Sugar Research Australia

VARIETY GUIDE 2020/2021

Northern Region

HOW TO USE THIS GUIDE

This guide is designed to help growers in the Northern canegrowing 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:***

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WANT TO KNOW WHAT IS HAPPENING IN THE OTHER REGIONS?

You can find all the regional variety guides on the SRA website ***sugarresearch.com.au***

(Cover page) *Northern Plant Breeding Team planting trial propagations.*

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NEW & RECENT VARIETIES AVAILABLE IN THE NORTHERN REGION

Variety Recommendation and Release Process

Regional Variety Committees (RVC) have replaced Variety Approval Committees (VAC) in line with changes to Queensland biosecurity legislation. With membership drawn from growers, millers and productivity service groups specific to the region, the RVCs are responsible for variety release decisions. SRA supports these groups with secretariat support and the provision of technical information to assist the committee making decisions on particular varieties.

RVCs are composed of voting and nonvoting members to ensure transparency in the decision making process.

The Northern RVC (Sugarcane Biosecurity Zone 1) membership consists of 1 grower and 1 miller representative from each of the Mossman, Mulgrave, South Johnstone, Tully and Tablelands regions. The Northern RVC requires a majority vote for progression of a variety through the breeding program and a unanimous vote for the release of a variety.

If you would like more information on ***new variety release and regional variety committees***, please visit the SRA website: ***sugarresearch.com.au/growers-and-millers/varieties/regional-variety-committees/***

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

Variety: SRA28 Q508-8776 — ***Parentage:*** *Q233Φ x Q135* / ***Summary:*** *Equal tonnes cane; equal CCS.*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
			SRA28	Q200Φ	Q208Φ	Q250Φ	SRA28	Q200Φ	Q208Φ	Q250Φ	
(2015 series FATs):	2016	Plant	126	126	124	116	15.3	15.1	15.0	16.0	4
	2017	1R	122	119	123	111	15.4	15.0	14.9	16.1	4
	2018	2R	100	95	98	83	17.5	17.3	17.3	18.2	4
(2018 series FATs):	2019	Plant	80	81	83	72	16.1	16.8	16.2	17.3	4
Overall performance			**107**	**105**	**107**	**96**	**16.1**	**16.0**	**15.8**	**16.9**	**16**
Available from 2020											

Comments: SRA28 results are from FATs planted in 2015 and 2018 (data from the 2018 FATs are still being collected). In these trials SRA28 was competitive with both Q200Φ and Q208Φ for cane yield and CCS across all sites and crop classes. SRA28 is a reliable germinator but may be sensitive to hot water treatment; its initial growth and tillering is also slower than most commercial varieties. It has good canopy closure, moderate stalk numbers and is erect in habit for good harvest presentation (suckering has been observed in some trials). It is also a sparse flowering variety. SRA28 has a good disease profile to most of our major diseases. It is resistant to Pachymetra root rot and Leaf Scald, and intermediate-resistant to smut.

Variety: SRA26Φ QN08-2282 — ***Parentage:*** *QN97-2122 x Q146* / ***Summary:*** *Equal tonnes cane; equal CCS*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
			SRA26Φ	Q200Φ	Q208Φ	Q250Φ	SRA26Φ	Q200Φ	Q208Φ	Q250Φ	
(2014 series FATs):	2015	Plant	103	101	103	99	15.4	15.5	15.5	16.1	4
	2016	1R	123	116	128	108	15.8	15.6	15.4	15.8	4
	2017	2R	104	99	109	88	15.4	15.1	15.1	15.7	4
(2017 series FATs):	2018	Plant	105	92	91	90	17.2	17.2	17.2	18.1	4
	2019	1R	87	81	82	77	16.8	16.8	16.6	17.6	4
(2018 series FATs):	2019	Plant	81	81	83	72	16.8	16.8	16.2	17.3	4
Overall Performance			**100**	**95**	**99**	**89**	**16.2**	**16.2**	**16.0**	**16.8**	**24**
Available from 2019											

Comments: SRA26Φ results are from FATs planted in 2014, 2017 and 2018 (data from the 2017 and 2018 FATs are still being collected). In these trials SRA26Φ was competitive with both Q200Φ and Q208Φ for cane yield and CCS across all sites and crop classes. SRA26Φ presents a prostrate habit early in its growth after germination, but will straighten up to stand erect. It has good canopy closure, moderate stalk numbers and is erect in habit for good harvest presentation. It is also a sparse flowering variety. SRA26Φ has an excellent disease profile with resistance to all major diseases including smut, Pachymetra root rot and Leaf Scald. The high demand for clean seed material of SRA26Φ resulted in it selling out in all Cane Productivity Services plots last year, as well as being the second most popular variety behind Q253Φ in tissue culture orders for the Northern Region. In anticipation of demand for SRA26Φ in 2020, clean seed availability has increased in both seed plots and through tissue culture.

Variety: SRA27 QA04-1448		***Parentage:** QN80-4316 x Q173ϕ / **Summary:** Lower tonnes cane (poorer ratoons); equal to lower CCS*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRA27	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	**SRA27**	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	
(2012 series FATs - Mulgrave and Tully): 2013	Plant	87	96	92	91	16.9	16.9	17.4	18.2	2
2014	1R	80	91	91	91	16.1	15.8	16.1	16.4	2
(2015 series FAT - Tully): 2016	Plant	118	122	122	112	14.9	15.2	15.4	16.0	1
2017	1R	169	180	177	157	15.4	15.3	15.4	17.1	1
2018	2R	87	122	126	105	16.7	17.0	17.1	17.5	1
Overall Coastal FAT Performance		**101**	**114**	**113**	**105**	**16.2**	**16.1**	**16.4**	**17.0**	**7**
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRA27	**Q208ϕ**	**Q256ϕ**		**SRA27**	**Q208ϕ**	**Q256ϕ**		
(2015 series TAB RVT): 2016	Plant	144	129	129		12.9	13.4	13.4		1
2017	1R	107	116	117		15.4	15.4	15.4		1
2018	2R	127	155	158		16.0	15.8	16.0		1
Overall Tableland RVT Performance		**126**	**133**	**134**		**14.8**	**14.9**	**14.9**		**3**
Available from 2019 in Tableland only										
Comments:	Due to poor germination during propagation, SRA27 has only been tested in 3 FATs and 1 Regional Variety Trial (RVT) on the Tablelands. The limited trial results indicate SRA27 is not commercially competitive in the Northern Coastal areas, with below average cane yield being more pronounced in ratoon crops. CCS was equal to or below the commercial standards in all trials. SRA27 has a modest disease resistance profile being intermediate-susceptible to Pachymetra root rot, intermediate to smut, and resistant to Leaf Scald. The Northern RVC approved the release of SRA27 as a niche option for the Tablelands only, and does not recommend broad adoption and production.									

