Sugar Research Australia

VARIETY GUIDE
2022/2023

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:***

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***

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NEW AND RECENT VARIETIES AVAILABLE IN THE NORTHERN REGION

Variety Recommendation and Release Process

Regional Variety Committees (RVCs) 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 non-voting 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: SRA37 QS09-7559			***Parentage:*** *QC82-663 x Q205* ***/ Summary:*** *Equal to higher tonnes cane; similar CCS.*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA37	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	**SRA37**	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	
(2016 series FATs):	**2017**	Plant	102	104	99	99	15.5	15.5	15.6	16.2	4
	2018	1R	92	84	88	79	16.9	16.9	17.0	17.5	4
	2019	2R	90	84	81	78	16.5	16.7	16.6	17.3	4
(2019 series FATs):	**2020**	Plant	88	79	81	80	15.4	15.8	15.5	16.5	4
	2021	1R	120	89	88	82	15.1	15.3	15.1	16.4	4
(2020 series FATs):	**2021**	Plant	85	77	79	77	15.3	16.2	15.3	17.0	4
Overall performance			**96**	**86**	**86**	**83**	**15.8**	**16.0**	**15.9**	**16.8**	**24**
Available from 2022 as both whole stalk and to order as Tissue Culture for 2023 delivery											
Comments:			SRA37 has shown an 11% sugar yield advantage over Q200ϕ and Q208ϕ in SRA field trials. This yield advantage is more noticeable in ratoons as SRA37's cane yield is comparable to Q200ϕ and Q208ϕ in plant crop but increases with crop class. This trend has been consistent across all Northern coastal trial locations since it was first tested in 2016. SRA37 is a rapid and reliable germinator for early crop establishment. It is also a non-arrowing variety which keeps growing throughout the season and is best harvested mid or late in the season. SRA37 will provide growers with improved ratooning ability and disease resistance for smut and Pachymetra compared to Q200ϕ and Q208ϕ. SRA37 is quick to produce multiple tillers for early crop establishment, however it has a moderate stalk population at maturity which sometimes display pale green and red candy stripes. It has an erect growth habit for good presentation to the harvester and has a clean green canopy year-round. SRA37 has more of an erect canopy than SRA26ϕ, but it still provides better canopy closure than Q208ϕ for good weed competition. Smut levels observed in SRA37 through natural infection compared to Q200ϕ and Q208ϕ suggest it is more resistant to smut than its rating indicates given as smut is very rarely seen in any of SRA trials or propagations across the Far North. SRA37 is very sparse to non-arrowing and does not sucker readily. It will continue to grow steadily throughout the autumn and winter months, similar to SRA26ϕ. Limited maturity testing suggests SRA37 follows a similar maturity curve as Q200ϕ and SRA26ϕ and is best harvested mid or late in the season. Maturity testing or use of crop ripeners is recommended if SRA37 is being considered for early harvest. Data from the 2019 and 2020 FAT series are still being collected.								

Variety: SRA32 QS09-8404			***Parentage:*** *QN80-3425 x QN86-2168* **/** ***Summary:*** *Higher tonnes cane; lower CCS.*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA32	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	**SRA32**	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	
(2019 series FATs):	2020	Plant	99	79	81	80	14.9	15.8	15.5	16.5	4
	2021	1R	113	89	88	82	14.4	15.3	15.1	16.4	4
Overall Coastal FAT Performance			**106**	**84**	**85**	**81**	**14.7**	**15.5**	**15.3**	**16.4**	**8**
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA32		**Q208ϕ**	**KQ228ϕ**	**SRA32**		**Q208ϕ**	**KQ228ϕ**	
(2019 series RVT):	2020	Plant	120		100	104	13.1		13.6	14.5	1
	2021	1R	145		121	126	13.3		14.4	15.3	1
(2020 series RVT):	2021	2R	103		100	97	13.4		13.8	14.4	1
Overall Tableland RVT Performance			**122**		**107**	**109**	**13.3**		**14.0**	**14.7**	**3**
Available from 2022 as whole stalk on the Tablelands, to order as Tissue Culture on both the Coastal and Tableland regions for 2023 delivery, and from 2023 as whole stalk on the coast											
Comments:			SRA32 is a recent Burdekin variety that has shown an impressive 17% sugar yield advantage over Q200ϕ and Q208ϕ in the coastal Far North and is competitive with KQ228ϕ on the Tableland. These yield advantages have been consistent across all plant and first ratoon coastal and Tableland trials. Second ratoon data for SRA32 is still being collected in the North, however it has shown impressive yields in second ratoon in the Burdekin. SRA32 is a vigorous but low CCS variety with a moderate propensity to arrow and sucker. SRA32 is a reliable germinator and similar in speed to Q208ϕ. Its early growth is rapid and vigorous producing early biomass relative to other commercial varieties. SRA32 has an open stool of moderate to thick stalks at maturity, and some lodging may be experienced in larger crops. SRA32 arrows similar to Q200ϕ on the coast, and KQ228ϕ on the Tableland. It is also a moderate suckering variety like Q253ϕ. It has large eyes covered by moderate trash. Side-shooting has been observed in SRA32 on exposed ends of the crop but generally not within the crop itself. Initial maturity sampling of SRA32 suggests it is best harvested mid or late in the season. Maturity testing or use of crop ripeners will help maximise its CCS returns as it is a low CCS variety compared to other major commercial varieties. SRA32 is a profitable variety choice for Northern coastal growers with a low Pachymetra and smut risk, and a competitive variety option on the Tableland to complement KQ228ϕ where SRA32 is as a mid-late season replacement for Q208ϕ and Q232ϕ. Data from the 2019 FAT series are still being collected including from the newly planted trials in 2021.								

Variety: SRA9ϕ QC97-2432			***Parentage:*** *QN81-289 x Q166* **/** ***Summary:*** *Higher tonnes cane; lower CCS.*								
TRIAL HARVEST YEAR		**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
			SRA9ϕ	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	**SRA9ϕ**	**Q200ϕ**	**Q208ϕ**	**Q250ϕ**	
(2017 series FATs):	2018	Plant	115	97	95	92	16.9	17.0	17.2	18.0	4
	2019	1R	96	86	89	81	15.5	16.9	16.5	17.6	4
	2020	2R	115	94	108	92	15.3	16.3	15.9	16.7	4
(2019 series FATs):	2020	Plant	98	79	81	80	15.2	15.8	15.5	16.5	4
	2021	1R	119	89	88	82	15.2	15.3	15.1	16.4	4
(2020 series FATs):	2021	Plant	98	77	79	77	15.2	16.2	15.3	17.0	4
Overall Performance			**107**	**87**	**90**	**84**	**15.6**	**16.2**	**15.9**	**17.0**	**24**
Available from 2022 to order as Tissue Culture for a 2023 delivery & in 2023 as whole stalk											
Comments:			SRA9ϕ is a recent Central variety which has shown an impressive 16% sugar yield advantage over Q200ϕ and Q208ϕ in SRA field trials in the Far North. This yield advantage is consistent across all Northern coastal trial locations and crop classes tested since 2017. SRA9ϕ is a lower CCS variety with a low propensity to arrow and will keep growing throughout the season making it a good candidate for crop ripeners. SRA9ϕ is a more profitable variety choice especially for growers with higher Pachymetra spore counts and provides good weed competition. SRA9ϕ is a fast and reliable germinator when compared to Q208ϕ. It has tall and moderate to high stalk numbers of average diameter at maturity. SRA9ϕ has a more erect canopy than SRA26ϕ, but it still provides better canopy closure than Q208ϕ for good weed competition. It also has a clean green canopy year-round. Smut levels observed in SRA9ϕ through natural infection in the wet tropics suggest its resistance to smut is more similar to Q208ϕ than Q200ϕ. Smut can still be found in SRA9ϕ if the crop is stressed or is under high smut pressure from neighbouring crops. SRA9ϕ's vigour has been demonstrated over a wide range of trial locations across the Northern coastal region. Even in high yielding crops SRA9ϕ will often stand erect providing good harvester presentation. SRA9ϕ is a sparse arrowing variety, is moderate trashing, and does not sucker readily. It will continue to grow steadily throughout the autumn and winter months so is best harvested mid or late in the season. Data from the 2019 and 2020 FAT series are still being collected.								

NEW AND RECENT VARIETIES AVAILABLE IN THE NORTHERN REGION (CONT)

Variety: SRA28Φ QS08-8776	***Parentage:*** *Q233Φ x Q135* **/** ***Summary:*** *Equal to higher tonnes cane; equal CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRA28Φ	**Q200Φ**	**Q208Φ**	**Q250Φ**	**SRA28Φ**	**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	82	82	83	72	16.2	16.5	16.3	17.3	4
2020	1R	103	95	100	84	16.0	16.3	16.0	16.9	4
2021	2R	91	92	90	74	15.2	15.8	15.7	16.6	4
(2019 series FATs): 2020	Plant	90	79	81	80	15.7	15.8	15.5	16.5	4
2021	1R	111	89	88	82	15.1	15.3	15.1	16.4	4
(2020 series FATs): 2021	Plant	95	77	79	77	15.3	16.2	15.3	17.0	4
Overall Performance		**102**	**95**	**96**	**87**	**15.7**	**15.9**	**15.7**	**16.8**	**36**
Available from 2020										
Comments:	SRA28Φ has shown a 7% sugar yield advantage over Q200Φ and Q208Φ in SRA field trials. The yield advantage is consistent across crop classes and trial locations which represent the main soils and growing environments in the Northern coastal and Tableland regions. SRA28Φ has also shown broad adaptability across the Herbert region's diverse growing environments. Like Q253Φ, it is quick to respond in growth to moisture availability after rain and has an excellent disease resistance profile. SRA28Φ is a more profitable variety choice especially for growers with higher Pachymetra spore counts. SRA28Φ is a reliable germinator but problems have been observed with mature or older planting material so younger material is a priority. It can be sensitive to hot water treatment. Its initial growth and tillering can be slower than other commercial varieties, but this is not a reflection of its yield potential. SRA28Φ exhibits similar ratooning ability to Q200Φ and Q208Φ. SRA28Φ has rapid growth after rainfall so maturity testing or avoiding harvest soon after heavy rain is recommended to maximise CCS. SRA28Φ has a moderate stalk population with good diameter, a distinctive purple leaf sheath, and is moderate trashing. It has a clean green canopy with good closure for weed competition. SRA28Φ has a compact stool with an erect habit providing good harvester presentation. Suckers in SRA28Φ are obvious due to their purple colour and number, but trial data suggests suckering is variable with similar levels to Q240Φ, Q250Φ and Q253Φ. Arrowing is similar to Q200Φ in an average year, but when conditions are favourable arrowing can be profuse. Data from the 2019 and 2020 FAT series are still being collected.									

