good quality billets with minimal split or crushed ends and damaged eyes. Reduce the speed of harvesting and maintain sharp basecutter and chopper blades for clean cutting. Disinfect the machinery used to cut and plant new varieties to limit the spread of disease and weeds.

Tissue culture

CALCULATE HOW MUCH TISSUE CULTURE TO ORDER

We've made it easier with our online tissue culture calculator. It demonstrates the speed at which large quantities of planting material can be produced from a set number of plantlets or for a set cost. Below is a look-up table including common results. The calculator is available on SRA's website. **Visit sugarresearch.com.au/calculator or scan the QR code.**

TRY TISSUE CULTURE AS AN APPROVED SEED SOURCE

Tissue culture is an excellent source of approved seed for all varieties and can help reduce the spread of serious diseases such as RSD, smut and Fiji leaf gall. Tissue-cultured plantings are more uniform and produce more sticks than conventional plantings so larger quantities of planting material are achieved the following year. This means earlier commercial-scale production of more productive new varieties can be achieved when using tissue culture.

STAGE	ORDER DEADLINE FOR SPRING PLANTING	ORDER DEADLINE FOR AUTUMN PLANTING
Grower finalises order. Productivity services group places order with SRA.	15 November	1 July
Productivity services group receives established plantlets from nursery and distributes to growers.	Delivery on agreed date between grower, productivity services group and nursery. Available in August.	Delivery on agreed date between grower, productivity services group and nursery. Available in March .

ESTIMATED COST AND TIME TO SCALE UP NEW VARIETY PRODUCTION USING TISSUE CULTURE

Yr 1	No. plantlets ordered	100	250	500	1000
	Approximate cost	$150	$375	$750	$1500
	Metre row planted @ 0.8m	80	200	400	800
Yr 2	Metre row available for planting	2400	6000	12000	24000
	Ha avail for planting @ 1.8m	0.4	1.1	2.2	4.3

For more information on *tissue culture* contact:
SRA Tissue Culture Manager **Clair Bolton** **E** cbolton@sugarresearch.com.au **T** 07 3331 3374

PLANTING AND MANAGING TISSUE-CULTURED PLANTLETS IN THE FIELD

Planting

- Prepare soil to a fine tilth to ensure good soil/root contact.
- A seedling planter can be used if one is available, although hand planting small numbers is not a huge job. Plant them deep at the bottom of a drill to prevent stool tipping.
- Fill in after early growth.
- Plant the plantlets 50cm to 1m apart. A good distance is 80cm, which will allow tillering to produce a high number of sticks.

Irrigating

- Provision of water is the most critical factor for the successful establishment of tissue culture plantlets.
- Irrigate plantlets immediately after planting and monitor them to ensure they don't dry out over the first three weeks to get the roots well established.
- If you do not have access to flood or sprinkler irrigation a simple irrigation system can be set up using cheap drip tape and an in-line filter hooked up to your garden tap or water tanker.

Weeds

Weed control is important for good establishment and growth.

- Ideally pre-irrigate the soil to germinate weeds, then apply a knock-down herbicide or cultivate just prior to planting to reduce the weed pressure on young plantlets.
- Allow at least one week after planting before applying pre-emergent herbicides, longer if planted into cold, wet soils, as the root system needs time to establish:
  - > Atradex® at 2.5kg/ha plus Dual Gold® at 1.5L/ha has been successfully applied over the top, for grass and broadleaf weed control.
  - > Do not use diuron as young plantlets are sensitive to this product.
- Sempra® at 100g/ha plus Activator at 200mL/100L for nutgrass. Both applications were sprayed over the top for nutgrass control.
- Do not use paraquat unless you have no other option and only on established plantings.

Insects

- If you expect problems with insects then an application of an insecticide drench (such as chlorpyrifos or imidacloprid) at planting will protect the young plantlets.
- In canegrub-prone areas use your standard grub control treatment.

Fertiliser

- Fertiliser requirements of the tissue cultured plantlets are the same as for billet plantings.
- If possible, plant with a planter mix to maintain good early growth, and side-dress later to avoid fertiliser burn.

Your local productivity services and agronomy groups:

Isis Productivity Ltd:
T 07 4126 1444

Maryborough Cane Productivity Services:
M 0487 017 811

Sugar Services Bundaberg:
T 07 4151 2555

Rocky Point Productivity Services:
T 07 5546 1481

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