Variety: SRA10ϕ QN06-807		***Parentage:** QN92-157 x QN91-3898 / **Summary:** Yield decline into ratoons; higher CCS*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRA10ϕ	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	**SRA10ϕ**	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	
(2012 series FATs): **2013**	Plant	106	102	94	96	17.6	16.9	17.4	18.2	4
2014	1R	96	91	90	92	16.4	16.1	16.3	16.5	4
2015	2R	94	99	103	90	16.2	15.8	16.2	15.9	4
(2015 series FATs): **2016**	Plant	115	126	124	116	15.7	15.1	15.0	16.0	4
2017	1R	111	119	123	111	15.7	15.0	14.9	16.1	4
2018	2R	75	95	98	83	17.7	17.3	17.3	18.2	4
(2016 series FATs): **2017**	Plant	89	104	99	99	16.2	15.5	15.6	16.2	4
2018	1R	68	84	88	79	17.5	16.9	17.0	17.5	4
2019	2R	70	84	81	78	17.4	16.7	16.6	17.3	4
(2017 series FATs): **2018**	Plant	90	92	91	90	17.5	17.2	17.2	18.1	4
2019	1R	74	81	82	77	17.2	16.8	16.5	17.6	4
(2018 series FATs - excludes Mulgrave): 2019	Plant	68	73	76	65	17.0	17.2	16.5	17.7	3
Overall Performance		**89**	**96**	**96**	**89**	**16.8**	**16.3**	**16.4**	**17.2**	**47**
Available from 2017										
Comments:	SRA10ϕ results are from FATs planted in 2012, 2015, 2016, 2017 and 2018 (ratoon data from the 2017 and 2018 FATs are still being collected). In 2017 the Northern RVC considered the issue of the declining yield of SRA10ϕ in second ratoon data from the 2012 series FATs, and recommended a limited release of SRA10ϕ while further ratooning data was being collected due to its CCS profile similar to Q250ϕ. SRA10ϕ's most recent ratoon data confirms SRA10ϕ's tendency to decline in yield into ratoons relative to commercial standards in FATs. SRA10ϕ is resistant to Leaf Scald, and intermediate-resistant to Pachymetra root rot, and intermediate to smut.									

Variety: SRA16Φ QS06-8817			***Parentage:** QN97-2328 x QN96-1162 / **Summary:** Equal tonnes cane; lower CCS*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA16Φ	**Q200Φ**	**Q208Φ**	**Q250Φ**	**SRA16Φ**	**Q200Φ**	**Q208Φ**	**Q250Φ**	
(2013 series FATs):	**2014**	Plant	95	89	97	86	16.1	16.5	16.1	16.6	4
	2015	1R	119	119	126	110	15.4	15.8	15.8	16.0	4
	2016	2R	113	114	121	91	15.5	15.8	15.8	16.5	4
(2016 series FATs):	**2017**	Plant	103	104	99	99	15.1	15.5	15.6	16.2	4
	2018	1R	92	84	88	79	16.6	16.9	17.0	17.5	4
	2019	2R	86	84	81	78	16.1	16.7	16.6	17.3	4
(2017 series FATs):	**2018**	Plant	93	92	91	90	16.8	17.2	17.2	18.1	4
	2019	1R	84	81	82	77	15.9	16.8	16.5	17.6	4
(2018 series FATs):	**2019**	Plant	79	81	83	72	16.3	16.8	16.2	17.3	4
Overall Performance			**96**	**94**	**96**	**87**	**16.0**	**16.4**	**16.3**	**17.1**	**36**
Available from 2018											
Comments:			SRA16Φ results are from the FATs planted in 2013, 2016, 2017 and 2018 (data from the 2017 and 2018 FATS are still being collected). In these FATs SRA16Φ's cane yield was competitive with the commercial standards; SRA16Φ's CCS was comparatively lower in FATs. SRA16Φ has good canopy closure, moderate-high stalk numbers and has an open stool which can sprawl in higher yielding crops. It is also a sparse flowering variety. SRA16Φ has an excellent disease profile with resistance to all major diseases including smut, Pachymetra root rot and Leaf Scald.								

Variety: SRA15Φ QS06-9119			***Parentage:** QS91-7008 x Q200Φ / **Summary:** Equal tonnes cane; equal CCS*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA15Φ	**Q200Φ**	**Q208Φ**	**Q250Φ**	**SRA15Φ**	**Q200Φ**	**Q208Φ**	**Q250Φ**	
(2013 series FATs):	**2014**	Plant	94	89	97	86	16.7	16.5	16.1	16.6	4
	2015	1R	122	119	126	110	16.0	15.8	15.8	16.0	4
	2016	2R	122	114	121	91	15.8	15.8	15.8	16.5	4
(2016 series FATs):	**2017**	Plant	109	104	99	99	15.6	15.5	15.6	16.2	4
	2018	1R	91	84	88	79	17.2	16.9	17.0	17.5	4
	2019	2R	89	84	81	78	16.8	16.7	16.6	17.3	4
(2017 series FATs):	**2018**	Plant	84	92	91	90	17.6	17.2	17.2	18.1	4
	2019	1R	82	81	82	77	16.4	16.8	16.5	17.6	4
(2018 series FATs):	**2019**	Plant	83	81	83	72	16.8	16.8	16.2	17.3	4
Overall Performance			**97**	**94**	**96**	**87**	**16.6**	**16.4**	**16.3**	**17.1**	**36**
Available from 2018											
Comments:			SRA15Φ results are from the FATs planted in 2013, 2016, 2017 and 2018 (data from the 2017 and 2018 FATS are still being collected). In these trials SRA15Φ was competitive with the commercial standards for both cane yield and CCS across all sites and crop classes. SRA15Φ is a moderate to profuse flowering variety with protruding eyes, especially when heavily flowered. SRA15Φ is resistant to Leaf Scald, intermediate-resistant to Pachymetra root rot, and intermediate-susceptible to smut (smut may be found in SRA15Φ under moderate to high spore-load when grown in the drier areas of the wet tropics).								

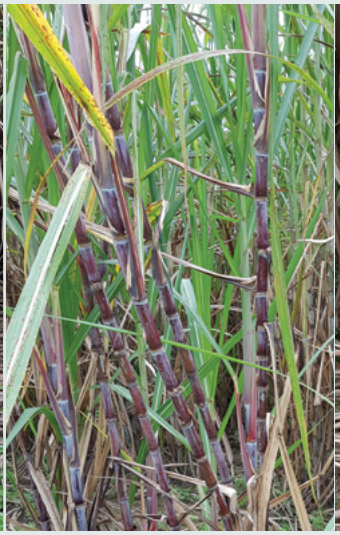
Variety: SRA25Φ QN08-1898			***Parentage:** Q241Φ x QC89-432 / **Summary:** Equal tonnes cane; lower CCS*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA25Φ	**Q200Φ**	**Q208Φ**	**Q250Φ**	**SRA25Φ**	**Q200Φ**	**Q208Φ**	**Q250Φ**	
(2014 series FATs):	**2015**	Plant	105	101	103	99	14.7	15.5	15.5	16.1	4
	2016	1R	129	116	128	108	14.9	15.6	15.4	15.8	4
	2017	2R	109	99	109	88	14.7	15.1	15.1	15.7	4
(2017 series FATs):	**2018**	Plant	87	92	91	90	17.2	17.2	17.2	18.1	4
	2019	1R	87	81	82	77	16.6	16.8	16.5	17.6	4
(2018 series FATs):	**2019**	Plant	81	81	83	72	16.1	16.8	16.2	17.3	4
Overall Performance			**100**	**95**	**99**	**89**	**15.7**	**16.2**	**16.0**	**16.8**	**24**
Available from 2019											
Comments:			SRA25Φ results are from FATs planted in 2014, 2017 and 2018 (data from the 2017 and 2018 FATs are still being collected). In these trials SRA25Φ was competitive with both Q200Φ and Q208Φ for cane yield and but lower in CCS across all sites and crop classes. SRA25Φ has a modest canopy cover, moderate to high numbers of thin stalks, and an open stool which can sprawl in larger crops. It is also a sparse flowering variety. SRA25Φ has a good disease resistance profile for most major diseases; it is resistant to Pachymetra root rot and Leaf Scald, intermediate-susceptible to smut, and susceptible to Red Rot.								