Variety: SRA27 QA04-1448	***Parentage:*** *QN80-4316 x Q173* **/** ***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 and 2015 series FATs - Mulgrave & Tully only)	Plant	97	105	102	98	16.3	16.3	16.7	17.5	3
	1R	109	121	120	113	15.9	15.7	15.9	16.6	3
	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**	**17.1**	**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, 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. Performance of SRA27 by FAT series can be found in the 2020/2021 Northern Variety Guide available on sugarresearch.com.au.								

Variety: SRA26Φ QN08-2282			***Parentage:*** *QN97-2122 x Q146* **/** ***Summary:*** *Equal tonnes cane; equal to higher 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	107	97	95	92	17.2	17.0	17.2	18.0	4
	2019	1R	90	86	89	81	16.9	16.9	16.5	17.6	4
	2020	2R	104	94	108	92	16.3	16.3	15.9	16.7	4
(2018 series FATs):	2019	Plant	81	82	83	72	16.8	16.5	16.3	17.3	4
	2020	1R	91	95	100	84	16.4	16.3	16.0	16.9	4
	2021	2R	91	92	90	74	16.5	15.8	15.7	16.6	4
(2019 series FATs):	2020	Plant	**87**	**79**	**81**	**80**	**16.0**	**15.8**	**15.5**	**16.5**	**4**
	2021	1R	**107**	**89**	**88**	**82**	**15.8**	**15.3**	**15.1**	**16.4**	**4**
(2020 series FATs):	2021	Plant	**87**	**77**	**79**	**77**	**16.8**	**16.2**	**15.3**	**17.0**	**4**
Overall Performance			**98**	**92**	**96**	**86**	**16.3**	**16.0**	**15.8**	**16.7**	**48**
Available from 2019											
Comments:			SRA26Φ has shown a 5% sugar yield advantage over Q200Φ and Q208Φ in SRA field trials. This yield advantage is stable across all Northern coastal trial locations since testing begun in 2014. SRA26Φ is a non-arrowing variety which will keep growing throughout the season and provides excellent canopy closure even on wider rows. It also has an exceptional disease resistance profile. SRA26Φ is a more profitable variety choice especially for growers with higher Pachymetra spore counts and provides good weed competition. SRA26Φ dominated clean seed sales of Productivity Service organisations across the Northern coastal region in 2021. SRA26Φ is a reliable germinator with a semi-prostrate early growth habit, often up to and including at fill-in stage. The yield potential of SRA26Φ is not typically affected if tiller damage occurs when filling in as it is a moderate to high tillering variety. SRA26Φ will straighten up to stand erect providing good harvester presentation. SRA26Φ has internodes of even length and protected eyes making it an ideal variety for billet planting, but if whole-stalk planting SRA26Φ be wary as it is very hairy. Preliminary experimental results and initial commercial experience suggest SRA26Φ has RSD sensitivity similar to Q253Φ. SRA26Φ is a very sparse or non-arrowing variety, is moderate trashing and does not sucker readily. It will continue to grow steadily throughout the autumn and winter months, and we recommend it is harvested mid- to late-season to maximise its CCS, similar to Q200Φ. However, if SRA26Φ is targeted for harvest early in the season then maturity testing or the use of crop ripeners are advised. SRA26Φ exhibits similar ratooning ability to Q200Φ and Q208Φ. Data from the 2019 and 2020 FAT series are still being collected.									

NEW AND RECENT VARIETIES AVAILABLE IN THE NORTHERN REGION (CONT)

Variety: SRA25Φ QN08-1898		***Parentage:*** *Q241Φ x QC89-432* **/** ***Summary:*** *Equal tonnes cane; equal to 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	88	97	95	92	17.1	17.0	17.2	18.0	4
2019	1R	94	86	89	81	16.7	16.9	16.5	17.6	4
2020	2R	102	94	108	92	16.0	16.3	15.9	16.7	4
(2018 series FATs): 2019	Plant	83	82	83	72	15.9	16.5	16.3	17.3	4
2020	1R	95	95	100	84	15.9	16.3	16.0	16.9	4
2021	2R	96	92	90	74	15.2	15.8	15.7	16.6	4
(2019 series FATs): 2020	Plant	91	79	81	80	15.6	15.8	15.5	16.5	4
2021	1R	103	89	88	82	15.0	15.3	15.1	16.4	4
Overall Performance		**100**	**94**	**98**	**87**	**15.6**	**16.0**	**15.8**	**16.7**	**44**
Available from 2019										
Comments:	SRA25Φ results are from FATs planted in 2014, 2017, 2018 and 2019 (data from the 2019 FATs are still being collected). In these trials SRA25Φ was competitive with both Q200Φ and Q208Φ for cane yield but sometimes lower in CCS across all sites and crop classes. SRA25Φ has a thin canopy with modest cover, high numbers of thin (often trashy) stalks, and an open stool which can sprawl in larger crops. It is also a sparse arrowing variety. SRA25Φ has a good disease resistance profile for some major diseases; it is resistant to Pachymetra and leaf scald, intermediate-susceptible to smut, and susceptible to red rot. Avoid planting SRA25Φ in situations where smut is often observed in Q200Φ or if there is a history of red rot problems.									

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, 2016, 2017, 2018 and 2019 series FATs)	Plant	90	90	91	86	15.9	16.3	16.1	16.9	20
	1R	99	95	98	87	15.8	16.2	16.1	16.9	20
	2R	96	96	100	83	15.6	16.2	16.0	16.8	16
Overall Performance		**95**	**93**	**96**	**86**	**15.8**	**16.2**	**16.1**	**16.9**	**56**
Available from 2018										
Comments:	SRA16Φ results are from the FATs planted in 2013, 2016, 2017, 2018 and 2019 (data from the 2019 FATs are still being collected). In these trials SRA16Φ's cane yield was competitive with the commercial standards for cane yield with CCS equal to or marginally lower in FATs. SRA16Φ has a dark green and clean canopy with good closure, with moderate to high stalk numbers of average diameter. It has an open stool with good presentation to the harvester but can sprawl easily in higher yielding crops. SRA16Φ is a good candidate for use of crop ripeners to maximise its CCS as it is a vigorous, lower CCS and sparse arrowing variety. SRA16Φ has an excellent disease profile with resistance to all major diseases including smut, Pachymetra and leaf scald. Performance of SRA16Φ by FAT series can be found in the 2021/2022 Northern Variety Guide available on sugarresearch.com.au.									

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, 2016, 2017, 2018 and 2019 series FATs)	Plant	92	90	91	86	16.5	16.3	16.1	16.9	20
	1R	99	95	98	87	16.2	16.2	16.1	16.9	20
	2R	103	96	100	83	16.2	16.2	16.0	16.8	16
Overall Performance		**98**	**93**	**96**	**86**	**16.3**	**16.2**	**16.1**	**16.9**	**56**
Available from 2018										
Comments:	SRA15ϕ results are from FATs planted in 2013, 2016, 2017, 2018 and 2019 (data from the 2019 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 and is a good option for early CCS. SRA15ϕ is a moderate to profuse arrowing variety with protruding eyes and can side-shoot when heavily arrowed; ideal to use plant source less than 12 months of age. SRA15ϕ is resistant to leaf scald, intermediate-resistant to Pachymetra, and intermediate-susceptible to smut. Smut may be found in SRA15ϕ under moderate to high disease pressure when grown in the drier areas of the wet tropics. Performance of SRA15ϕ by FAT series can be found in the 2021/2022 Northern Variety Guide available on sugarresearch.com.au.									

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, 2014, 2015, 2016 and 2017 series FATs)	Plant	103	105	103	101	15.3	15.9	16.0	16.6	20
	1R	109	102	108	95	15.7	16.3	16.3	16.8	20
	2R	99	93	99	85	15.6	16.3	16.3	17.0	20
Overall Performance		**104**	**100**	**103**	**94**	**15.5**	**16.2**	**16.2**	**16.8**	**60**
Available from 2016										
Comments:	SRA6ϕ was planted in five FAT series (2011, 2014, 2015, 2016 & 2017). In comparison to commercial standards, SRA6ϕ's cane yield was equal to or above-average, and CCS on average 0.5 units lower. SRA6ϕ showed equally good performance over different soil types where tested, but indications are that SRA6ϕ may be less suitable to poor/dry conditions. Initial germination is rapid and reliable, with slow early crop growth followed by accelerated growth from Autumn. SRA6ϕ has a dense and larger stalk population relative to other varieties, but the height of the crop is often shorter. It is also a sparse arrowing variety with a spiky upright canopy which is often clean of leaf diseases. SRA6ϕ has an excellent disease profile with resistance to all major diseases including smut, Pachymetra and leaf scald. Performance of SRA6ϕ by FAT series can be found in the 2020/2021 Northern Variety Guide available on sugarresearch.com.au.									

