Sugar Research Australia

VARIETY GUIDE 2022/2023

Herbert Region

HOW TO USE THIS GUIDE

This guide is designed to help growers in the Herbert 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***

(Cover page) *Land preparation at the SRA Ingham station.*
(Left) *Stalks lined for propagation at the SRA Ingham Station*

NEW AND RECENT VARIETIES AVAILABLE IN THE HERBERT REGION

Variety Recommendation and Release Process

Variety release decisions, in each sugarcane region, are the responsibility of Regional Variety Committees (RVC) with membership drawn from growers, millers and productivity service groups specific to the region. SRA supports these groups with secretariat support and the provision of technical information to assist the RVC to make decisions on particular varieties. RVCs are composed of voting and non-voting members to ensure transparency in the decision-making process.

The Herbert RVC (Sugarcane Biosecurity Zone 1) membership is drawn from grower and miller groups from the Herbert region. Three voting grower representatives from Canegrowers and ACFA, and three voting miller representatives from Wilmar sit on the Herbert RVC. The Herbert RVC requires a majority vote for progression of a variety through the SRA breeding program and a unanimous vote for the release of a new 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/***

New Variety:

SRA36 was approved for release at the 2022 Herbert RVC Meeting and will be available as seed cane in 2022 (limited availability) and 2023. The results of trials conducted in the Herbert region are presented below.

Variety: SRA36 QA07-2978 — ***Parentage:*** *QN80-3425 X Q142* **/** ***Summary:*** *High TCH; low CCS*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
			SRA36	Q200th	Q208th	*Q232th	Q240th	SRA36	Q200th	Q208th	*Q232th	Q240th	
(2014 series FATs):	2015	Plant	79	79	89		76	15.7	16.3	16.2		16.3	4
	2016	1R	107	102	101		103	16.4	17.0	16.9		16.7	4
	2017	2R	96	92	87		93	15.3	16.1	15.8		15.9	4
(2016 series FATs):	2017	Plant	105	89	82	92	88	15.9	16.7	16.3	14.5	16.7	3
	2018	1R	91	79	81	83	81	17.0	17.9	18.0	16.4	17.7	3
	2019	2R	78	67	68	62	72	16.6	16.9	17.4	15.7	16.9	3
(2017 series FATs):	2018	Plant	103	98	91	97	89	16.7	17.2	17.7	16.3	17.7	4
	2019	1R	95	87	88	88	89	16.2	17.4	17.2	15.6	16.9	4
	2020	2R	75	74	74	82	71	16.7	17.3	17.6	16.5	17.4	4
(2018 series FATs):	2019	Plant	103	92	96	91	88	15.9	17.0	17.3	15.8	16.8	4
	2020	1R	91	84	85	90	78	15.9	17.1	17.2	16.3	17.0	4
	2021	2R	84	85	84	86	83	16.6	17.8	17.8	16.9	17.7	4
Overall performance			**92**	**86**	**85**		**84**	**16.2**	**17.1**	**17.1**		**17**	**45**
Available from 2022 (limited) and 2023 through HCPSL approved seed cane plots													
Comments:			SRA36 has shown a sugar yield advantage over Q200th (2%), Q208th (2%), Q240th (4%) and *Q232th (6%) in SRA field trials. SRA36 has shown a 5% lower CCS than Q200th, Q208th and Q240th, but has a cane yield advantage over Q200th (7%), Q208th (7%) and Q240th (8%). This advantage was consistent across most crop classes and trial locations representing Herbert's main soils and growing environments. SRA36 has an excellent disease resistance profile to the Herbert major diseases: smut, Pachymetra and leaf scald, making it a profitable variety of choice for growers. SRA36 is a reliable germinator with a moderate stalk population and thick barrel, presenting a distinctive reddish to light purple stalk and leaf sheath. SRA36 has medium-tight trash and a clean semi-erect canopy, offering good closure for weed control. SRA36 has a compact stool with an erect growth habit providing a good harvester presentation. Given favourable growing conditions, SRA36 can develop as an outstanding tall crop but may lodge due to its tall and heavy stalks. Patches of red stripe top rot were observed in this variety in 2022 at the HCPSL propagation plots located in the lower Herbert. This disease is of rare occurrence in the Herbert, only in very hot and wet summers with the affected plant recovering from it later in the growing season. *Q232th only for comparison to the individual crop classes and sugar yield in the 2016, 2017, 2018 FAT series and not included in the overall comparison.											

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

New Variety:

SRA6ф was approved for release at the 2022 Herbert RVC Meeting and will be available as seed cane in 2022 from the HCPSL approved seed cane plot. The results of trials conducted in the Herbert region are presented below.

Variety: SRA6ф QN05-507 — ***Parentage:*** *QN80-3425 x QH93-1197* **/** ***Summary:*** *Lower CCS; similar TCH*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
			SRA6ф	Q200ф	Q208ф	*Q232ф	*Q240ф	SRA6ф	Q200ф	Q208ф	*Q232ф	*Q240ф	
(2011 series FATs):	2012	Plant	121	109	117			15.8	15.9	15.9			1
	2013	1R	106	99	103			16.7	16.9	17.4			1
	2014	2R	106	98	99			15.2	15.7	15.6			1
(2013 series FATs):	2014	Plant	76	80	79	88	84	14.7	15.8	16.0	14.8	15.4	2
	2015	1R	83	84	91	89	82	14.7	15.6	16.2	15.2	16.2	2
	2016	2R	71	76	89	84	80	11.8	12.9	13.2	11.8	13.2	1
(2016 series FATs):	2017	Plant	76	89	82	92	88	15.6	16.7	16.3	14.5	16.7	3
	2018	1R	80	79	81	83	81	17.4	17.9	18.0	16.4	17.7	3
	2019	2R	75	67	68	62	72	16.8	16.9	17.4	15.7	16.9	3
Overall performance			**88**	**87**	**90**			**15.4**	**16.1**	**16.2**			**17**

Available from 2022 through HCPSL approved seed cane plots

Comments:

SRA6ф has limited data collected from the SRA Herbert trials. It was released in 2022 at the Herbert RVC due to its ratoon performance. SRA6ф has shown slightly lower to similar cane yield to Q208ф and Q200ф. SRA6ф cane yield has shown to be sustained after plant crop, indicating that it may provide growers with more ratoon crops. Indication are that SRA6ф may be more suitable to grow in the district's wet zones than those with poor/dry conditions. SRA6ф has lower CCS than that of Q200ф and Q208ф. SRA6ф has an excellent disease resistance profile to the Herbert major diseases: smut, Pachymetra and leaf scald, potentially making it a profitable variety of choice for growers.