Variety: SRA7Φ	QN05-1071	*Parentage: QS87-8032 x QN86-139 / Summary: Higher tonnes cane; lower CCS*								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA7Φ	Q200Φ	Q208Φ	Q250Φ	SRA7Φ	Q200Φ	Q208Φ	Q250Φ	
(2011 series FATs): 2012	Plant	116	98	93	101	15.6	16.5	16.4	17.1	4
2013	1R	121	106	113	101	16.2	17.1	17.4	18.1	4
2014	2R	105	93	98	80	15.3	16.3	16.5	16.7	4
(2014 series FATs): 2015	Plant	110	101	103	99	14.1	15.5	15.5	16.1	4
2016	1R	123	116	128	108	14.4	15.6	15.4	15.8	4
2017	2R	106	99	109	88	13.9	15.1	15.1	15.7	4
(2015 series FATs): 2016	Plant	128	126	124	116	13.8	15.1	15.0	16.0	4
2017	1R	121	119	123	111	13.9	15.0	14.9	16.1	4
2018	2R	94	95	98	83	16.4	17.3	17.3	18.2	4
(2016 series FATs): 2017	Plant	106	104	99	99	14.0	15.5	15.6	16.2	4
2018	1R	87	84	88	79	15.7	16.9	17.0	17.5	4
2019	2R	86	84	81	78	14.8	16.7	16.6	17.3	4
(2017 series FATs): 2018	Plant	100	92	91	90	16.0	17.2	17.2	18.1	4
2019	1R	94	81	82	77	14.8	16.8	16.5	17.6	4
Overall Performance		**107**	**100**	**102**	**94**	**14.9**	**16.2**	**16.2**	**16.8**	**56**
Available from 2016										
Comments:	SRA7Φ was planted in five FAT series (2011, 2014, 2015, 2016 & 2017; ratoon data from the 2017 FATs are still being collected). SRA7Φ's cane yield was above-average, and CCS on average -1.0 unit, when compared with commercial standards. Cane yields were consistently maintained above the commercial standards across ratoon crops and soil types (where tested). It is also a sparse flowering variety. SRA7Φ is resistant to Leaf Scald, intermediate-resistant to smut, and intermediate to Pachymetra root rot.									

Variety: SRA6Φ	QN05-507	*Parentage: QN80-3425 x QH93-1197 / Summary: Equal tonnes cane; lower CCS*								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA6Φ	Q200Φ	Q208Φ	Q250Φ	SRA6Φ	Q200Φ	Q208Φ	Q250Φ	
(2011 series FATs): 2012	Plant	102	98	93	101	16.1	16.5	16.4	17.1	4
2013	1R	118	106	113	101	16.9	17.1	17.4	18.1	4
2014	2R	106	93	98	80	15.9	16.3	16.5	16.7	4
(2014 series FATs): 2015	Plant	100	101	103	99	14.8	15.5	15.5	16.1	4
2016	1R	119	116	128	108	14.5	15.6	15.4	15.8	4
2017	2R	101	99	109	88	14.3	15.1	15.1	15.7	4
(2015 series FATs): 2016	Plant	124	126	124	116	14.5	15.1	15.0	16.0	4
2017	1R	125	119	123	111	14.8	15.0	14.9	16.1	4
2018	2R	98	95	98	83	17.0	17.3	17.3	18.2	4
(2016 series FATs): 2017	Plant	98	104	99	99	14.8	15.5	15.6	16.2	4
2018	1R	91	84	88	79	16.4	16.9	17.0	17.5	4
2019	2R	87	84	81	78	15.6	16.7	16.6	17.3	4
(2017 series FATs): 2018	Plant	91	92	91	90	16.6	17.2	17.2	18.1	4
2019	1R	85	81	82	77	15.8	16.8	16.5	17.6	4
Overall Performance		**103**	**100**	**102**	**94**	**15.6**	**16.2**	**16.2**	**16.8**	**56**
Available from 2016										
Comments:	SRA6Φ was planted in five FAT series (2011, 2014, 2015, 2016 & 2017; ratoon data from the 2017 FATs are still being collected). SRA6Φ's cane yield was equal to above-average, and CCS on average -0.5 units, when compared with commercial standards. Equally good performance over different soil types where tested, but early indications are that SRA6Φ may be less suitable to poor/dry conditions. Initial germination is rapid and reliable, with early crop growth often slower followed by accelerated growth from Autumn. SRA6Φ has a (dense) larger stalk population relative to other varieties, but height of the crop is often shorter. It is also a sparse flowering variety. SRA6Φ has an excellent disease profile with resistance to all major diseases including smut, Pachymetra root rot and Leaf Scald.									

SRA28

SRA27



SRA26[Φ]

SRA25[Φ]

SRA16[Φ]

SRA15[Φ]

SRA10[Φ]

SRA7[Φ]

SRA6[Φ]

For more information on *variety field trials* contact:

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NEW PRESENTATION FORMAT FOR SMUT RATINGS

Smut resistance ratings are calculated from the incidence and severity of infection compared to standard varieties in inoculated field trials. The graphic includes the rating and the 95% confidence interval for each variety. The confidence interval is influenced by factors such as the number of trials and the uniformity of smut infection. For example the variety Q200(ф) has been tested in 28 trials and has a narrow confidence interval from 4.4 to 5.8 while the new variety SRA28 has only been tested in four trials and ranges from 2.9 to 5.5. Rating confidence will improve as more data is collected.

NEW PRESENTATION FORMAT FOR 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 graphic includes the rating and the 95% confidence interval for each variety. The confidence interval is influenced by factors such as the number of times a variety has been tested and variability of Pachymetra infection within each trial. For example the variety Q200(1) has been tested in 29 trials and has a narrow confidence interval from 4.3 to 5.4 while the new variety SRA28 has only been tested in four trials and ranges from 1.7 to 4.0. Rating confidence will improve as more data are collected. The Pachymetra rating for Q253(1) has been revised from Intermediate to Resistant using this new method of analysis, with its confidence interval ranging from 2.5 to 4.1 from seven trials.

HARVEST MANAGEMENT

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

Northern Coastal Harvest Management					
VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	TRASHING	LODGING
SRA28	Average	Good	Good	Free-Average	Average
SRA26ф	Average	Good	Good	Free-Average	Average
SRA25ф	Poor	Average	Average	Average-Tight	Average
SRA16ф	Average	Average	Average	Free-Average	Good
SRA15ф	Average	Good	Good	Average	Average
SRA10ф	Good	Good	Good	Average-Tight	Average
SRA7ф	Poor	Average	Poor	Free-Average	Average
SRA6ф	Average	Average	Average	Tight	Good
SRA3ф	Poor	Average	Average	Average	Average
SRA1ф	Good	Good	Average	Free	Poor
Q253ф	Average	Average	Average	Free-Average	Good
Q252ф	Average	Good	Average	Free	Good
Q251ф	Average	Good	Average	Free-Average	Good
Q250ф	Good	Good	Good	Free-Average	Average
Q247ф	Average	Good	Good	Free-Average	Average-Poor
Q245ф	Poor	Average	Average	Average	Average-Poor
Q242ф	Poor	Average	Average	Average-Tight	Average-Poor
Q241ф	Poor	Poor	Average	Tight	Average
Q240ф	Average	Good	Good	Average	Average
Q238ф	Average	Average	Average	Free-Average	Average
Q237ф	Average	Good	Poor	Tight	Good
Q232ф	Poor	Good	Poor	Average	Average
Q231ф	Average	Average	Poor	Tight	Average
Q230ф	Good	Good	Average	Loose	Average
KQ228ф	Good	Average	Poor	Tight	Average
Q219ф	Poor	Average	Good	Free-Average	Average
Q208ф	Average	Good	Good	Free	Average
Q200ф	Average	Good	Good	Free	Average
Q183ф	Poor	Poor	Average	Free-Average	Good

Maximise your profit at harvest:
Selecting varieties for specific sugar maturity profiles, planting and harvesting them for optimal CCS maturity at time of harvest 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.