SRA37

SRA32

SRA9[Φ]

SRA28[Φ]

SRA27

SRA26[Φ]

SRA25[Φ]

SRA16[Φ]

SRA15[Φ]

SRA6[Φ]

For more information on *variety field trials* contact:

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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 Coastal and Tableland Disease Ratings												
VARIETY	REGION*	SMUT	PACHYMETRA	LEAF SCALD	CHLOROTIC STREAK	ORANGE RUST	BROWN RUST	RED ROT	YELLOW SPOT	FIJI LEAF GALL	MOSAIC	RSD
SRA37	N, T	I-R	I-R	R			R*	R		R	R	
SRA32	N, T	I	I	R			R*	I		I-S	R	
SRA28ф	N, T	I-R	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	R	I	S	S*
SRA25ф	N, T	I-S	R	R		R	R*	S	I-R	S	S	
SRA16ф	N, T	R	R	R		R	R*	R		S	R	
SRA15ф	N, T	I-S	I-R	R		R	R*	R		R	R	
SRA14ф	N	I-R	R	R		R		R	I	S	R	
SRA10ф	N, T	I	I-R	R		R		I	R	S	S	
SRA9ф	N, T	I	R	R		R	R*	I-R	I-R	I	R	
SRA7ф	N, T	I-R	I	R		R		R	R	I	R	I
SRA6ф	N, T	R	R	R		R	R*	I	I-R	I	R	S
SRA5ф	N	I-R	I	I-R		R	R	R		I	R	
SRA3ф	N, T	I	I-R	I		R	R	I-R	I-R	S	R	S
Q256ф	T	I	I-S	R		R		I	R	R	R	S
Q253ф	N, T	R	R	R		R	I-S	I	S	S	R	S
Q252ф	N, T	I-R	I	R		R		R	I	I	R	I
Q251ф	N, T	I-S	R	I-S		R		I-S	I-R	R	R	S
Q250ф	N, T	R	I	R		I		I	I-R	I-S	R	I
Q247ф	N	I-R	R	R		R		R	S	R	R	S
Q245ф	N	R	R	R		R		S	R	R	R	I-S
Q242ф	N	I-R	R	R	I	R		I-R	R	R	R	S
Q241ф	N, T	R	R	R		R	R	R	R	R	R	I-S
Q240ф	N, T	R	I	R	I-R	R		R	I	I-S	R	I
Q238ф	N, T	R	R	R	S	R	R	I-R	S	I-R	R	I-S
Q237ф	N, T	S	S	I			R	I		I	R	I-S
Q232ф	N, T	I-R	I	R	R	R		I-R	R	I	R	I-S
Q231ф	N, T	R	R	I-R		R		R	I	S	R	I
Q230ф	N, T	S	I-R	R		I-S		I	R	R	R	I
KQ228ф	N, T	I	I	R	S	R	R	R	I	I	R	S
Q219	N, T	R	R	R		R		R		S	I-S	I
Q208ф	N, T	I-R	I	R	R	R	R	R	R	I-S	R	I
Q200ф	N, T	I	I	R	I	R	R	R	I-R	R	R	I
Q183	N, T	R	R	I	S	R	R	I	I-S	R	R	I-S

* Region recommended

RESISTANT (R)
PROVISIONAL RATING (R*)
RESISTANT -INTERMEDIATE (I-R)
INTERMEDIATE (I)
INTERMEDIATE- SUSCEPTIBLE (I-S)
SUSCEPTIBLE (S)
PROVISIONAL RATING (S*)

N NORTHERN COASTAL
T TABLELAND

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 Q200ф has been tested in 28 trials and has a narrow confidence interval from 4.4 to 5.8 while the new variety SRA37 has only been tested in 4 trials and ranges from 2.6 to 4.5. Rating confidence 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 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 38 trials and has a narrow confidence interval from 4.3 to 5.4 while the new variety SRA37 has only been tested in 7 trials and ranges from 3.1 to 5.1. Rating confidence will improve as more data are collected.

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
SRA37	Average	Good	Good	Free-Average	Good
SRA32	Poor	Average	Average	Average	Average
SRA28Φ	Average	Good	Good	Average	Good
SRA26Φ	Average	Good	Good	Average-Tight	Good
SRA25Φ	Poor	Average	Average	Average-Tight	Average
SRA16Φ	Average	Average	Average	Free-Average	Good
SRA15Φ	Average	Good	Good	Average	Average
SRA10Φ	Good	Good	Good	Average-Tight	Average
SRA9Φ	Poor	Average	Average	Free-Average	Good
SRA7Φ	Poor	Average	Poor	Free-Average	Average
SRA6Φ	Average	Average	Average	Tight	Good
SRA3Φ	Poor	Average	Average	Average	Average
Q253Φ	Average	Average	Average	Free-Average	Good
Q252Φ	Average	Good	Average	Free	Good
Q251Φ	Average	Good	Average	Free-Average	Good
Q250Φ	Good	Good	Good	Free-Average	Average
Q247Φ	Average	Good	Good	Free-Average	Average-Poor
Q245Φ	Poor	Average	Average	Average	Average-Poor
Q242Φ	Poor	Average	Average	Average-Tight	Average-Poor
Q241Φ	Poor	Poor	Average	Tight	Average
Q240Φ	Average	Good	Good	Average	Average
Q238Φ	Average	Average	Average	Free-Average	Average
Q237Φ	Average	Good	Poor	Tight	Good
Q232Φ	Poor	Good	Poor	Average	Average
Q231Φ	Average	Average	Poor	Tight	Average
Q230Φ	Good	Good	Average	Loose	Average
KQ228Φ	Good	Average	Poor	Tight	Average
Q219	Poor	Average	Good	Free-Average	Average
Q208Φ	Average	Good	Good	Free	Average
Q200Φ	Average	Good	Good	Free	Average
Q186	Average	Average	Poor	Free-Average	Good
Q183	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
SRA37	Average	Average	Average	Free-Average	Good
SRA32	Poor	Average	Average	Average	Average
SRA28Φ	Good	Good	Good	Average	Good
SRA27	Poor	Average	Average	Free	Average
SRA26Φ	Average	Good	Good	Average-Tight	Good
SRA25Φ	Poor	Average	Average	Average-Tight	Average
SRA16Φ	Average	Average	Average	Free-Average	Average
SRA15Φ	Average	Average	Average	Average	Good
SRA10Φ	Good	Good	Good	Average-Tight	Average
SRA9Φ	Good	Good	Good	Free-Average	Good
SRA7Φ	Poor	Poor	Poor	Free-Average	Average
SRA6Φ	Poor	Poor	Poor	Tight	Good
SRA3Φ	Poor	Poor	Poor	Average	Average
Q256Φ	Poor	Poor	Poor	Free-Average	Poor
Q253Φ	Average	Average	Average	Free-Average	Good
Q252Φ	Average	Good	Average	Free	Good
Q251Φ	Poor	Good	Average	Free-Average	Good
Q250Φ	Good	Good	Good	Free-Average	Average
Q247Φ	Average	Good	Good	Free-Average	Average
Q241Φ	Poor	Poor	Average	Tight	Average
Q240Φ	Average	Average	Average	Average	Good
Q238Φ	Average	Average	Poor	Free-Average	Average
Q237Φ	Average	Good	Poor	Tight	Good
Q232Φ	Poor	Good	Poor	Average	Average
Q231Φ	Average	Poor	Poor	Tight	Good
Q230Φ	Good	Good	Average	Loose	Good
KQ228Φ	Good	Good	Average	Tight	Good
Q219	Poor	Average	Good	Free-Average	Average
Q208Φ	Average	Average	Average	Free	Average
Q200Φ	Poor	Average	Average	Free	Average
Q186	Average	Average	Poor	Free-Average	Good
Q183	Poor	Poor	Average	Free-Average	Good

GOOD
AVERAGE
LOW / AVERAGE-POOR
POOR
UNKNOWN

TRASHING
LOOSE
FREE
FREE-AVERAGE
AVERAGE
AVERAGE-TIGHT
TIGHT

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 2021.

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

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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 1.9	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

TABLE 3 Herbicide symptoms severity on the cane foliage for all testing varieties. (Legend: refer to table 1 on the left)

VARIETY	2,4-D	AMETRYN	AMI-CARBAZONE	ASULAM	DIURON	FLUMIOXAZIN	AMETRYN+ TRIFLOXY-SULFURON	METOLACHLOR	METRIBUZIN	MSMA
KQ228(f)	**1.7**	**2.0**	**1.4**	**1.7**	**1.4**	**3.7**	**1.8**	**2.2**	**1.7**	**2.9**
Q208(f)	1.6			1.7			1.7	2.2	1.7	2.9
Q240(f)	1.7			1.7			1.7	2.2	1.7	2.9
Q250(f)	1.7			1.7			1.8	2.3	1.7	2.9
Q252(f)	1.7			1.7			1.8	2.3	1.6	2.9
Q253(f)	1.7			1.7			1.7	2.4	1.7	2.9
SRA6(f)	1.7	2.0	1.4	1.9	1.4			2.2	1.7	2.9
SRA7(f)	1.7	1.9		1.8				2.3	1.7	2.9
SRA9(f)	1.7	1.8	1.3	1.9		3.6		2.2	1.6	2.8
SRA10(f)	1.7	2.0	1.4	1.7		3.6		2.2	1.6	2.8
SRA15(f)	1.6	1.8	1.4	1.7		3.7		2.1	1.6	2.8
SRA16(f)	1.7	2.0	1.5	1.8		3.6		2.2	1.7	2.8
SRA26(f)	1.7	1.9	1.4	1.7	1.4			2.2	1.6	3.1
SRA28(f)	1.6	2.0	1.3	2.0	1.4			2.2	1.7	2.9