The germination of SRA6ф is rapid, but initial growth can be slow. Arrowing is sparse. The stalks of SRA6ф are shorter compared to Q200ф and Q208ф but with a high stalk density. SRA6ф has a clean upright canopy with free-average trash. Because of its slow growth, it is recommended to be harvested mid to late season.

*Q232ф and *Q240ф only for comparison to individual crops classes in the 2013 and 2016 FAT series, and not included in the overall comparison.

Recently Released Varieties:

SRA31ф was approved for release in 2021 and seed cane will be available to growers through the HCPSL in 2023. The seed cane of this variety has been delayed due to wet weather impact in 2020.

SRA26ф and SRA28ф were approved for release in 2020 at the Herbert RVC Meeting. SRA26ф was made available to growers through the HCPSL approved seed cane plots in 2021 and again in 2022. SRA28ф will be available to growers from the HCPSL approved seed cane plots in 2022.

For growers who wish to order any of these varieties as tissue culture please contact HCPSL on PH: 47761808

The results of trials conducted in the Herbert region for SRA31ф, SRA28ф, SRA26ф, along with other recent releases WSRA24ф, SRA14ф and SRA10ф are shown on the following pages.

Variety: SRA31ф QC05-1281 — ***Parentage:*** *QS87-7427 X QC82-954* **/** ***Summary:*** *Similar TCH; Slightly higher CCS*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
			SRA31ф	Q200ф	Q208ф	*Q232ф	Q240ф	SRA31ф	Q200ф	Q208ф	*Q232ф	Q240ф	
(2014 series FATs):	2015	Plant	77	70	83		70	16.8	16.1	16.2		16.3	3
	2016	1R	99	98	98		105	16.3	16.7	16.7		16.3	3
	2017	2R	79	82	78		88	15.3	15.9	15.6		15.8	3
(2016 series FATs):	2017	Plant	93	89	82	92	88	16.9	16.7	16.3	14.5	16.7	3
	2018	1R	79	79	81	83	81	18.5	17.9	18.0	16.4	17.7	3
	2019	2R	64	67	68	62	72	17.0	16.9	17.4	15.7	16.9	3
Overall performance			**82**	**81**	**81**		**84**	**16.8**	**16.7**	**16.7**		**16.6**	**18**

Available from 2023 through HCPSL approved seed cane plots

Comments:

SRA31ф was released in the Herbert in 2021. SRA31ф has shown a sugar yield similar to Q200ф, Q208ф and Q240ф in the Herbert SRA trials. The cane yield of SRA31ф is similar to Q200ф and Q208ф and slightly lower than Q240ф. SRA31ф has shown a CCS advantage over standards varieties in the early to mid-season from plant and ratoon crops (data not presented), which was consistent across the SRA Herbert trial locations. SRA31ф has an excellent disease resistance profile to the Herbert major diseases: smut, Pachymetra and leaf scald, making it a profitable variety of choice for growers with high Pachymetra spore count and high smut pressure.

SRA31ф is a reliable germinator and has an erect growth habit and an open stool with a fair presentation to the harvester. SRA31ф has a more erect canopy than Q200ф, which provides better closure for controlling of weeds. Trash is average-tight, protecting the slightly bulged eyes, and making it suitable for billet planting. Field observation indicates that SRA31ф may be less sensitive to waterlogging than other varieties.

*Q232ф is only for comparison to the individual crop classes in the 2016 FAT series and not included in the overall comparison.

Variety: SRA28ф QS08-8776 — ***Parentage:*** *Q233ф X Q135* **/** ***Summary:*** *Similar TCH; Slightly higher CCS*

TRIAL HARVEST YEAR		CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
			SRA28ф	Q200ф	Q208ф	Q232ф	Q240ф	SRA28ф	Q200ф	Q208ф	Q232ф	Q240ф	
(2015 series FATs):	2016	Plant	100	96	99	108	94	17.2	16.9	17.2	15.7	16.6	4
	2017	1R	97	97	94	99	95	16.5	16.5	16.0	14.4	16.5	4
	2018	2R	94	101	100	97	101	18.3	18.2	18.3	16.9	17.9	4
(2017 series FATs):	2018	Plant	88	98	91	97	89	18.2	17.2	17.7	16.3	17.7	4
	2019	1R	91	87	88	88	89	17.4	17.4	17.2	15.6	16.9	4
	2020	2R	73	74	74	82	71	17.7	17.3	17.6	16.5	17.4	4
Overall performance			**90**	**92**	**91**	**95**	**90**	**17.6**	**17.3**	**17.3**	**15.9**	**17.2**	**24**

Available from 2022 through HCPSL approved seed cane plots

Comments:

SRA28ф has shown a sugar yield advantage over Q232ф (5%) and Q240ф (3%) and is comparable to Q200ф and Q208ф in SRA field trials. SRA28ф cane yield is similar to Q200ф, Q208ф, Q240ф and slightly lower than Q232ф, but has a CCS advantage of 10% over Q232ф and similar to that of Q200ф, Q208ф and Q240ф. The CCS advantage was consistent across crop classes and trial locations which represent the main soils and growing environments of the Herbert. SRA28ф has also shown broad adaptability across the Northern coastal and Tableland regions. Field observations suggest that SRA28ф may be less sensitive to waterlogging than other varieties. SRA28ф has an excellent disease resistance profile and is a profitable variety choice especially for growers with higher Pachymetra spore counts.