- GOOD
- AVERAGE
- LOW / AVERAGE-POOR
- POOR
- UNKNOWN

TRASHING

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

Tableland Harvest Management					
VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	TRASHING	LODGING
SRA28	Average	Good	Average	Free-Average	Good
SRA27	Poor	Average	Average	Free	Average
SRA26ф	Average	Good	Good	Free-Average	Good
SRA25ф	Poor	Average	Average	Average-Tight	Average
SRA16ф	Average	Average	Average	Free-Average	Average
SRA15ф	Average	Average	Average	Average	Good
SRA10ф	Good	Good	Good	Average-Tight	Average
SRA7ф	Poor	Poor	Poor	Free-Average	Average
SRA6ф	Poor	Poor	Poor	Tight	Good
SRA3ф	Poor	Average	Average	Average	Average
SRA1ф	Good	Good	Average	Free	Average-Poor
Q256ф	Poor	Poor	Poor	Free-Average	Poor
Q253ф	Average	Average	Average	Free-Average	Good
Q252ф	Average	Good	Average	Free	Good
Q251ф	Poor	Good	Average	Free-Average	Good
Q250ф	Good	Good	Good	Free-Average	Average
Q247ф	Average	Good	Good	Free-Average	Average
Q241ф	Poor	Poor	Average	Tight	Average
Q240ф	Poor	Average	Average	Average	Average
Q238ф	Average	Average	Poor	Free-Average	Average
Q237ф	Average	Good	Poor	Tight	Good
Q232ф	Poor	Good	Poor	Average	Average
Q231ф	Average	Poor	Poor	Tight	Good
Q230ф	Good	Good	Average	Loose	Good
KQ228ф	Good	Good	Poor	Tight	Good
Q219ф	Poor	Average	Good	Free-Average	Average
Q208ф	Average	Average	Average	Free	Average
Q200ф	Poor	Average	Average	Free	Average
Q183ф	Poor	Poor	Average	Free-Average	Good

GOOD
AVERAGE
LOW / AVERAGE-POOR
POOR
UNKNOWN

TRASHING
LOOSE
FREE
FREE-AVERAGE
AVERAGE
AVERAGE-TIGHT
TIGHT

DISEASE RESISTANCE

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. White indicates unknown.

Northern Disease Ratings

VARIETY	REGION*	SMUT	PACHYMETRA	LEAF SCALD	CHLOROTIC STREAK	ORANGE RUST	BROWN RUST	RED ROT	YELLOW SPOT	FIJI LEAF GALL	MOSAIC
SRA28	N, T	I-R	R	R		R		R	R	I	R
SRA27	T	I-R	I-S	R		R	R	I		R	R
SRA26ф	N, T	R	R	R		R		R	R	I	S
SRA25ф	N, T	I-S	R	R		R		S	I-R	S	S
SRA16ф	N, T	R	R	R		R		R		S	R
SRA15ф	N, T	I-S	I-R	R		R		R		R	R
SRA10ф	N, T	I	I-R	R		R		I	R	S	S
SRA7ф	N, T	I-R	I	R		R		R	R	I	R
SRA6ф	N, T	R	R	R		R		I	I-R	S	R
SRA3ф	N, T	I	I-R	I		R	R	I-R	I-R	S	R
SRA1ф	N, T	I-R	I-R	R		R	R	I	I-R	I	R
Q256ф	T	I	I-S	R		R		I	R	R	I
Q253ф	N, T	R	R	R		R	I-S	I	S	S	R
Q252ф	N, T	I-R	I	R		R		R	I	I	R
Q251ф	N, T	I-S	R	I-S		R		I-S	I-R	R	I-R
Q250ф	N, T	R	I	R		I		I	I-R	S	I-R
Q247ф	N	I-R	R	R		R		R	S	R	R
Q245ф	N	R	R	R		R		S	R	R	R
Q242ф	N	I-R	R	R	I	R		I-R	R	R	R
Q241ф	N, T	R	R	R		R	R	R	R	I-R	I-R
Q240ф	N, T	R	I	R	I-R	R		R	I	I-S	R
Q238ф	N, T	R	R	R	S	R	R	I-R	S	I-R	R
Q237ф	N, T	S	S	I			R	I		I	R
Q232ф	N, T	I-R	I	R	R	R		I-R	R	I	R
Q231ф	N, T	R	R	I-R		R		R	I	S	I-R
Q230ф	N, T	S	I-R	R		I-S		I	R	R	R
KQ228ф	N, T	I	I	R	S	R	R	R	I	I	R
Q219ф	N, T	R	R	R		R		R		S	S
Q208ф	N, T	I-R	I	R	R	R	R	R	R	I-S	R
Q200ф	N, T	I	I	R	I	R	R	R	I-R	I	R
Q183ф	N, T	R	R	I	S	R	R	I	I-S	R	R

* Region recommended

Rotation of varieties 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.

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. SRA is reviewing methods for screening varieties for RSD resistance. Current ratings remain available on QCANESelect®. Current varieties are not immune to RSD and some yield loss can expected in all canes. The guide is available on the SRA website **sugarresearch.com.au**

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

N NORTHERN COASTAL
T TABLELAND

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 been conducting trials following a two-step process to obtain reliable data for the susceptibility of varieties to herbicide

- a fully randomised replicated pot trial in year 1 to short list the most susceptible combinations of varieties and herbicides.
- a fully randomised replicated field trial in year 2 to confirm that the shortlisted combinations have an impact on yield.

In year 3, 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 4 to 6 leaf stage.

In the pot trials, weekly phytotoxicity ratings are conducted using the EWRC (European Weed Research Council) 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.

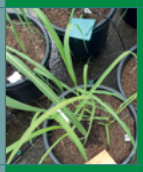
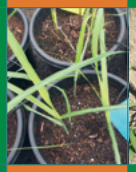
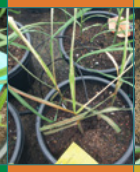
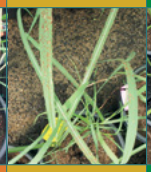
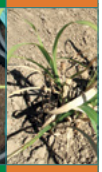
In all trials, KQ228$^{\phi}$ is assessed and used as a reference susceptible variety to compare to other tested varieties.

Tables 2 and 3 summarise all phytotoxicity, biomass and yield results obtained in the pot and field trials from 2014 to 2020. These tables will be updated yearly to include newly tested combinations of varieties by herbicides.

TABLE 1 EWRC selectivity rating scale

NOTE	SYMPTOMS SEVERITY
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	2,4-D+ IOXYNIL	AMETRYN	AMETRYN+ TRIFLOXY SULFURON	AMICARBAZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
SYMPTOM DESCRIPTION	small white spotty discolorations	small yellow 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
SYMPTOMS PICTURE		NA									
SYMPTOMS SEVERITY ON KQ228$^{\phi}$	mild	mild	medium to severe	mild	Mild	medium	mild	severe	medium	mild	medium to severe
KQ228$^{\phi}$ PHYTO RATING RANGE	1.2 to 1.9	1.2	1.8 to 3.2	1.3	1.3 to 1.5	1.1 to 2.6	1.8	3.9 to 4.1	1.1 to 2.8	1.2 to 1.8	1.7 to 3.5
NUMBER OF TRIALS	5	1	4	1	3	5	1	2	5	5	5

MILD
MODERATE
SEVERE

Table 3 presents the herbicide symptoms severity on the cane foliage on all tested varieties in a green to red scale (mild to severe symptoms due to the herbicide treatment compared to the untreated control). **Table 3** also presents the cane dry biomass measured 10 weeks after spraying compared to the biomass of the untreated variety in a light to dark grey scale (slight to severe biomass reduction due to the herbicide treatment compared to the untreated control). Yield data from the field trials were also added to **Table 3** and the combinations of varieties by herbicide that were tested in the field are marked with the symbols ☆ or △. Cells with ☆ indicate varieties whose yield was reduced by less than 10% compared to the untreated control. Cells with △ indicates varieties whose yield was reduced by more than 10% compared to the untreated control (no yield loss was statistically significantly different to the untreated control at P 0.05).