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 KQ228(f) 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	AMI-CARBAZONE	ASULAM	DIURON	FLUMIOXAZIN	AMETRYN+ TRIFLOXY-SULFURON	METOLACHLOR	METRIBUZIN	MSMA
KQ228(f)	**-26%**	**-50%**	**-10%**	**-25%**	**-18%**	**-39%**	**-56%**	no reduction	**-30%**	**-26%**
Q208(f)	-36%			-22%			-34%	-54%	-27%	-55%
Q240(f)	-43%			-51%			-29%	-8%	-27%	-42%
Q250(f)	-57%			-77%			-54%	-59%	-26%	-69%
Q252(f)	-46%			-3%			-11%	-7%	-26%	-31%
Q253(f)	-36%			-62%			-50%	-19%	-57%	-60%
SRA6(f)	-29%	-50%	-54%	-15%	-72%			no reduction	-35%	-47%
SRA7(f)	no reduction	-10%		-1%				no reduction	no reduction	-13%
SRA9(f)	-20%	-25%	-25%	-47%		-46%		no reduction	-7%	-32%
SRA10(f)	no reduction	-5%	-1%	no reduction		-31%		-5%	no reduction	-7%
SRA15(f)	no reduction	-77%	-64%	-12%		-78%		-55%	-31%	-66%
SRA16(f)	-19%	-58%	-32%	-46%		-43%		-33%	no reduction	-51%
SRA26(f)	-43%	-48%	-22%	-37%	-25%			-13%	-40%	-52%
SRA28(f)	-78%	-95%	-63%	-82%	-34%			-108%	-82%	-110%

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 KQ228(f) as 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 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
KQ228(f)	**0%**	**-11%**		**-7%**	**-1%**		no reduction	**-1%**
Q250(f)			-1%			no reduction	-1%	-5%
SRA6(f)					-6%		-1%	-6%
SRA7(f)					no reduction		no reduction	no reduction
SRA9(f)					-3%			
SRA15(f)		-9%						
SRA16(f)	-4%	-2%			-5%			

Legend

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

COMBINATION OF HERBICIDE BY VARIETY NOT TESTED

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

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

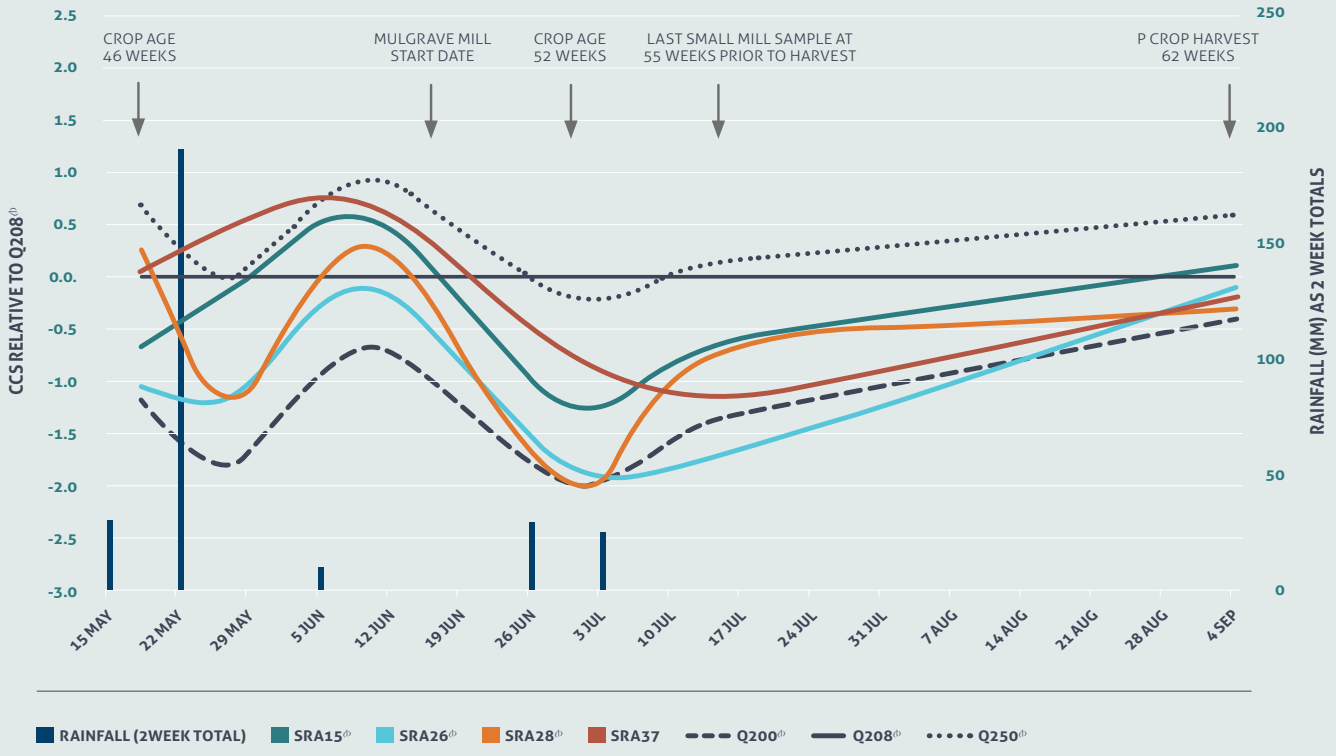
NO BIOMASS/YIELD REDUCTION IN POT/ FIELD TRIAL COMPARED TO UNTREATED

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

MATURITY PROFILES

The CCS values for new varieties from Final Assessment Trials (FATs) are typically harvested in August to October at 12 months of age. They are a good guide to CCS potential compared to established varieties but provide limited insight into early season sugar or response to rainfall. To provide initial information on target harvest windows for new varieties, cane was sampled from a Mulgrave trial at two-week intervals from mid-May to mid-July. CCS values from the final harvest results were added to generate maturity curves over the 2020 season. The analysis was repeated in 2021 and the seasonal conditions resulted in maturity curves that were difficult to interpret. Sampling will start in May 2022 to collect a third year of maturity data.

FIGURE 1 CCS relative to Q208Φ - small mill samples from Mulgrave P Crop FAT



In Figure 1 Q208Φ was used as the benchmark variety, similar to 'mill average', where CCS of the other varieties is expressed relative to Q208Φ.

Q200Φ exhibited a later maturing profile with initial CCS values significantly below Q208Φ before becoming progressively more competitive as the season progressed. Q250Φ showed early maturing behaviour with CCS values above Q208Φ from the first sampling time in mid-May. Both Q200Φ and Q250Φ had larger reductions in CCS than Q208Φ following the rainfall events in May and late June/early July (rainfall totals shown on right axis). This response is indicative of varieties rapidly switching to vegetative growth (and hence diluting the CCS) before reverting back to maturation and sugar accumulation as conditions dry over the course of the season.

The new varieties SRA15Φ, SRA26Φ, SRA28Φ and SRA37 were included in the trial to begin to understand their maturity profiles. SRA26Φ responded most like Q200Φ, although with generally better CCS. This suggests harvesting SRA26Φ in the first round might be avoided and similar harvest times to Q200Φ should be targeted.

SRA28Φ showed the most pronounced CCS changes in response to the rainfall events in late May and late June/early July. This indicates it was rapidly adding biomass with a growth behaviour and maturity response similar to Q253Φ. Varieties like this typically respond well to crop ripeners. There is also potentially value in maturity testing SRA28Φ blocks prior to harvest after significant rainfall events to maximise its CCS potential.

SRA15Φ showed the most promise of the four new varieties as an option to be harvested in the first round. Its CCS values were above Q208Φ during early June and the shape of the maturity curve is like Q250Φ.

SRA37's CCS values were above Q208Φ during early June and similar to SRA15Φ. However, SRA37 had a delayed growth response to the late June/early July rainfall triggering it to follow a similar maturity profile to Q200Φ and SRA26Φ through to harvest, resulting in an unclear ideal harvest window for SRA37.

These results are from one location in one season and further data is being collected in 2022 to characterise the maturity profiles of new varieties.

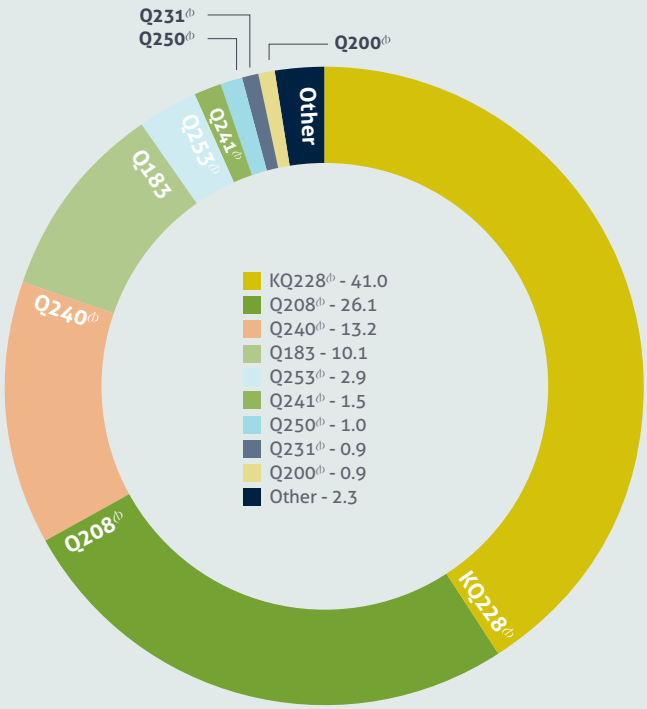
VARIETY ADOPTION IN EACH MILL AREA

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).

Tableland (% TONNES 2021)

The Tableland mill processed 536,946 tonnes of cane from 5,570 hectares in 2021. Compared to the 2020 harvest year, the average yield of 96 t/ha is a slight increase while the CCS of 14.0 is a slight decrease. This resulted in a slight increase in TSH of 13.5 for the 2021 harvest year.