SRA28ф initial growth and tillering can be slow, but it is a reliable germinator. Observations in the Far North and the Herbert indicate that germination problems may occur with the use of mature planting material, thus the use of young seed cane is advised. It can be sensitive to hot water treatment. The purchase of approved seed or tissue culture is recommended. SRA28ф exhibits similar ratooning ability to Q208ф and Q200ф in SRA trial data.

SRA28ф 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. SRA28ф has a compact stool with an erect habit providing good harvester presentation. Suckers in SRA28ф are visibly obvious due to their purple colour; evaluation in the Far North and the Herbert indicates suckering levels are similar to Q240ф. Arrowing in the Far North has been reported as similar to Q200ф in an average year, but profuse in favourable conditions.

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

Variety: SRA26ⓟ QN08-2282 | ***Parentage:*** *QN97-2122 x Q146* / ***Summary:*** *Similar TCH; slightly higher CCS*

TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		SRA26ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	Q240ⓟ	SRA26ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	Q240ⓟ	
(2014 series FATs): 2015	Plant	77	79	89		76	16.7	16.3	16.2		16.3	4
2016	1R	101	102	101		103	17.4	17.0	16.9		16.7	4
2017	2R	90	92	87		93	15.6	16.1	15.8		15.9	4
(2016 series FATs): 2017	Plant	87	89	82	92	88	16.7	16.7	16.3	14.5	16.7	3
2018	1R	81	79	81	83	81	18.1	17.9	18.0	16.4	17.7	3
2019	2R	71	67	68	62	72	17.3	16.9	17.4	15.7	16.9	3
Overall performance		**85**	**85**	**85**		**86**	**17**	**16.8**	**16.8**		**16.7**	**21**
Available in 2022 through HCPSL approved seed cane plots												

Comments:

SRA26ⓟ has shown similar sugar yield than Q200ⓟ, Q208ⓟ and Q240ⓟ in SRA field trials. SRA26ⓟ has a higher CCS and equivalent cane yield than Q240ⓟ, Q208A and Q200ⓟ across most crop classes and trial locations representing Herbert's main soils and growing environments. Limited field observations suggest that well-drained soils favour its development. SRA26ⓟ has an excellent disease resistance profile to the major diseases in the Herbert: smut, Pachymetra and leaf scald, making it a profitable variety of choice for growers with a high Pachymetra spore count. SRA26ⓟ is a reliable germinator. However, slow growth has been observed in the wetter pockets of the paddock. Be aware of its profuse hairs when manual handling it.

The following features have been described in the Far North: a semi-prostrate early growth habit, often up to and including at fill-in stage, has been reported. The yield potential of SRA26ⓟ is not typically affected if tiller damage occurs when filling-in as it is a moderate to high tillering variety. SRA26ⓟ will straighten up to stand erect, providing a good harvester presentation. SRA26ⓟ has internodes of even length and protected eyes, making it an ideal variety for billet planting. Preliminary experimental results and initial commercial experience suggest SRA26ⓟ has RSD sensitivity similar to Q253ⓟ. Chlorotic streak disease have been observed by HCPSL in clay waterlogged soils. SRA26ⓟ 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 Q200ⓟ. However, if SRA26ⓟ is targeted for harvest early in the season, then maturity testing or the use of crop ripeners are advised. SRA26ⓟ exhibits similar ratooning ability to Q200ⓟ and Q208ⓟ.

*Q232ⓟ is only for comparison to the individual crop classes in the 2016 FAT series and is not included in the overall comparison.

Variety: WSRA24ⓟ QA05-2486 | ***Parentage:*** *QN80-3425 X BN61-1123* / ***Summary:*** *Higher TCH; lower CCS*

TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		WSRA24ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	Q240ⓟ	WSRA24ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	Q240ⓟ	
(2014 series FATs): 2015	Plant	96	79	89		76	14.7	16.3	16.2		16.3	4
2016	1R	116	102	101		103	15.9	17.0	16.9		16.7	4
2017	2R	98	92	87		93	14.8	16.1	15.8		15.9	4
(2016 series FATs): 2017	Plant	92	89	82	92	88	15.2	16.7	16.3	14.5	16.7	3
2018	1R	79	79	81	83	81	16.0	17.9	18.0	16.4	17.7	3
2019	2R	60	67	68	62	72	15.8	16.9	17.4	15.7	16.9	3
Overall performance		**90**	**85**	**85**		**86**	**15.4**	**16.8**	**16.8**		**16.7**	**21**
Available 2020												

Comments:

Released in the Herbert in 2019, WSRA24ⓟ has shown a 6% cane yield advantage over Q200ⓟ and Q208ⓟ, and 5% over Q240ⓟ. The cane yield advantage is more noticeable in plant crop and first ratoon. WSRA24ⓟ has lower CCS than Q200ⓟ, Q208ⓟ and Q240ⓟ. WSRA24ⓟ is resistant to smut, Pachymetra, and leaf scald, making it a profitable variety of choice for growers with high Pachymetra spore count and high smut pressure.

WSRA24ⓟ is a vigorous and fast germinator compared to current commercial varieties. WSRA24ⓟ has less tendency to arrow and is moderate in suckering. WSRA24ⓟ has a average stalk population at maturity and an erect growth habit. The stalks of WSRA24ⓟ are pale green, tall, and heavy, with an exceptional thick barrel diameter. WSRA24ⓟ has a clean canopy with good closure for weed competition and free-average trash. Due to its prominent eyes, it is recommended to use young planting material for even germination. Field observations suggest that WSRA24ⓟ may be less sensitive to waterlogging than other varieties. WSRA24ⓟ is best harvested mid to late in the season.