Phytotoxicity symptoms and yield loss observed on-farm may vary from those reported here, as severity of symptoms, biomass and yield can vary depending on local environmental conditions (temperature, humidity, soil moisture), the condition of the crop (actively growing or stressed) and the weather conditions at the time of application, as was seen in KQ228Φ's response to metolachlor ranging from mild to severe depending on the year and season it was trialled. Additionally, while visual symptoms might be seen in a range of varieties, in most cases no yield loss is expected if the correct label rates are followed. However, a minor yield loss might be expected in a variety such as SRA6Φ when applying either MSMΦ or asulam. The newer SRA15Φ variety is being evaluated in the 2019-20 phytotoxicity field trial to assess whether the biomass reductions observed in pot trials could translate into yield loss under field conditions.

TABLE 3 Phytotoxicity rating, biomass and yield difference compared to the untreated control of the same variety

	2,4-D		2,4-D+ IOXYONIL		AMETRYN		AMETRYN+ TRIFLOXY-SULFURON		AMI-CARBAZONE		ASULAM		DIURON		FLUMI-OXAZIN		METOLA-CHLOR		METRIBUZIN		MSMA	
VARIETY	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD	PHYTOTOXICITY	BIOMASS /YIELD
KQ228Φ																						
Q208Φ																						
Q232Φ								☆										☆		☆		☆
Q238Φ								△										☆		△		△
Q240Φ																						
Q242Φ								☆										☆		☆		△
Q250Φ								☆										☆		☆		☆
Q252Φ																						
Q253Φ																						
SRA1Φ												☆								☆		△
SRA3Φ												☆								☆		☆
SRA6Φ												△								☆		△
SRA7Φ												☆								☆		☆
SRA10Φ																						
SRA15Φ																						
SRA26Φ																						

- NO SYMPTOMS TO MILD PHYTOTOXICITY SYMPTOMS ON FOLIAGE
- MILD PHYTOTOXICITY SYMPTOMS ON FOLIAGE
- MODERATE PHYTOTOXICITY SYMPTOMS ON FOLIAGE
- SEVERE PHYTOTOXICITY SYMPTOMS ON FOLIAGE
- COMBINATION OF HERBICIDE BY VARIETY NOT TESTED

- NO BIOMASS REDUCTION COMPARED TO UNTREATED
- SLIGHT BIOMASS REDUCTION COMPARED TO UNTREATED
- MODERATE BIOMASS REDUCTION COMPARED TO UNTREATED
- SEVERE BIOMASS REDUCTION COMPARED TO UNTREATED
- ☆ COMBINATION OF HERBICIDE BY VARIETY TESTED IN FIELD TRIALS < 10% COMPARED TO UNTREATED
- △ COMBINATION OF HERBICIDE BY VARIETY TESTED IN FIELD TRIALS > 10% COMPARED TO UNTREATED

For more information contact:

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VARIETY ADOPTION IN EACH MILL AREA

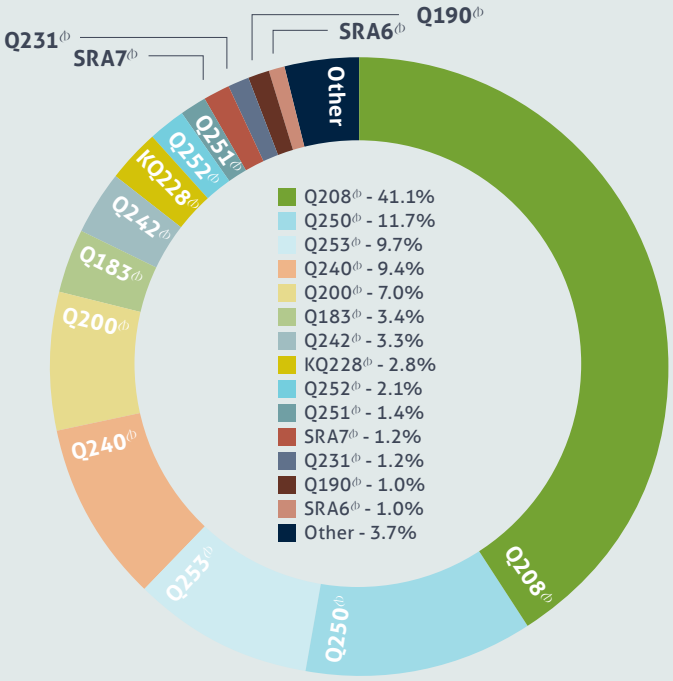
Data below can be found in QCANESelect® under the regional reporting tab. Use this information to assess yield performance of varieties over a number of years. Caution should be taken when comparing commercial performance of newer varieties (from plant and young ratoons) to older/established varieties (which include older ratoons).

Mulgrave (% TONNES 2019)

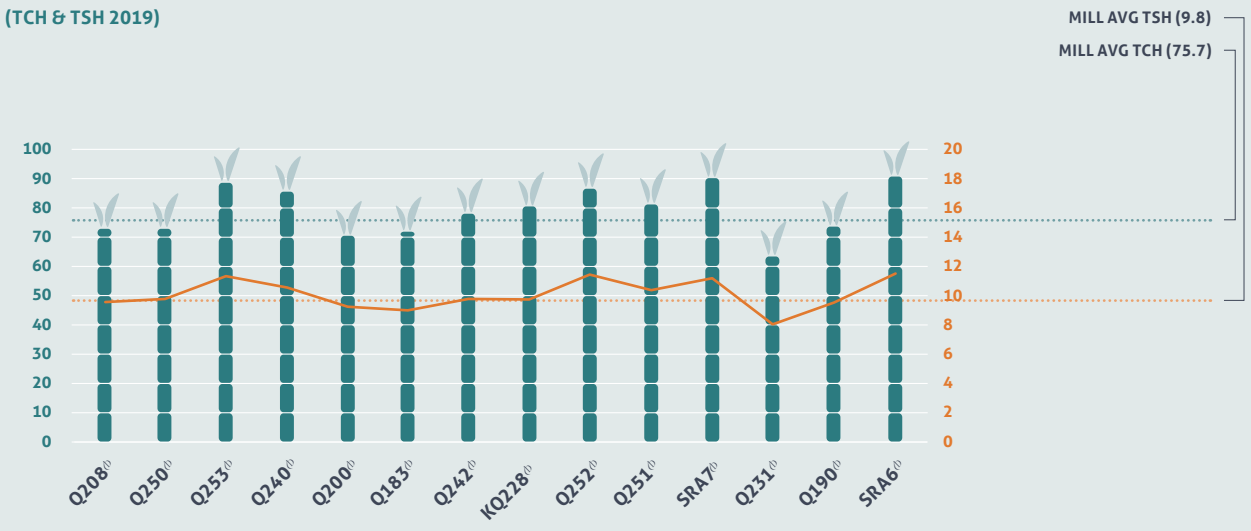
The Mulgrave mill reported a total of 888,878 tonnes of cane from 11,737 hectares in 2019 with an average yield of 76 t/ha and CCS of 12.94. The mill average yield for 2019 was slightly lower than 2018, and the CCS was also more than 1.5 units below the 2018 average.