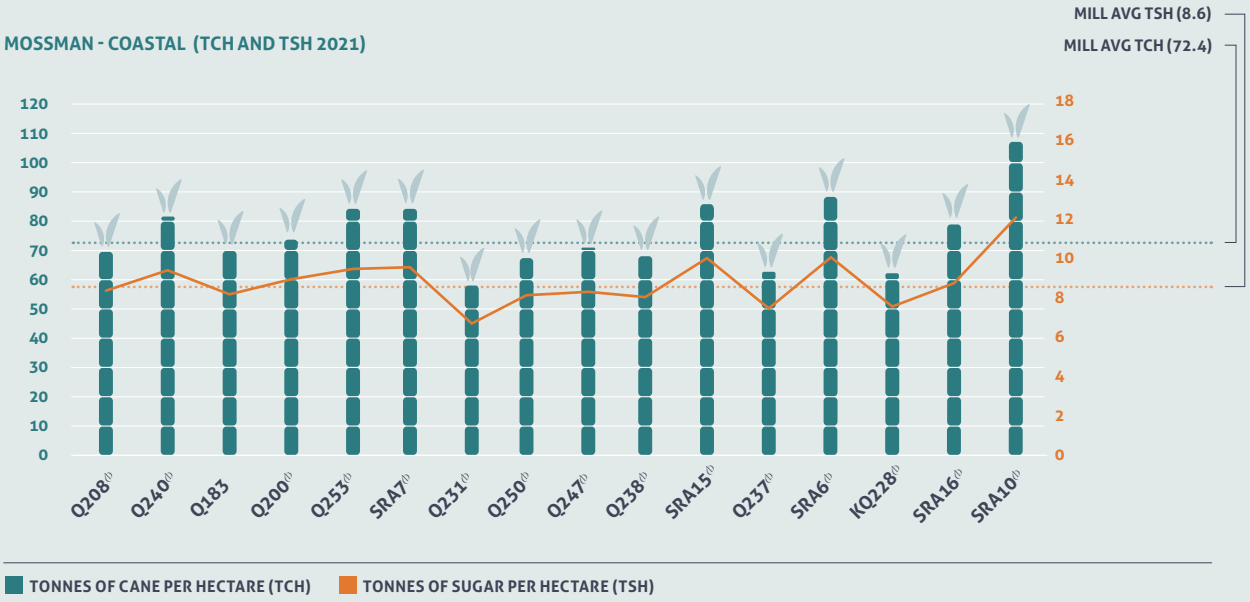
Production of KQ228Φ decreased again by 3% but remains the dominant variety with 41% of tonnes delivered. Q208Φ also decreased by almost 5% to 26% of production. Market share of KQ228Φ and Q208Φ is a combined 67% of overall production, with both varieties driving mill average. KQ228Φ was slightly above the mill average for CCS and TSH, while Q208Φ was slightly below. Q183 and Q240Φ were the only two other varieties to yield above mill average for both cane yield and TSH, and were at or near mill the Tableland mill average CCS of 14.0. The biggest change in varietal composition for Tableland was seen in Q240Φ with a doubling of overall production to just over 13%. Further adoption of Q240Φ has contributed to an increase in overall productivity for the Tableland region. This production improvement will continue in 2022. Q253Φ's 2021 performance was disappointing relative to the four major varieties of KQ228Φ, Q208Φ, Q240Φ and Q183.



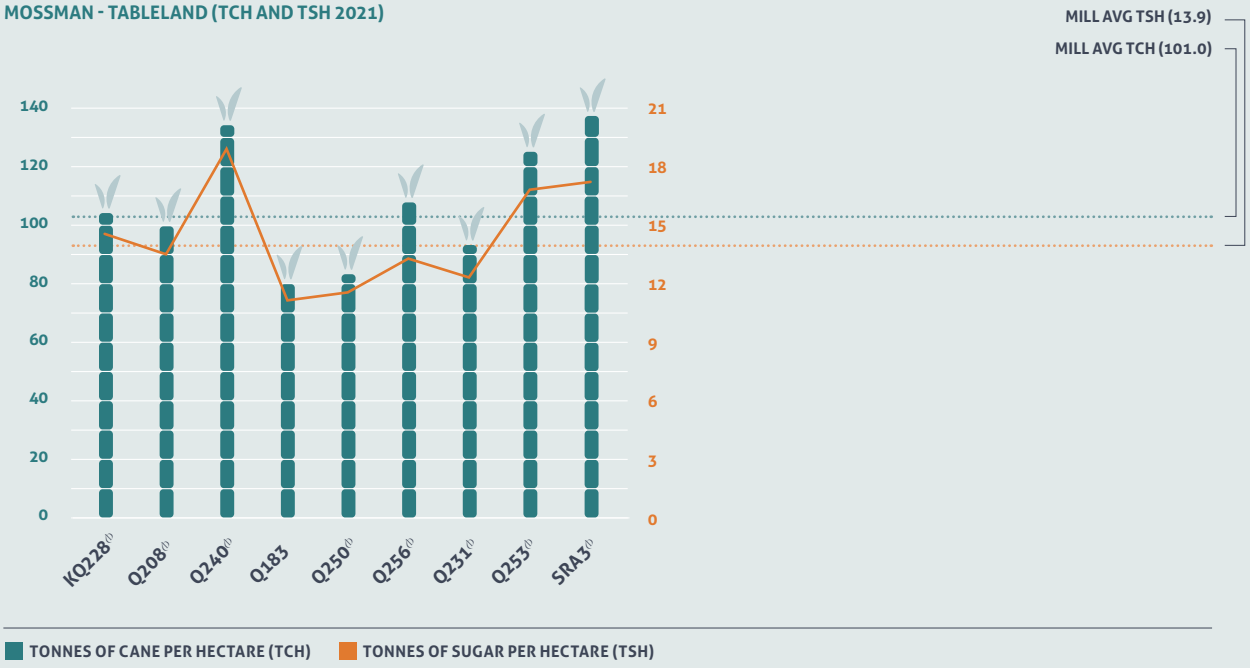
(TCH AND TSH 2021)

VARIETY ADOPTION IN EACH MILL AREA (CONT)

MOSSMAN - COASTAL (TCH AND TSH 2021)



MOSSMAN - TABLELAND (TCH AND TSH 2021)



Mossman (% TONNES 2021)

The 2021 Mossman harvest includes coastal and Tableland production. The combined mill average for TCH was 80 and CCS 12.5, which was similar TCH but lower CCS to the 2020 harvest year.

Mossman Coastal (% TONNES 2021)

Varietal composition for Mossman Coastal remains similar to the 2020 harvest year, with only minimal changes of up to approximately 2% in production for most varieties.

The biggest decrease was seen in Q208Φ by approximately 1.5% but remains the dominant variety at just over 50% of overall production driving mill average for both TCH and TSH. There was also further contraction of tonnes for Q183, Q231Φ and Q250Φ in preference of Q240Φ, Q253Φ, SRA7Φ and SRA15Φ which all increased in production by up to 1.5%.

The most significant increase in production was Q253Φ, increasing by almost 2% to 3.5% of overall production, moving from 10th place in 2020 to 5th place in 2021. Given its strong performance for both TCH and TSH in both 2020 and 2021, Mossman Coastal growers are likely to increase its rate of adoption. Q240Φ also continued to perform strongly in 2021 as it did in 2020.

The slow decline in Q183, Q231Φ and Q250Φ production is likely to continue in 2022 with their 2020 and 2021 harvest performances for TCH and TSH below mill average. This was in favour of newer varieties SRA6Φ, SRA7Φ, SRA10Φ, SRA15Φ and SRA16Φ whose initial productivity data are all equal to or greater than mill average for TCH and TSH. These are mostly plant and first ratoon samples of smaller size ranging from approximately 3,000 tonnes for SRA10Φ up to 14,500 tonnes of SRA7Φ.

The only other recently released variety new in commercial production is SRA26Φ with just over 2,000 tonnes milled, whereas SRA25Φ and SRA28Φ are likely to join the mill statistics in 2022.

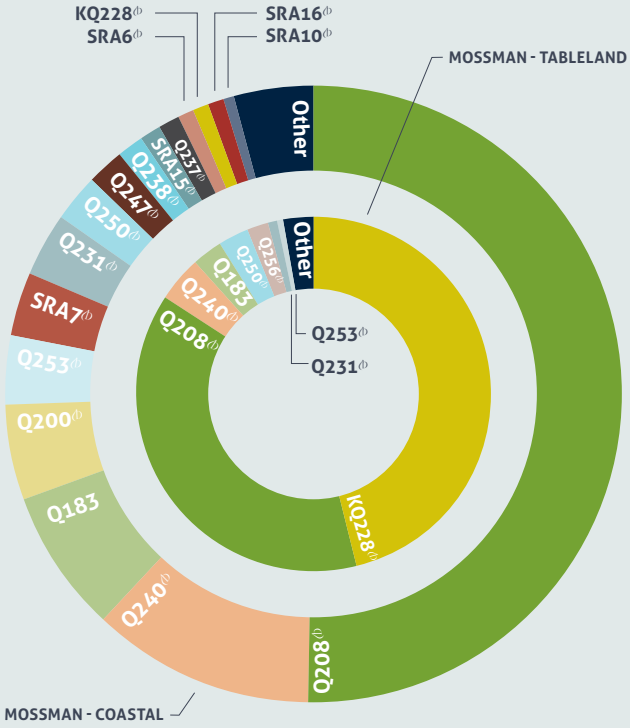
Mossman Tableland (% TONNES 2021)

KQ228Φ has continued to increase in overall production and maintains its position as the dominant variety at 46% of overall production, up from 43% in 2020. This is largely at the expense of Q208Φ and Q183.

Similar to 2020, KQ228Φ and Q208Φ still have a combined market share of over 80% of overall production with their performance driving mill average for TCH and TSH. KQ228Φ largely drives mill average during the first half of the harvest season, with Q208Φ having a larger impact later in the season. Again, Q240Φ and Q253Φ have both shown strong results in Mossman Tableland production since the 2019 harvest year, and both have excellent smut resistance. Despite these benefits, Q253Φ has not increased in production since 2019 which is in contrast to their adoption in other areas.