*Q232ⓟ only for comparison to the individual crop classes in the 2016 FAT series and not included in the overall comparison.

Variety: SRA14ⓟ QC02-402 | ***Parentage:*** *QN91-295 X Q200ⓟ* / ***Summary:*** *Lower TCH; similar CCS*

TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
		SRA14ⓟ	Q200ⓟ	Q208ⓟ	*Q240ⓟ	SRA14ⓟ	Q200ⓟ	Q208ⓟ	*Q240ⓟ	
(2011 series FATs): 2012	Plant	74	67	70		16.2	16.2	16.3		3
2013	1R	65	64	66		16.8	16.7	16.8		3
2014	2R	62	64	65		15.8	16.2	16.6		3
(2013 series FATs): 2014	Plant	78	85	88	80	14.9	15.4	15.1	15.1	2
2015	1R	72	74	83	71	16.1	15.5	16.2	16.7	2
2016	2R	78	82	91	83	13.5	13.9	14.1	14.1	2
(2014 series FATs): 2015	Plant	75	79	89	76	16.3	16.3	16.2	16.3	4
2016	1R	101	102	101	103	16.9	17.0	16.9	16.7	4
2017	2R	90	92	87	93	15.9	16.1	15.8	15.9	4
(2015 series FATs): 2016	Plant	94	96	99	94	17.1	16.9	17.2	16.6	4
2017	1R	90	97	94	95	16.5	16.5	16.0	16.5	4
2018	2R	93	101	100	101	18.8	18.2	18.3	17.9	4
Overall performance		**81**	**83**	**86**		**16.2**	**16.2**	**16.3**		**39**
Available since 2019										

Comments:

SRA14ⓟ has intermediate resistance to smut, and is resistant to leaf scald and Pachymetra. When compared to the standard varieties, SRA14ⓟ has slightly lower TCH and similar CCS. Field observations suggest that SRA14ⓟ may be less sensitive to waterlogging and weed pressure than other varieties.

*Q240ⓟ only for comparison to the individual crop classes in the 2013, 2014, 2015 FAT series and not included in the overall comparison.

Variety: SRA10ⓟ QN06-807 | ***Parentage:*** *QN92-157 X QN91-3898* / ***Summary:*** *Lower TCH; higher CCS*

TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		SRA10ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	*Q240ⓟ	SRA10ⓟ	Q200ⓟ	Q208ⓟ	*Q232ⓟ	*Q240ⓟ	
(2012 series FATs): 2013	Plant	88	90	97			16.4	15.4	15.7			4
2014	1R	73	72	83			16.2	15.6	16.1			4
2015	2R	83	88	97			16.4	16.0	16.4			4
(2014 series FATs): 2015	Plant	73	79	89		76	16.3	16.3	16.2		16.3	4
2016	1R	89	102	101		103	17.3	17.0	16.9		16.7	4
2017	2R	74	92	87		93	16.4	16.1	15.8		15.9	4
(2016 series FATs): 2017	Plant	84	89	82	92	88	17.5	16.7	16.3	14.5	16.7	3
2018	1R	72	79	81	83	81	18.8	17.9	18.0	16.4	17.7	3
2019	2R	59	67	68	62	72	17.5	16.9	17.4	15.7	16.9	3
Overall performance		**77**	**84**	**87**			**17**	**16.4**	**16.5**			**33**
Available since 2019												

Comments:

SRA10ⓟ was released in the Far North and the Herbert in 2018 due to its high CCS and Early sugar potential. SRA10ⓟ has a modest disease resistance profile: it is resistant to leaf scald, and intermediate resistant to smut and Pachymetra. When compared to the standard varieties, SRA10ⓟ has lower yields and consistently higher CCS. SRA10ⓟ germination is similar to Q200ⓟ. Arrowing is very sparse in SRA10ⓟ and has moderate suckering. SRA10ⓟ has an erect growth habit with a good presentation to the harvester and a close stool, and slim stalks with average stalk population at maturity. SRA10ⓟ has an erect canopy, which can be challenging to compete with weeds in the early stages of development or when planted in broad row space. SRA10ⓟ is suitable either for billet or stick planters, given its medium-loose trash and small-medium eyes. Limited data suggests SRA10ⓟ is an early sugar variety and would be better to harvest early to mid-season.

*Q232ⓟ only for comparison to individual crops classes in the 2016 FAT series and not included in the overall comparison.

*Q240ⓟ only for comparison to individual crop classes in the 2014 and 2016 FAT series, and not included in the overall comparison.

SRA36

SRA31Φ

SRA28Φ

SRA26Φ

WSRA24Φ

SRA14Φ

SRA10Φ

SRA6Φ

Discarded/not recommended for planting in the Herbert

SRA7Φ: Discarded due to poor performance.

SRA11Φ: Discarded due to milling data and ratoonability.

SRA12Φ: Discarded due to fibre quality.

SRA15Φ: Discarded due to smut concerns (severe in ratoons).

SRA22Φ: Discarded due to milling data and poor performance.