While Q208Φ remains the dominant variety, it decreased by 9% in production to 41%. Q250Φ remains at approximately 12% of production, and Q200Φ has been replaced as the third dominant variety by more recently released varieties, Q253Φ and Q240Φ which continue to increase in popularity, and now each comprise 9 to 10% of overall production.

It is not surprising Q208Φ performed at mill average for TCH and TSH due to its market dominance. However, this trend is not likely to persist in coming years due to continued adoption of both Q253Φ and Q240Φ and their strong performance for both in TCH and TSH relative to Q208Φ. Q250Φ demonstrated its higher CCS potential by averaging 0.6 units of CCS above mill average, but equalled mill average for TSH. Other recently released varieties, Q252Φ, SRA6Φ and SRA7Φ, also performed well above the mill average for TCH and TSH; however, SRA6Φ and SRA7Φ are mostly plant and first ratoon crops of small sample sizes.



(TCH & TSH 2019)

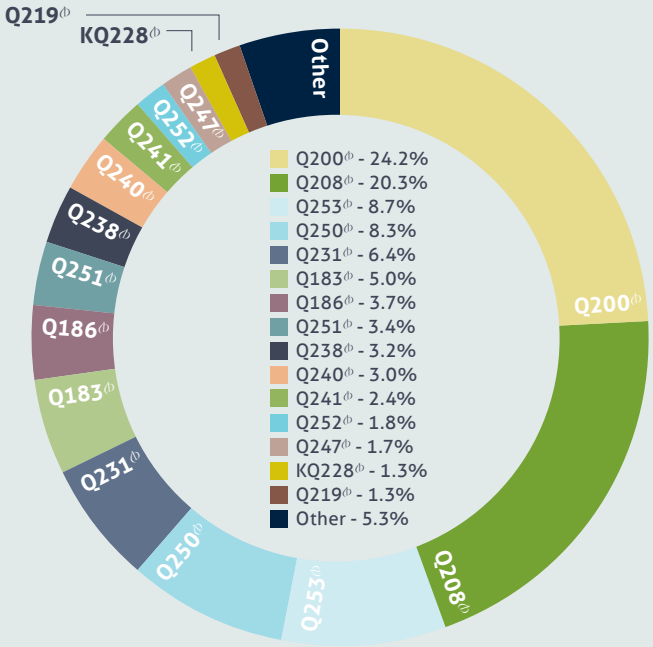


South Johnstone (% TONNES 2019)

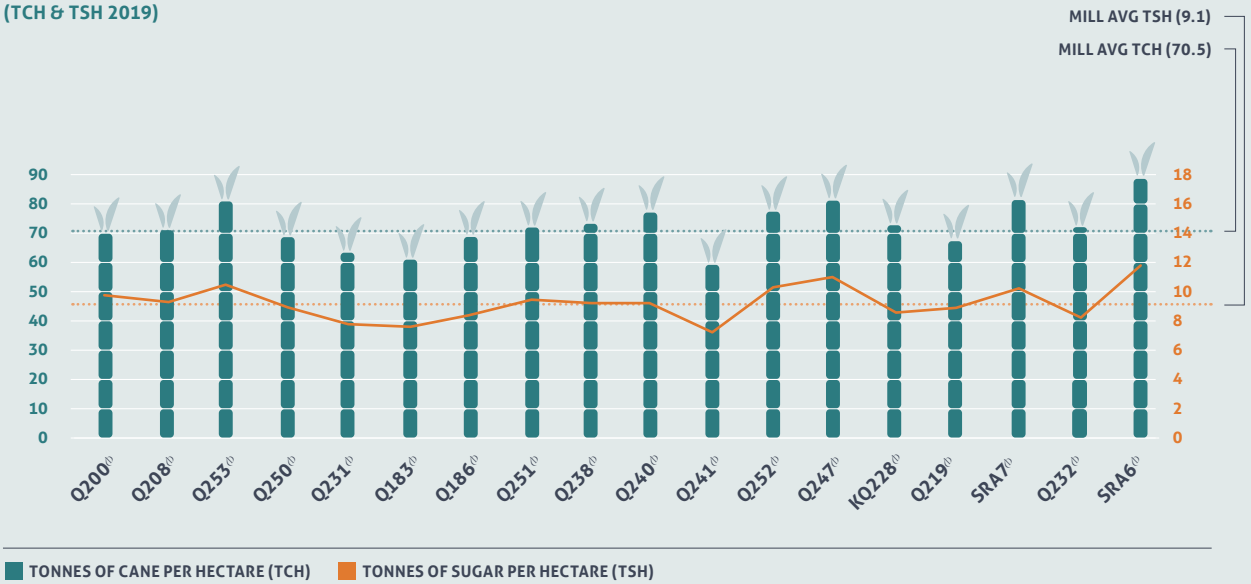
In 2019 the South Johnstone region harvested 1,517,377 tonnes from 21,528 hectares. The TCH mill average of 71 t/ha was similar to 2018, while CCS decreased from 13.62 in 2018 to 12.95 in 2019.

Varietal composition for South Johnstone in 2019 did not vary much from 2018. Q200Φ and Q208Φ remain the dominant varieties, comprising a combined 45% of production. A slight increase in production of Q240Φ and Q253Φ has resulted in an equivalent decrease in Q183Φ, Q231Φ and Q241Φ.

Of the major varieties, Q200Φ and Q208Φ returned production figures equal to or near mill average, while Q253Φ performed well above mill average for CCS and TSH. Of the recent and newly released varieties, Q247Φ, Q252Φ, SRA6Φ and SRA7Φ also exceeded mill averages for cane yield and TSH; however, these are mostly plant and first ratoon cane of small sample sizes.



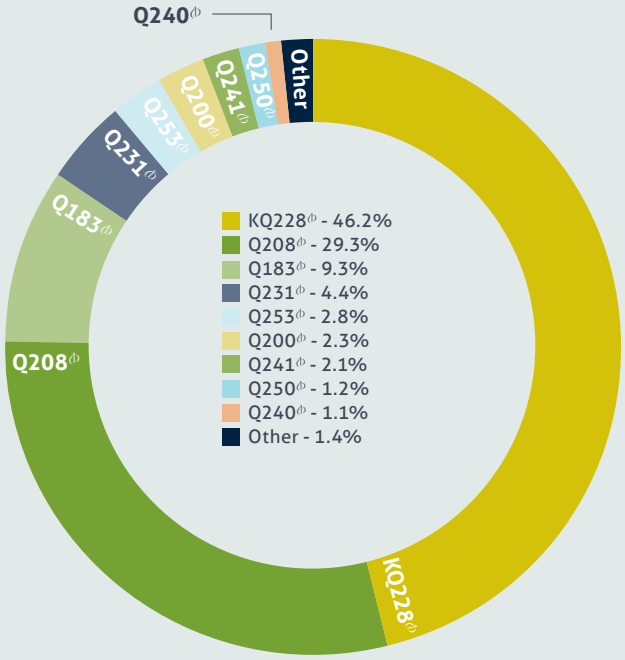
(TCH & TSH 2019)



Tableland (% TONNES 2019)

The Tableland mill processed 429,274 tonnes of cane from 4,738 hectares in 2019, with an average yield of 91 tonnes cane per hectare and CCS of 14.14 which is a slight decrease on the 2018 harvest year.

Production of KQ228Φ increased by 4% and remains the dominant variety with 46% of production, while Q208Φ continues to fall with 29% of production. As market share of KQ228Φ and Q208Φ is a combined 75% of overall production, it is not surprising the Tableland mill average sits comfortably in between their performances. KQ228Φ was slightly above the mill average for CCS and TSH, while Q208Φ was slightly below. Only two other varieties yielded above mill average for both cane yield and TSH, and were at or near mill the Tableland mill average CCS of 14.14; Q240Φ and Q253Φ. This is also the first year Q240Φ and Q253Φ were above 1% of overall production, and further adoption of these two varieties is likely to contribute to an increase in overall productivity for the Tableland region. Q250Φ was disappointingly the poorest performing variety for both TCH and TSH in contrast to its performance in 2018 when it was the most productive variety.