Q240Φ has increased by almost 2.5% from 2020 moving it from 6th position to 3rd for overall production. Overall production of Q240Φ is likely to increase in 2022 as it replaces less productive older ratoons. The only other variety to exceed mill average for both TCH and TSH was SRA3Φ but it can be affected by smut in commercial ratoon crops on the Tableland.

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



MOSSMAN - COASTAL

- Q208Φ - 50.2
- Q240Φ - 11.7
- Q183 - 7.5
- Q200Φ - 5.1
- Q253Φ - 3.5
- SRA7Φ - 3.4
- Q231Φ - 3.3
- Q250Φ - 2.5
- Q247Φ - 1.8
- Q238Φ - 1.4
- SRA15Φ - 1.3
- Q237Φ - 1.0
- SRA6Φ - 0.8
- KQ228Φ - 0.8
- SRA16Φ - 0.8
- SRA10Φ - 0.7
- Other - 4.0

MOSSMAN - TABLELAND

- KQ228Φ - 46.2
- Q208Φ - 38.1
- Q240Φ - 4.2
- Q183 - 2.8
- Q250Φ - 2.8
- Q256Φ - 2.0
- Q231Φ - 0.7
- Q253Φ - 0.6
- Other - 2.7

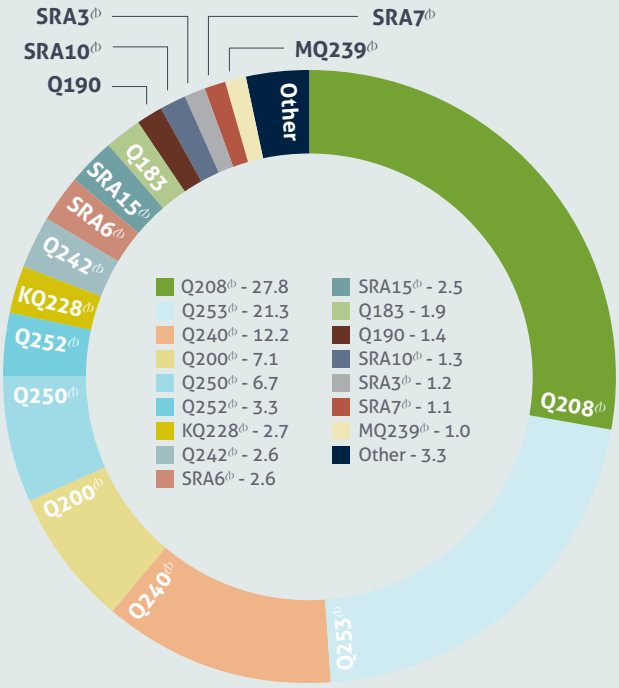
VARIETY ADOPTION IN EACH MILL AREA (CONT)

Mulgrave (% TONNES 2021)

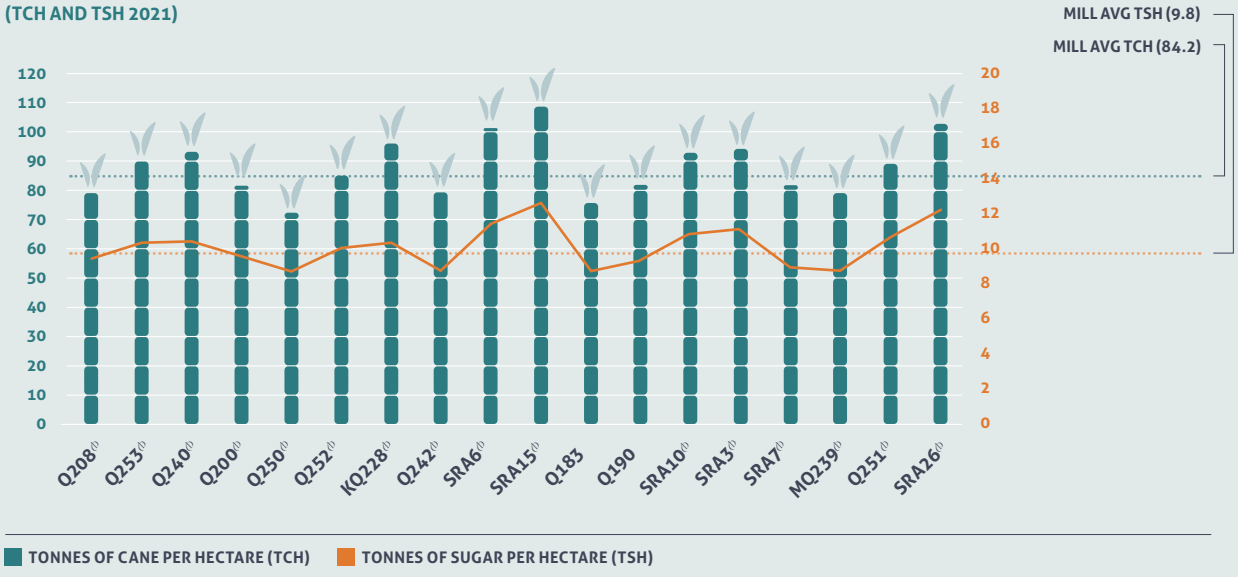
The Mulgrave mill reported a total of 943,355 tonnes of cane from 11,208 hectares in 2021 with an average yield of 84 t/ha and CCS of 11.6. The mill average yield for 2021 was 4 t/ha and 0.8 units below the 2020 averages. This resulted in an overall decrease in average TSH from 10.9 in 2020 to 9.8 in 2021.

While Q208Φ remains the dominant variety, it decreased by 5% in production to 28%. Q250Φ has also decreased in production from 10% to 7%. The reduction in Q208Φ and Q250Φ is a result of the continued popularity of Q253Φ which now comprises 21% of overall production, while Q240Φ remained constant at 12%.

The increase in adoption and strong performance of Q253Φ and Q240Φ has resulted in Q208Φ performing below mill average for the second year in a row despite its market dominance. This trend is likely to continue in coming years. Other recently released varieties, SRA3Φ, SRA6Φ, SRA10Φ and SRA15Φ, also performed well above the mill average for TCH and TSH; however, SRA3Φ and SRA10Φ are still mostly young ratoon crops of relatively small sample sizes. Likewise, SRA26Φ's debut on the Mulgrave mill statistics with its well-above mill average TCH and TSH needs to be considered with caution as only 3,700 tonnes of cane were delivered in 2021, all mostly plant crops of small sample sizes.



(TCH AND TSH 2021)

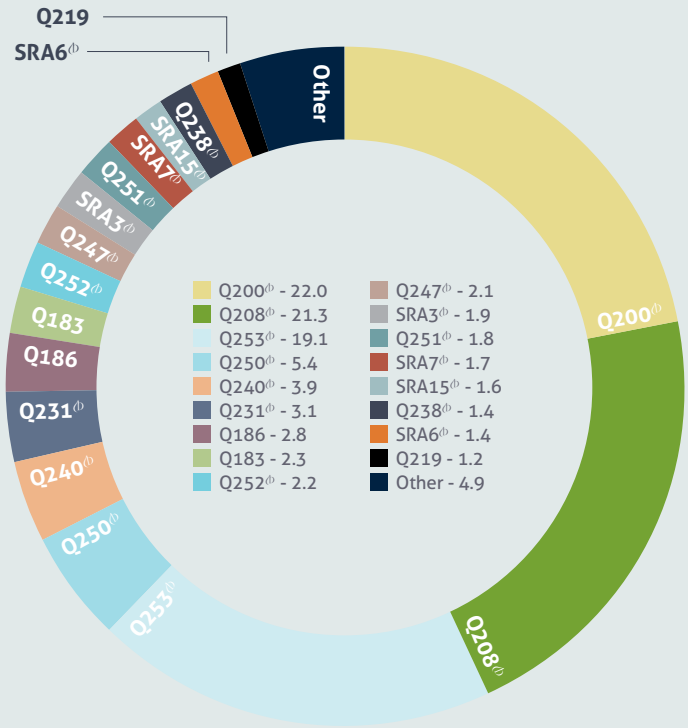


South Johnstone (% TONNES 2021)

In 2021 the South Johnstone region harvested 1,477,841 tonnes from 20,871 hectares. The TCH mill average of 71 t/ha was 10 t/h lower than 2020 and similar to 2019. CCS also decreased from 12.2 in 2020 to 11.4 in 2021. This resulted in an overall decrease in average TSH from 9.9 in 2020 to 8.1 in 2021.

Varietal composition for South Johnstone in 2021 did not vary much from 2019 or 2020. Q200Φ and Q208Φ remain dominant varieties, comprising a combined 43% of production. An increase in production of Q253Φ has resulted in an equivalent decrease in Q250Φ, Q231Φ and Q183. This is not surprising given Q253Φ's strong performance for TCH and TSH two years in a row relative to mill average and especially when compared to the three declining varieties. Q240Φ's production did not increase much from 2020 despite its stronger performance relative to mill average.

Of the major varieties, Q200Φ and Q208Φ returned production figures equal to or near mill average, while Q253Φ and Q240Φ both performed well above mill average for CCS and TSH. Of the recent and newly released varieties, SRA3Φ, SRA6Φ, SRA7Φ, SRA15Φ and SRA16Φ also exceeded mill averages for cane yield and TSH; however, these are mostly plant and young ratoon cane of small sample sizes.