For more information on *variety field trials* contact:

Herbert Variety Officer
Juan Briceno

M 07 4776 8205

RECOMMENDED PLANTING AND HARVESTING

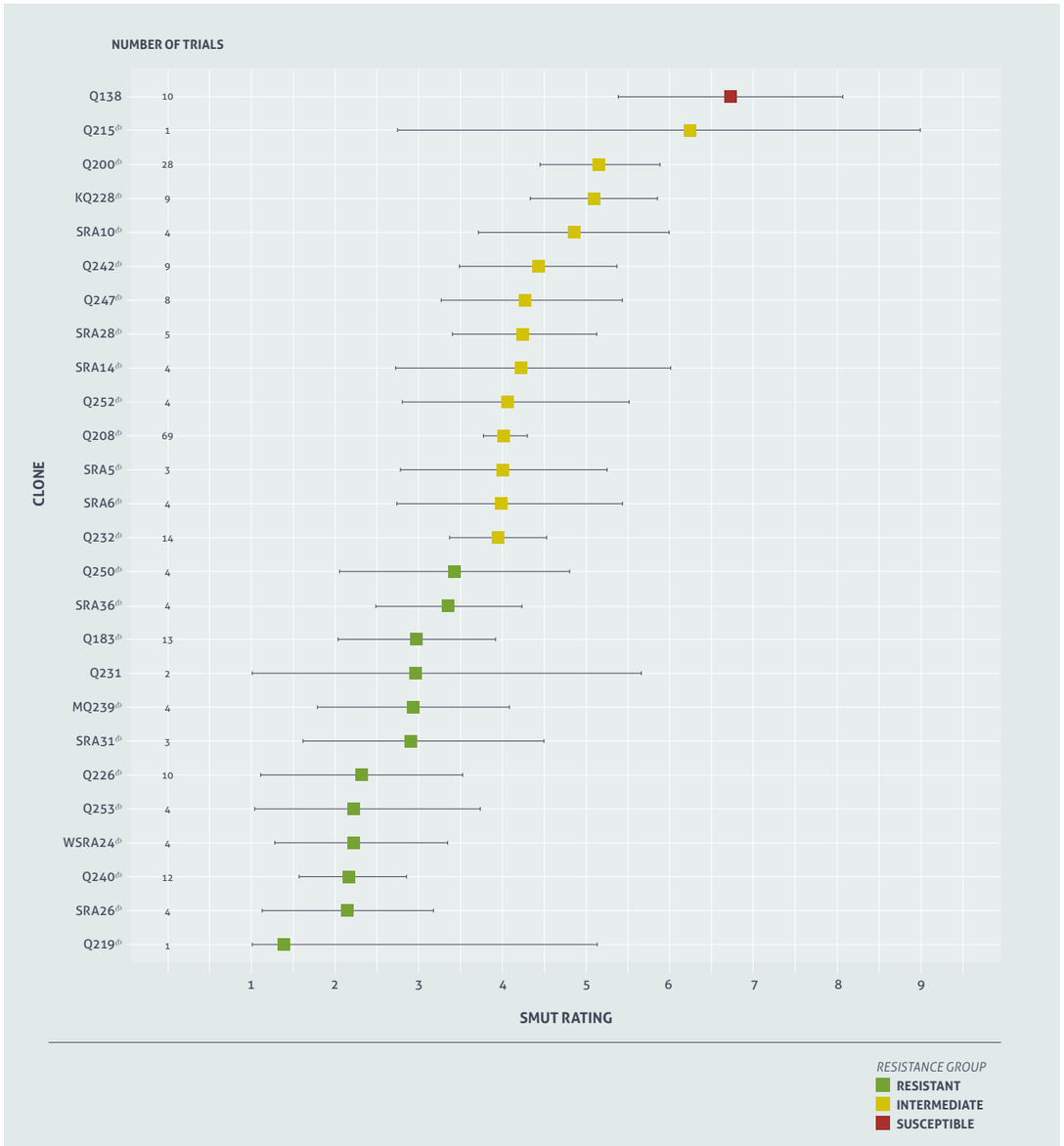
Each year the Herbert Regional Variety Committee (RVC) reviews the Herbert variety list for planting and harvesting. The aim is to assist Herbert growers meeting their General Biosecurity Obligation, in addition to regional disease management of major diseases for Sugarcane Biosecurity Zone 1 (SBZ1).

Two new varieties were approved by the Herbert RVC in 2022 and added to the planting and harvesting list: SRA36 and SRA6Φ. Other changes to the planting and harvesting list were made based on production: four varieties were removed from the list completely due to no recent planting or harvesting activity in any of the Herbert mill areas; Q216 was added back to the harvest list due to the mill still having consignment data.

VARIETY	PLANTING AND HARVESTING	HARVESTING ONLY	REMOVED COMPLETELY	YEAR OF CHANGE	REASON FOR CHANGE
SRA36	YES			2022	Approved by Herbert RVC (2022)
SRA6Φ	YES			2022	Approved by Herbert RVC (2022)
Q216	NO	YES		2022	Added back on to the harvesting list Herbert River Mills (Wilmar) has consignment data
MIDA	NO	NO	YES	2022	No Herbert River Mill (Wilmar) consignment data
Q220	NO	NO	YES	2022	No Herbert River Mill (Wilmar) consignment data
Q171	NO	NO	YES	2022	No Herbert River Mill (Wilmar) consignment data
Q157	NO	NO	YES	2022	No Herbert River Mill (Wilmar) consignment data

SMUT RATINGS

These 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. Rating confidence will improve as more data is collected. For example, variety Q200ᶩᵇ has been tested in 28 trials for Smut resistance and has an 'Intermediate' rating ranging from 4.4 to 5.8, indicated by the narrow confidence interval. The variety WSRA24ᶩᵇ has only been tested in 4 trials and has a 'Resistant' rating ranging from 1.2 to 3.3.