(TCH & TSH 2019)

Mossman (% TONNES 2019)

The Mossman harvest includes coastal and Tablelands production. The combined mill averages for TCH was 79.5 and CCS was 12.95.

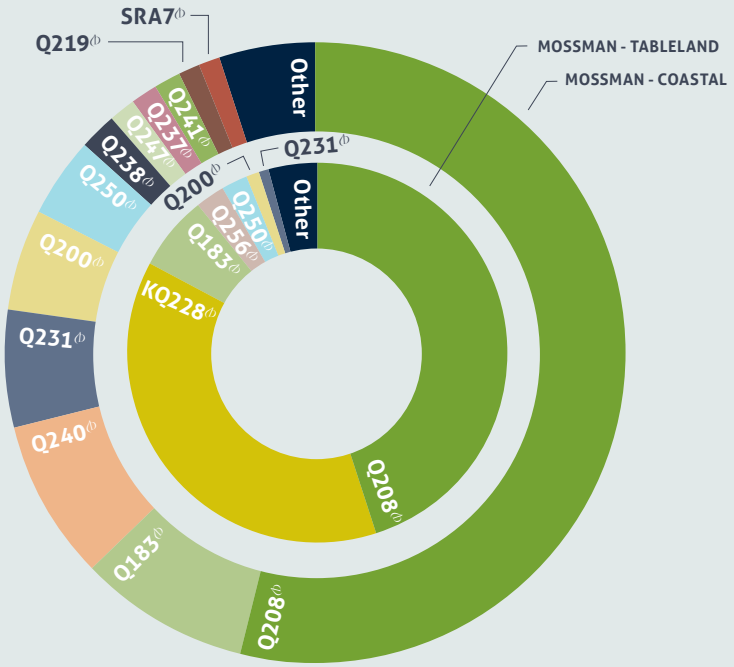
Mossman - Coastal*

The most significant change to variety composition was an increase in Q240Φ to represent over 8% of production, replacing Q231Φ as the third dominant variety. The newest varieties in commercial production are Q253Φ with over 3,000 tonnes milled, and recently released varieties SRA6Φ with almost 2,000 tonnes, SRA7Φ with almost 5,000 tonnes and SRA15Φ with under 1,000 tonnes milled. Among the established varieties, only Q240Φ performed above the mill average for both TCH and TSH. With Q208Φ at 54% of the crop, it is not surprising it performed at mill average with 68 TCH and 8.7 TSH. The new varieties Q253Φ, SRA6Φ, SRA7Φ and SRA15Φ, also exceeded the mill averages; however, these are mostly plant cane and are small sample sizes.

Mossman - Tableland*

Q208Φ contributed 45% of production which is similar to the previous two years. KQ228Φ increased by 3% to represent 38% of production, largely at the expense of Q231Φ and Q200Φ. Q240Φ has shown strong results in recent Mossman Tableland production and has excellent smut resistance. Despite these benefits Q240Φ has remained around 1% of production which is a contrast to its adoption in other regions. KQ228Φ and newly adopted Q253Φ (at only 0.5% and mostly plant crop at small sample sizes) exceeded the mill average for both TCH and TSH, while Q208Φ, Q240Φ and Q256Φ were at or near mill average.

** Data for variety breakdown between Coastal and Tableland was supplied by Mossman Mill.*



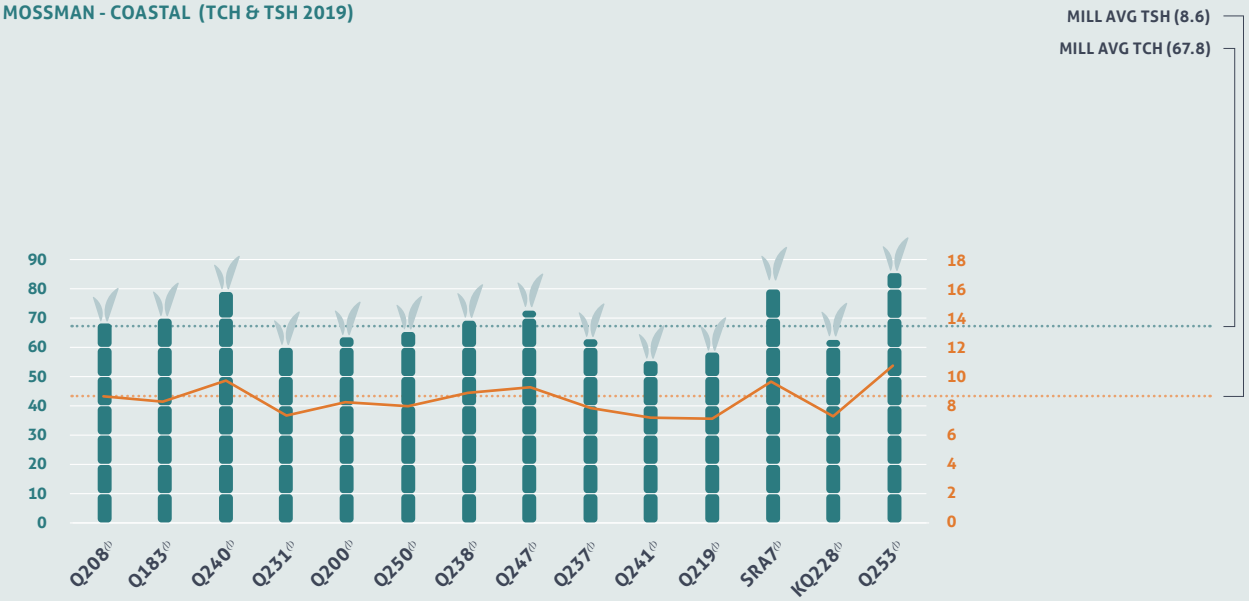
MOSSMAN - COASTAL

- Q208Φ - 54.2%
- Q183Φ - 8.7%
- Q240Φ - 8.4%
- Q231Φ - 6.1%
- Q200Φ - 5.3%
- Q250Φ - 4.1%
- Q238Φ - 2.0%
- Q247Φ - 1.5%
- Q237Φ - 1.4%
- Q241Φ - 1.4%
- Q219Φ - 1.1%
- SRA7Φ - 1.1%
- Other - 4.7%

MOSSMAN - TABLELAND

- Q208Φ - 45.0%
- KQ228Φ - 37.7%
- Q183Φ - 6.6%
- Q256Φ - 2.3%
- Q250Φ - 2.2%
- Q200Φ - 1.2%
- Q231Φ - 1.0%
- Other - 3.9%

MOSSMAN - COASTAL (TCH & TSH 2019)



MOSSMAN - TABLELAND (TCH &TSH 2019)

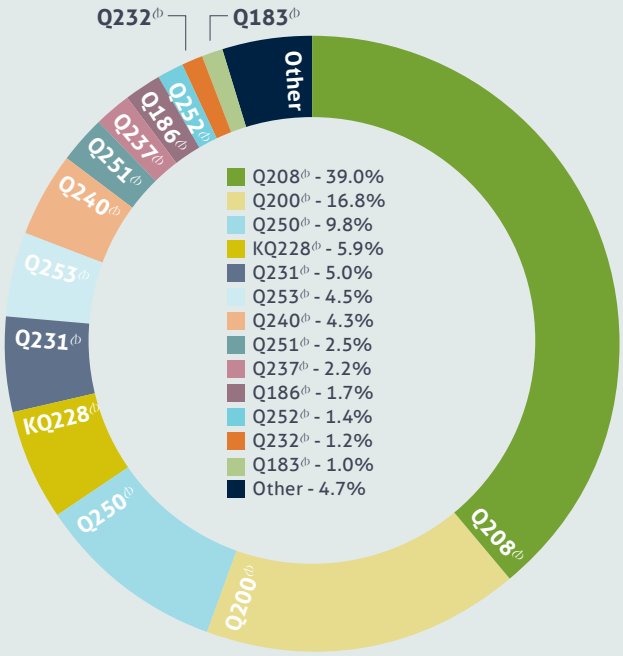
For more information please visit:
sugarresearch.com.au

Tully (% TONNES 2019)

29,248 hectares was harvested the Tully region in 2019 with a yield of 2,179,083 tonnes. The TCH result of 74.5 and CCS of 13.56 was down on 2018 production figures by approximately 10 TCH and almost 1 unit of CCS.