(TCH AND TSH 2021)

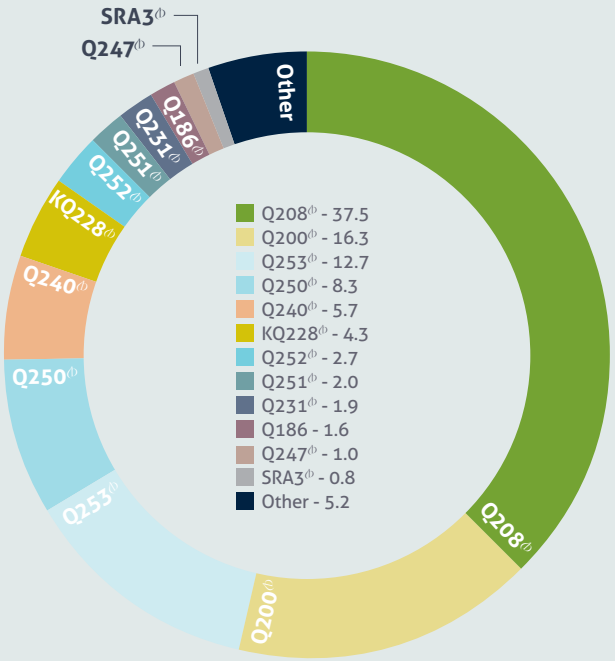
VARIETY ADOPTION IN EACH MILL AREA (CONT)

Tully (% TONNES 2021)

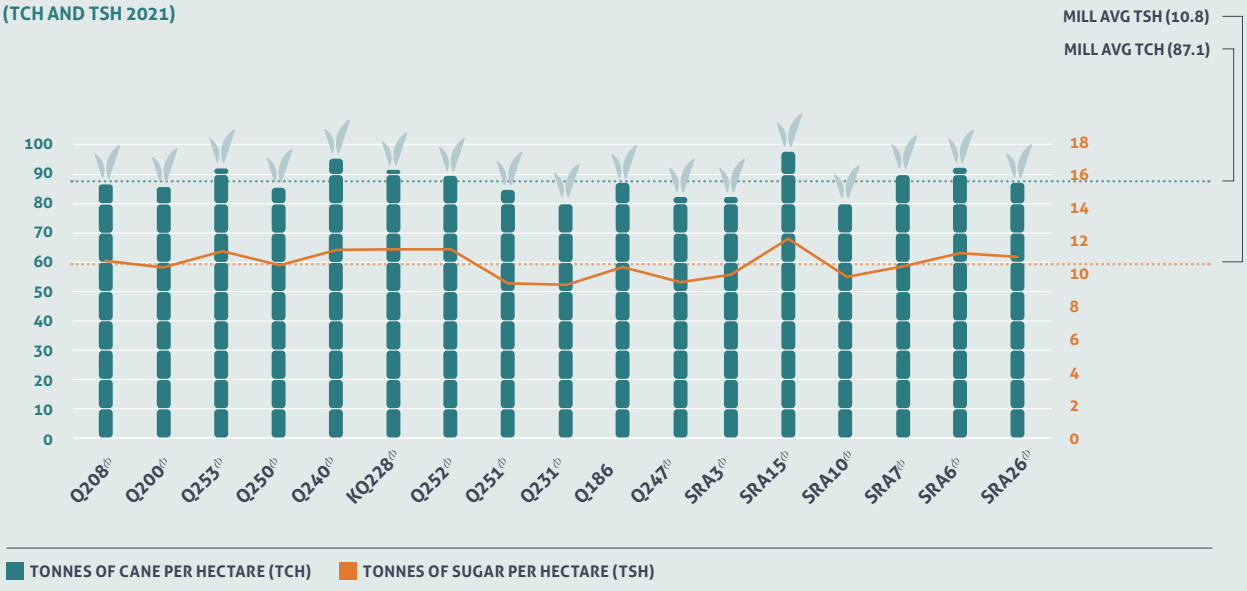
28,863 hectares were harvested in the Tully region in 2021 with a yield of 2,513,827 tonnes. The TCH result of 87 t/ha was equal to 2020 production figure while the CCS was of 12.4 was down by 0.6 units of CCS. This resulted in an overall slight decrease in average TSH from 11.3 in 2020 to 10.8 in 2021.

Varietal composition for Tully has remained relatively stable over the past three years, with only minimal changes of approximately 1% in production for most varieties. The biggest decrease was seen in Q231Φ by 1.3%, while Q253Φ had the most notable increase in overall production of over 4% moving it to 3rd position in overall production above Q250Φ.

Of the established varieties, only KQ228Φ, Q240Φ, Q252Φ and Q253Φ outperformed the mill average for both TCH and TSH, but only marginally. When comparing the new varieties SRA6Φ, SRA15Φ and SRA26Φ to mill average, all performed at or above average for TCH and TSH. These are smaller sample sizes and don't include older ratoons and collectively only make up 2% over Tully's overall cane production.



(TCH AND TSH 2021)



RECOMMENDED PLANTING AND RATOONING

Each year the Northern Regional Variety Committee (RVC) review the Northern variety list for planting and ratooning. This supports Northern growers meeting one aspect of General Biosecurity Obligation, in addition to regional disease management of major diseases for Sugarcane Biosecurity Zone 1 (SBZ1), most importantly leaf scald. Changes were made to the SBZ1 Planting and Ratooning list by the Northern RVC in 2022. Five varieties were approved by the Northern RVC in 2022 and added to the planting and ratooning list, however, two of the varieties were only approved to be grown under very specific circumstances (information included in the table below). Five varieties were removed from the planting list and are to be ratooned only. These five varieties were identified by the Northern RVC to either increase the disease risk for the Northern region and/or their disease susceptibility reduces productivity below economic thresholds. These varieties are no longer available for planting and should be ratooned only. A further two varieties were removed from the list completely due to no recent planting or harvesting activity in any Northern mill areas. More productive and resistant varieties are available for planting from each of the Northern productivity service organisations.

Varieties with a changed status from 2022 are shown in the table below.

VARIETY	PLANTING AND RATOONING	RATOONING ONLY	REMOVED COMPLETELY	YEAR OF CHANGE	REASON FOR CHANGE
SRA37	YES			2022	Approved by Northern RVC (2022).
SRA32	YES			2022	Approved by Northern RVC (2022).
SRA9$^{\phi}$	YES			2022	Approved by Northern RVC (2022).
SRA14$^{\phi}$	YES			2022	Pachymetra resistant option for El Arish growers only, however, most of the recently released Northern varieties are all Pachymetra resistant and are more productive choices
SRA5$^{\phi}$	YES			2022	LOW CCS variety for use with crop ripeners only under direction from the Tully Variety Management Group
SRA1$^{\phi}$	NO	YES		2022	Unacceptable agronomic features resulting in poor harvestability and millability resulting in a reduction in productivity and profitability; more productive varieties are available
Q226$^{\phi}$	NO	YES		2022	No recent commercial plantings recorded across the Northern region and tonnes delivered reducing each year due to more productive varieties now available
Q217	NO	YES		2022	No recent commercial plantings recorded across the Northern region and tonnes delivered reducing each year due to more productive varieties now available
Q201	NO	NO	YES	2022	No recent commercial plantings recorded across the Northern region, and no cane delivered to Northern mills over two consecutive years due to continued reduction in productivity, profitability and smut susceptibility
Q151	NO	NO	YES	2022	No recent commercial plantings recorded across the Northern region, and no cane delivered to Northern mills over two consecutive years due to continued reduction in productivity and profitability
Q135	NO	YES		2022	No recent commercial plantings recorded across the Northern region and tonnes delivered reducing each year due to more productive varieties now available
Q96	NO	YES		2022	No recent commercial plantings recorded across the Northern region and tonnes delivered reducing each year due to more productive varieties now available

RECENT VARIETIES FROM OTHER REGIONS NOT SUITABLE FOR THE NORTHERN REGION

SRA Variety Development has an Interstation Exchange (ISE) process where elite clones are exchanged among regions and trialled in each region, including the North, for local adaptability while they are still being assessed in their region of origin. When any of these elite clones are released in their region of origin, the Northern region already has some local performance data. After assessing the Northern trial data of recently released varieties from other regions, the following varieties were identified by the Northern Regional Variety Committee (RVC) as not being suitable for the Northern region due to their poor yields, CCS, or disease resistance relative to our commercial standard varieties as well as more productive locally bred Northern varieties including SRA26Φ and SRA28Φ.

Presented below are the results of trials conducted in the Northern region. Cane yield (TCH) and CCS for varieties from other regions are compared with the trial results of Northern standard varieties. A range of other SRA varieties can be found in the 2021-2022 Northern Variety Guide.

Variety: WSRA24Φ		***Region of first release:** Herbert (2019) **/ Northern FAT Summary:** Equal to greater tonnes; LOW CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		WSRA24Φ	**Q200Φ**	**Q208Φ**	**SRA26Φ**	**WSRA24Φ**	**Q200Φ**	**Q208Φ**	**SRA26Φ**	
(2020 series FATs)	Plant	89	77	79	87	14.0	16.2	15.3	16.8	4
Overall Coastal FAT performance		**89**	**77**	**79**	**87**	**14.0**	**16.2**	**15.3**	**16.8**	**4**
Not recommended for Northern growers										
Comments:	WSRA24Φ was released to Herbert growers in 2019. WSRA24Φ's results are from Northern FATs planted in 2020. Its delay being trialled in Northern FATs was due to germination issues when establishing source material for trials. In 2022 the Northern RVC considered these local results, and even though it is only initial plant crop data, the RVC recommended that WSRA24Φ not be grown in the Northern region due to its significantly lower CCS relative to more productive variety options.									

Variety: SRA29Φ		***Region of first release:** South (2020) **/ Northern FAT Summary:** Lower tonnes; LOW CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRA29Φ	**Q200Φ**	**Q208Φ**	**SRA26Φ**	**SRA29Φ**	**Q200Φ**	**Q208Φ**	**SRA26Φ**	
(2020 series FATs)	Plant	74	77	79	87	13.9	16.2	15.3	16.8	4
Overall Coastal FAT performance		**74**	**77**	**79**	**87**	**13.9**	**16.2**	**15.3**	**16.8**	**4**
Not recommended for Northern growers										
Comments:	SRA29Φ was released to Southern growers in 2020 and New South Wales growers in 2021. SRA29Φ's results presented are from Northern FATs planted in 2020. In 2022 the Northern RVC considered these local results, and even though it is only initial plant crop data, the RVC recommended that SRA29Φ not be grown in the Northern region due to its lower tonnes and significantly lower CCS when compared to more productive variety options, as well as heavy suckering and lodging observed in SRA29Φ in Northern trials.									