PACHYMETRA RATINGS

The Pachymetra ratings are calculated in the same way as for smut ratings. For example, variety Q200ᶩᵇ has been tested in 38 trials for Pachymetra resistance and has an 'Intermediate' rating with a 95% confidence interval ranging from 4.4 to 5.4. The variety WSRA24ᶩᵇ has only been tested in 4 trials and has a 'Resistant' rating with a 95% confidence interval ranging from 1.4 to 3.9

DISEASE RESISTANCE

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

Herbert Disease Ratings

VARIETY	ZONE	SMUT	PACHYMETRA	LEAF SCALD	CHLOROTIC STREAK	ORANGE RUST	BROWN RUST	RSD	RED ROT	YELLOW SPOT	FIJI LEAF GALL	MOSAIC
KQ228ф	Wet, Dry	I	I	R	S	R	R	S	R	I	I	R
MQ239ф	Wet, Dry	R	I-R	R		R		I	I-R	I	S	
Q138ф	Wet, Dry	S	R	R	I-R	R	R	S	I-S	I	R	I-S
Q183ф	Wet, Dry	R	R	I	S	R	R	I-S	I	I-S	R	R
Q200ф	Wet, Dry	I	I	R	I	R	R	I	R	I-R	R	R
Q208ф	Wet, Dry	I-R	I	R	R	R	R	I	R	R	I-S	R
Q215ф	Dry	I-S	R	R		R	R	I-S	R	R	R	R
Q219ф	Wet, Dry	R	R	R		R		I	R		S	S
Q226ф	Wet, Dry	R	I-S	R		R	I-S	I-S	R	R	R	R
Q231ф	Wet, Dry	R	R	I-R		R		I	R	I	S	I-R
Q232ф	Wet, Dry	I-R	I	R	R	R		I-S	I-R	R	I	R
Q240ф	Wet, Dry	R	I	R	I-R	R		I	R	I-S	I-S	R
Q242ф	Wet, Dry	I-R	R	R	I	R		S	I-R	R	R	R
Q247ф	Wet, Dry	I-R	R	R		R		S	R	S	R	R
Q250ф	Wet, Dry	R	I	R		I		I	I	I-R	I-S	I-R
Q252ф	Wet, Dry	I-R	I	R		R		I	R	I	I	R
Q253ф	Wet, Dry	R	R	R		R	I-S	S	I	S	S	R
SRA5ф	Wet, Dry	I-R	I	I-R		R	R		R		I	R
SRA6ф	Wet, Dry	R	R	R		R		S	I	I-R	I	R
SRA10ф	Wet, Dry	I	I-R	R		R			I	R	S	S
SRA14ф	Wet, Dry	I-R	R	R		R			R	I	S	R
WSRA24ф	Wet, Dry	R	R	R							I	R
SRA26ф	Wet, Dry	R	R	R		R		S	R	R	I	S
SRA28ф	Wet, Dry	I-R	R	R		R			R	R	I	R
SRA31ф	Wet, Dry	R	R	R		R			R		R	R
SRA36ф	Wet, Dry	R	R	R		R			R			R

* Region recommended

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

Rotation of Varieties

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

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 the equipment is decontaminated regularly.

No sugarcane varieties are resistant to RSD: they can all become infected, suffer yield losses, and further spread the disease.

Some varieties are more sensitive to RSD and carry significantly higher levels of the bacteria. In situations where RSD is a high risk and hygiene measures are not guaranteed, it may be appropriate to avoid varieties such as KQ228ф, Q253ф, SRA1ф, SRA3ф, SRA6ф and SRA26ф.

VARIETY HARVEST MANAGEMENT

The table below indicates the trashing type and lodging tolerance of the recommended varieties. It also indicates the CCS maturity (early, mid, or late sugar) of the recommended varieties in the Herbert Wet and Dry Zones. Harvesting varieties according to their sugar maturity profiles, optimizing CCS maturity at time of harvest, can make a significant difference to your productivity.

Herbert Harvest Management

VARIETY	TRASHING	LODGING TOLERANCE	WET ZONE			DRY ZONE		
			EARLY SUGAR	MID SUGAR	LATE SUGAR	EARLY SUGAR	MID SUGAR	LATE SUGAR
KQ228ф	F-Av	A	G	G	P	G	G	P
MQ239ф		A	A	A	A	A	A	A
Q183ф	F-Av	A	A	G	A	A	G	A
Q200ф	F	A	G	G	G	G	G	G
Q208ф	F	A	G	G	G	G	G	G
Q215ф		A				P	A	A
Q226ф	A	A	A	A	P	A	A	P
Q231ф		A	G	A	A	G	A	A
Q232ф	F-Av	A	P	A	A	P	A	A
Q240ф	F-Av	A	A	G	G	A	G	G
Q242ф	T		A	A	P	A	P	P
Q247ф	F-Av		G	G	G	G	G	G
Q250ф	F-Av		G	G	G	G	G	G
Q252ф		A	A	G	G			
Q253ф		G	P	A	A	P	A	A
SRA5ф			P	P	P	P	P	P
SRA6ф	T	G	A	A	A	A	A	A
SRA10ф	F-Av		G	G	A	G	G	A
SRA14ф	F-Av	G	G	A	A	G	A	A
WSRA24ф	F-Av	G	A	P	A	P	P	A
SRA26ф	F-Av	G	G	G	G	G	G	G
SRA28ф	F-Av	A	A	G	G	G	G	G
SRA31ф	F-Av	A	G	G	A	G	G	A
SRA36ф	F-Av	A	A	A	A	A	A	A

TRASHING

- FREE (F)
- FREE-AVERAGE (F-AV)
- AVERAGE (A)
- TIGHT (T)

- GOOD (G)
- AVERAGE (A)
- POOR (P)
- NOT ASSESSED (NA)

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$^{(b)}$ is assessed and used as a susceptible reference variety to compare to other tested varieties.

Table 2 describes the phytotoxicity symptoms obtained on KQ228$^{(b)}$ 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.