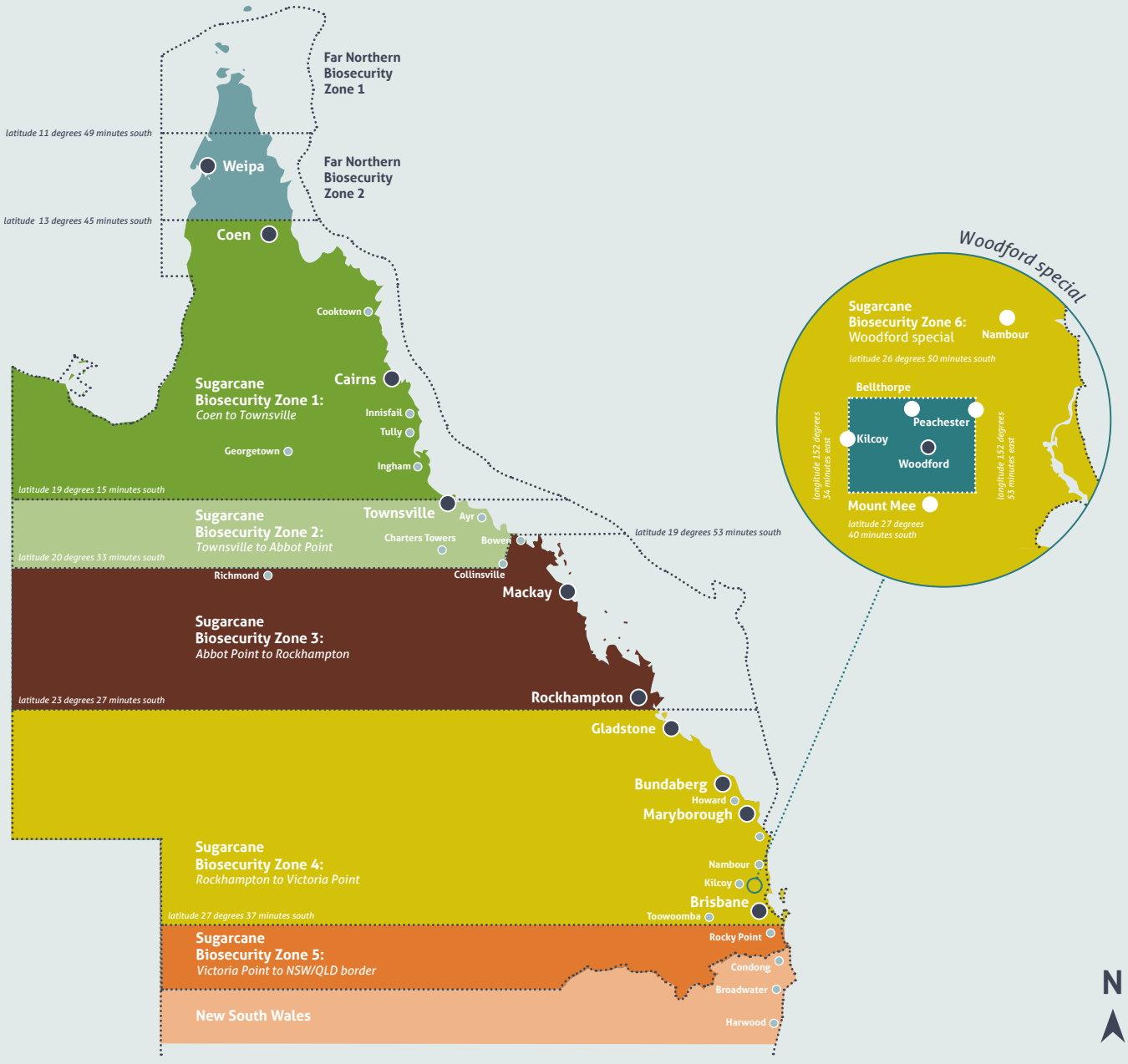
Varietal composition for Tully has remained stable over the past two years, with only minimal changes of approximately 1% in production for most varieties. The biggest decrease was seen in Q208Φ by 2%, but it still remains the dominant variety at 39% of production. While varieties that increased production most notably were Q250Φ (2%) and Q253Φ (3%).

Of the established varieties Q240Φ, Q251Φ, Q252Φ and Q253Φ returned the highest average TSH. The new varieties SRA6Φ and SRA7Φ both performed at or slightly above mill average for TCH and TSH. These are smaller sample sizes and don't include older ratoons.



(TCH & TSH 2019)

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 group for regional advice on varieties. They can supply clean planting material of recommended varieties and place orders for tissue culture plantlets.

Billet planting

PLANT MATERIAL FROM AN APPROVED SEED SOURCE

Approved-seed provides cane growers with disease-free seed of varieties that are true-to-type. Disease-free 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 disease-free or 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 a disease-free supply of DNA fingerprinted new varieties. The local productivity services group multiplies the new varieties, maintaining the disease-free status and distributes the approved-seed to growers.

GROW SUGARCANE SPECIFICALLY FOR PLANTING MATERIAL

The block selected for growing plant material should be disease-free, 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 clean 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 from the calculator (available at sugarresearch.com.au/calculator).

TRY TISSUE CULTURE AS AN APPROVED CLEAN SEED SOURCE

Tissue culture is an excellent source of clean 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
	M row planted @ 0.8m	80	200	400	800
Yr 2	M 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 500 mm to 1 m apart. A good distance is 800 mm, 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.

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.

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 2.5 kg/ha plus Dual Gold® at 1.5 L/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 100 g/ha plus Activator at 200 mL/100 L 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.

QCANESelect®

- Using sugarcane varieties that are best-suited to your farm may help maximise productivity and profitability.
- QCANESelect® is an online tool that allows you to review, compare and select varieties for use on each block on your farm.
- To access QCANESelect® and the tissue culture calculator visit the SRA website **sugarresearch.com.au**
- The information in QCANESelect® is updated regularly based on our most recent trials and from observations and experiences of varieties that are growing in the field.
- Once you have identified the best varieties for planting on your farm, contact your local productivity services group to place orders for tissue-cultured plantlets.

Your local productivity services and agronomy groups:

Canegrowers Tableland - Drewe Burgess:
M 0418 772 317

Innisfail Babinda Cane Productivity Services (IBCPS) - Bianca Spannagle:
M 0428 774 922

Mossman Agricultural Services Ltd (MAS) - Rebecca Stone:
M 0457 020 839

MSF Sugar Ltd
T *Mulgrave Mill* 07 4043 3307
M *Tablelands Mill (Agronomy)* 0448 341 415
M *South Johnstone (Agronomy)* 0427 620 316

Tully Cane Productivity Services Ltd - Peter Sutherland:
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