Variety: SRAW30Φ		***Region of first release:** NSW 2-year (2020) **/ Northern FAT Summary:** Equal or lower tonnes; lower CCS.*								
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**				**CCS**				**# OF HARVESTS**
		SRAW30Φ	**Q200Φ**	**Q208Φ**	**SRA26Φ**	**SRAW30Φ**	**Q200Φ**	**Q208Φ**	**SRA26Φ**	
(2020 series FATs)	Plant	75	77	79	87	15.0	16.2	15.3	16.8	4
Overall Coastal FAT performance		**75**	**77**	**79**	**87**	**15.0**	**16.2**	**15.3**	**16.8**	**4**
Not recommended for Northern growers										
Comments:	SRAW30Φ was released to New South Wales growers in 2020 as a two-year cane. SRAW30Φ's results presented are from Northern FATs planted in 2020. In 2022 the Northern RVC considered these local results, and even though it is only initial plant crop data, the RVC recommended that SRAW30Φ not be grown in the Northern region due to its lower yield and CCS relative to more productive variety options, as well as heavy suckering and lodging observed in SRAW30Φ in Northern trials.									

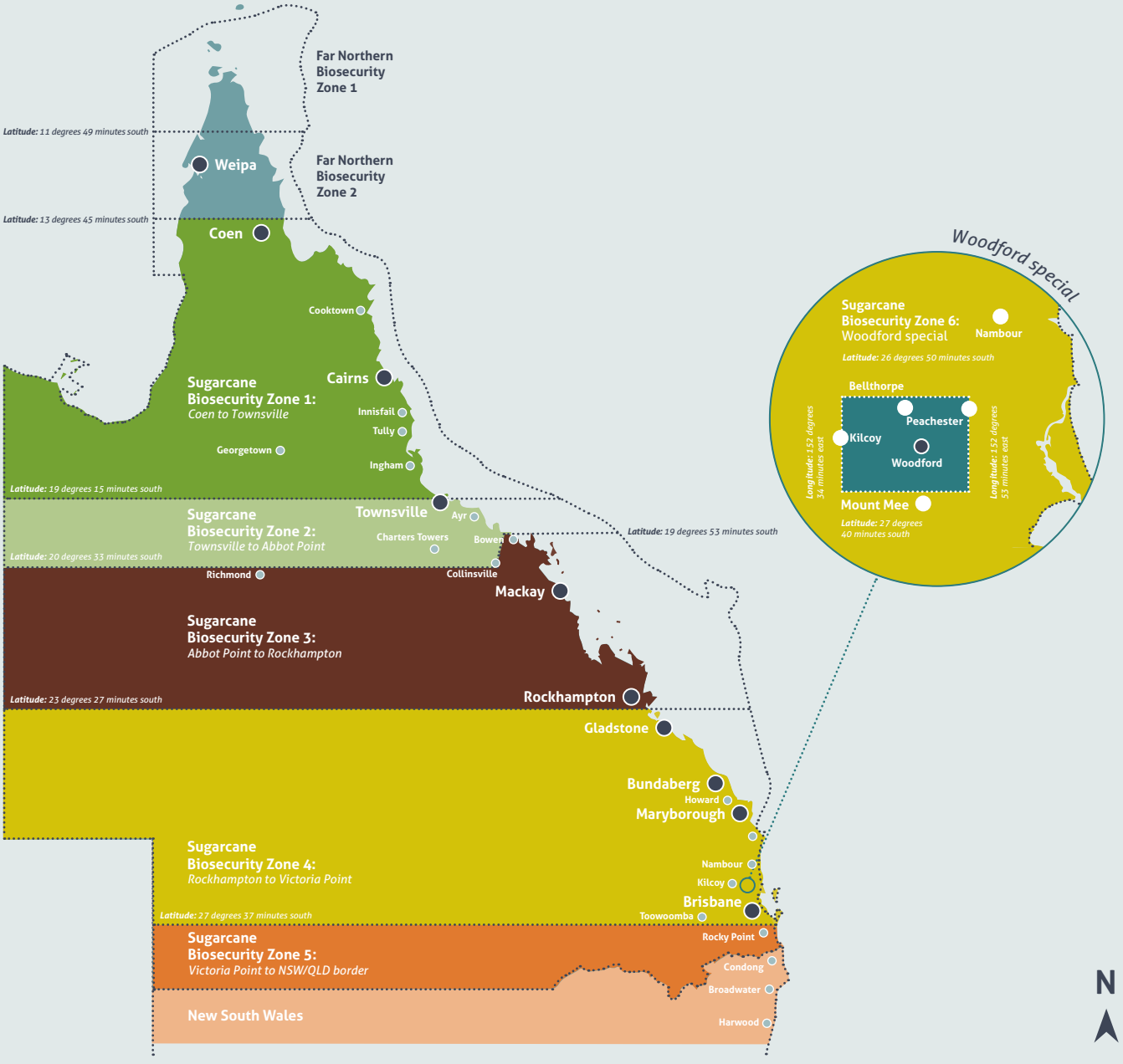
Variety: SRA31Ф	Region of first release: Herbert (2021) / Northern FAT Summary: Equal tonnes; lower CCS.								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA31Ф	Q200Ф	Q208Ф	SRA26Ф	SRA31Ф	Q200Ф	Q208Ф	SRA26Ф	
(2017 series FATs)	Plant	102	97	95	107	16.8	17.0	17.2	17.2	4
	1R	86	86	89	90	16.0	16.9	16.5	16.9	4
	2R	100	94	108	104	15.8	16.3	15.9	16.3	4
Overall Coastal FAT performance		**96**	**92**	**97**	**101**	**16.2**	**16.7**	**16.5**	**16.8**	**12**
Not recommended for Northern growers										
Comments:	SRA31Ф was released to Herbert growers in 2021. SRA31Ф's results presented are from Northern FATs planted in 2017. In 2022 the Northern RVC considered these local results and recommended that SRA31Ф not be grown due to its average yield and lower CCS. More productive Northern options such as SRA26Ф should be considered.									

Variety: SRAW33	Region of first release: South (2021) / Northern FAT Summary: Equal tonnes; lower CCS.								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRAW33	Q200Ф	Q208Ф	SRA26Ф	SRAW33	Q200Ф	Q208Ф	SRA26Ф	
(2018 series FATs)	Plant	78	82	83	81	16.0	16.5	16.3	16.8	4
	1R	96	95	100	91	16.0	16.3	16.0	16.4	4
	2R	84	92	90	91	15.3	15.8	15.7	16.5	4
Overall Coastal FAT performance		**86**	**90**	**91**	**88**	**15.8**	**16.2**	**16.0**	**16.6**	**12**
Not recommended for Northern growers										
Comments:	SRAW33 was released to Southern growers in 2021. SRAW33's results presented are from Northern FATs planted in 2018. In 2022 the Northern RVC considered these local results where the RVC recommended that SRA33 not be considered in preference of more productive Northern options such as SRA26Ф. SRAW33 also exhibited poor appearance at harvest.									

Variety: SRA35Ф	Region of first release: NSW 2-year (2021) / Northern FAT Summary: Equal tonnes; equal CCS; heavy smut infection.								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA35Ф	Q200Ф	Q208Ф	SRA28Ф	SRA35Ф	Q200Ф	Q208Ф	SRA28Ф	
(2015 series FATs)	Plant	125	126	124	126	15.1	15.1	15.0	15.3	4
	1R	121	119	123	122	15.2	15.0	14.9	15.4	4
	2R	96	95	98	100	17.3	17.3	17.3	17.5	4
Overall Coastal FAT performance		**114**	**114**	**115**	**116**	**15.9**	**16.4**	**16.3**	**16.9**	**12**
Not recommended for Northern growers										
Comments:	SRA35Ф was released to New South Wales growers in 2021 as a two-year cane. SRA35Ф's results presented are from Northern FATs planted in 2015. In 2022 the Northern RVC considered these local results, and even though its performance was equal to commercial standards, the RVC recommended that SRA35Ф not be grown in the Northern region due to its intermediate-susceptible reaction to smut and due to heavy smut infections found in second ratoon propagations and in trials in the North. Comparable varieties with more smut resistance are available to Northern growers.									

Variety: SRA36Ф	Region of first release: Herbert (2021) / Northern FAT Summary: Equal tonnes; LOW CCS.								
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA36Ф	Q200Ф	Q208Ф	SRA26Ф	SRA36Ф	Q200Ф	Q208Ф	SRA26Ф	
(2017 series FATs)	Plant	103	97	95	107	16.3	17.0	17.2	17.2	4
	1R	93	86	89	90	15.3	16.9	16.5	16.9	4
	2R	102	94	108	104	15.1	16.3	15.9	16.3	4
Overall Coastal FAT performance		**99**	**92**	**97**	**101**	**15.6**	**16.7**	**16.5**	**16.8**	**12**
Not recommended for Northern growers										
Comments:	SRA36Ф was approved for Herbert growers in 2021 for a 2022 release. SRA36Ф's results presented are from Northern FATs planted in 2017. In 2022 the Northern RVC considered these local results and recommended that SRA36Ф not be grown in the Northern region due to its significantly lower CCS when compared to more productive variety options.									

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 approved 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 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 from the calculator (available at sugarresearch.com.au/calculator).

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.

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 2.5kg/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.

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:

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Drewe Burgess
M 0418 772 317

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T 07 4064 3300

Mossman Agricultural Services Ltd (MAS)
Rebecca McHardie
M 0457 020 839

MSF Sugar Ltd
T *Mulgrave Mill* 07 4043 3307
M *Tablelands Mill (Agronomy)* 0448 341 415

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