For more information contact:
Emilie Fillols, Senior Researcher
T 07 4056 4510

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$^{(b)}$

	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$^{(b)}$	Mild	Medium to severe	Mild	Mild	Medium	Mild	Severe	Medium	Mild	Medium to severe
KQ228$^{(b)}$ 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	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228$^{(b)}$	**1.7**	**2.0**	**1.8**	**1.4**	1.7	**1.4**	**3.7**	**2.2**	**1.7**	**2.9**
Q208$^{(b)}$	1.6		1.7		1.7			2.2	1.7	2.9
Q232$^{(b)}$	1.7		1.8		1.7			2.3	1.7	2.9
Q240$^{(b)}$	1.7		1.7		1.7			2.2	1.7	2.9
Q242$^{(b)}$	1.7		1.7		1.7			2.3	1.7	2.9
Q250$^{(b)}$	1.7		1.8		1.7			2.3	1.7	2.9
Q252$^{(b)}$	1.7		1.8		1.7			2.3	1.6	2.9
Q253$^{(b)}$	1.7		1.7		1.7			2.4	1.7	2.9
SRA5$^{(b)}$	1.7	2.0			1.8			2.2	1.7	2.9
SRA6$^{(b)}$	1.7	2.0		1.4	1.9	1.4		2.2	1.7	2.9
SRA10$^{(b)}$	1.7	2.0		1.4	1.7		3.6	2.2	1.6	2.8
SRA14$^{(b)}$	1.7	1.9		1.5	1.7		3.6	2.1	1.7	2.7
WSRA24$^{(b)}$	1.8	1.6		1.3	2.1	1.2		2.2	1.7	3.0
SRA26$^{(b)}$	1.7	1.9		1.4	1.7	1.4		2.2	1.6	3.1
SRA28$^{(b)}$	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$^{(b)}$ as reference variety, in an attempt to harmonise trial variations as symptom severity can vary between trials: weather conditions at application, and/or during the trial can alter cane growth and herbicide response. Predicted EWRC scores derive from average EWRC scores across the 10-week assessment period, which means higher symptoms intensity and scores could have been observed during the assessment period.

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

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228$^{(b)}$	**-26%**	**-50%**	**-56%**	**-10%**	**-25%**	**-18%**	**-39%**	no reduction	**-30%**	**-26%**
Q208$^{(b)}$	-36%		-34%		-22%			-54%	-27%	-55%
Q232$^{(b)}$	-20%		-43%		-36%			-34%	-18%	-38%
Q240$^{(b)}$	-43%		-29%		-51%			-8%	-27%	-42%
Q242$^{(b)}$	-21%		-12%		-4%			no reduction	-12%	-16%
Q250$^{(b)}$	-57%		-54%		-77%			-59%	-26%	-69%
Q252$^{(b)}$	-46%		-11%		-3%			-7%	-26%	-31%
Q253$^{(b)}$	-36%		-50%		-62%			-19%	-57%	-60%
SRA5$^{(b)}$	no reduction	no reduction			no reduction			no reduction	no reduction	no reduction
SRA6$^{(b)}$	-29%	-50%		-54%	-15%	-72%		no reduction	-35%	-47%
SRA10$^{(b)}$	no reduction	-5%		-1%	no reduction		-31%	-5%	no reduction	-7%
SRA14$^{(b)}$	no reduction	-72%		-43%	-13%		-67%	-22%	no reduction	-75%
WSRA24$^{(b)}$	-86%	-98%		-25%	-117%	-11%		-15%	-24%	-67%
SRA26$^{(b)}$	-43%	-48%		-22%	-37%	-25%		-13%	-40%	-52%
SRA28$^{(b)}$	-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$^{(b)}$ 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	no reduction	**-11%**		**-7%**	**-1%**		no reduction	**-1%**
Q232$^{(b)}$			-6%			no reduction	-4%	-1%
Q242$^{(b)}$			no reduction			-3%	-2%	-11%
Q250$^{(b)}$			-1%			no reduction	-1%	-5%
SRA6$^{(b)}$					-6%		-1%	-6%
SRA14$^{(b)}$		-1%						

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

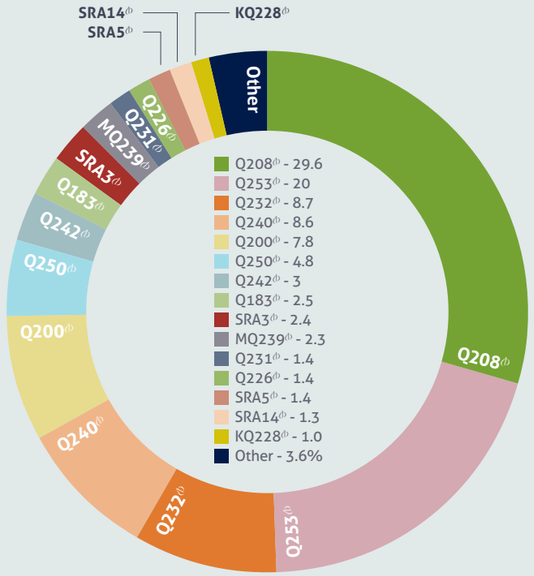
VARIETIES HARVESTED IN 2021 IN THE HERBERT REGION AND THEIR PERFORMANCE

The predominant varieties harvested in the 2021 season, and their commercial performance in terms of tonnes of cane per hectare (TCH) and tonnes of sugar per hectare (TSH) are shown below. This information is also available in QCANESelect® under the regional reporting tab.

Varieties harvested

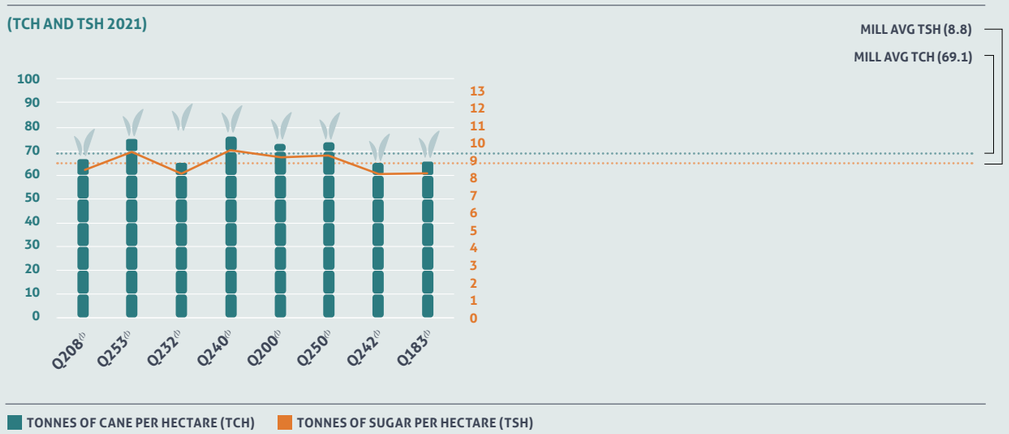
In 2021 the Herbert region harvested 3,797,258 tonnes of cane during a harvesting season that lasted 23.7 weeks. There were 54,985.5 hectares harvested and 15,5% of this was plant cane. 100% of the crop was harvested green. The average mill area CCS was 12.7 and the average TCH and TSH were 69 and 8.8, respectively.

The diagram here indicates the main varieties harvested in the Herbert region in the 2021 season, with some of the rankings changed: Q208ф remains the most popular variety in the Herbert accounting for 29.6% of the total tonnes harvested; this variety has been decreasing from 38.6% in the 2018 season, to 31.2% in the 2019 season, and 30.2% in the 2020 season. Q253ф has steadily increased its uptake from 10.3% in 2019, to 15.2% in the 2020, and 20% in the 2021. Q232ф is the third most popular with 8.7%. Q240ф is the fourth and Q200ф fifth in preference with 8.6% and 7.8% respectively, of the total tonnes harvested.

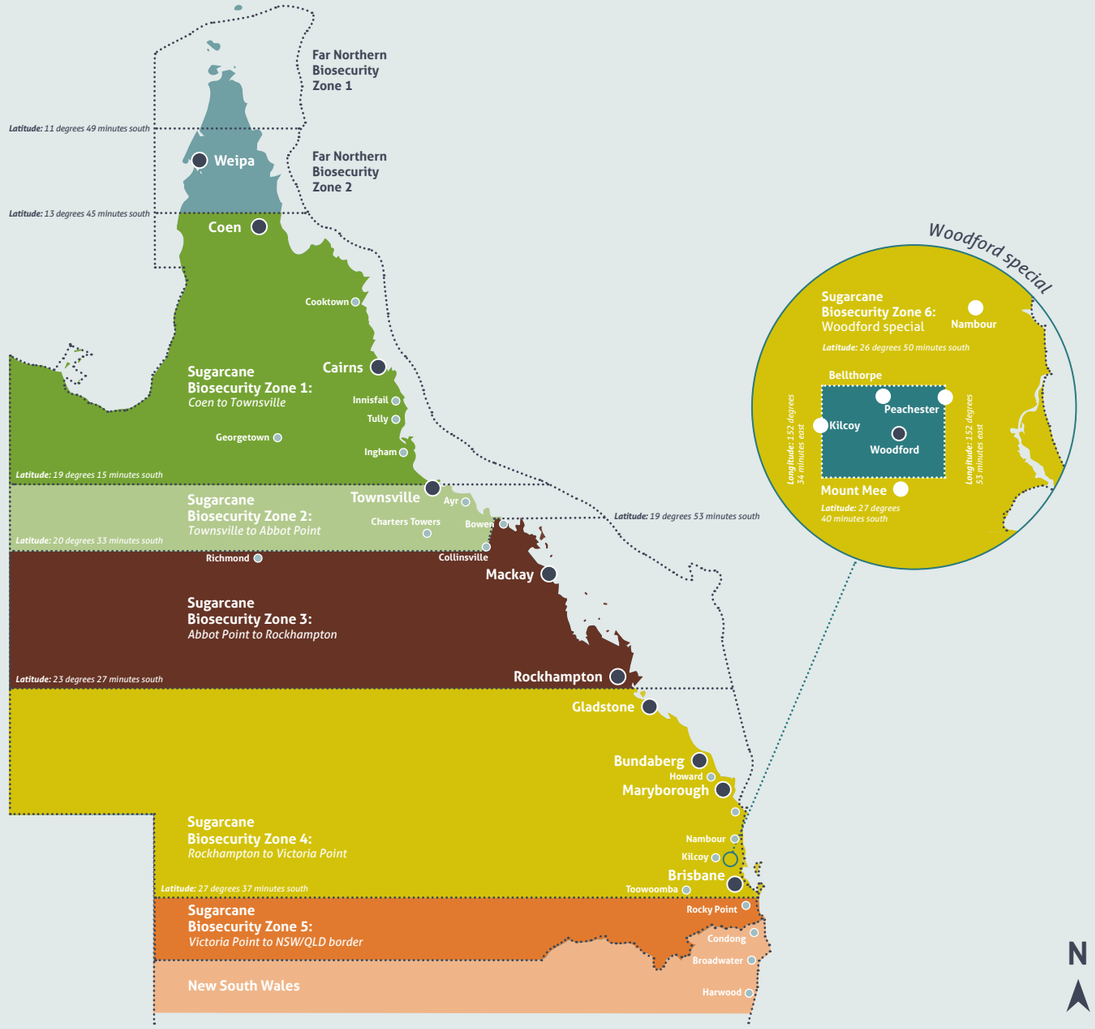


Commercial performance of the varieties harvested

The TCH and TSH, of the main varieties harvested in the 2021 season, are compared to the Herbert mill averages in the diagram below. At this scale, the commercial performance of recently released varieties is difficult to compare with that of established varieties.



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 group:

Herbert Cane Productivity Services Ltd (HCPSL):
T 07 4776 5660

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