Sugar Research Australia

VARIETY GUIDE
2025/2026

Herbert Region

HOW TO USE THIS GUIDE

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

WANT TO KNOW WHAT IS HAPPENING IN THE OTHER REGIONS?

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

***(Cover page)** February 2025 Ingham floods. Flooded Stage 3 trial (FAT) with Herbert River in the background.*
***(Left)** Stage 2 trial (CAT) ready for planting.*

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NEW AND RECENT VARIETIES

Variety Recommendation and Release Process

Variety release decisions, in each sugarcane region, are the responsibility of Regional Variety Committees (RVCs) 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. These include; three grower voting representatives from CANEGROWERS (2 votes), QCAR and HCQR Collectives (1 vote). Three miller representatives from Wilmar Sugar and Renewables, each have votes on the 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.

New Variety

SRA32$^{\Phi}$ & SRA48 were approved for release at the 2025 Herbert RVC meeting and will be available as seed cane in 2026.

Recently Released Varieties:

SRA43 was approved for release at the 2024 Herbert RVC meeting and will be available as seed cane in 2026.

SRA40$^{\Phi}$ was approved for release at the 2023 Herbert RVC meeting and is available as seed cane in 2025.

SRA36$^{\Phi}$ and SRA6$^{\Phi}$ were approved for release at the 2022 Herbert RVC meeting and has been available as seed cane since 2024.

SRA31$^{\Phi}$ was approved for release in 2021 and seed cane has been available (limited) to growers through the HCPSL since 2024.

SRA26$^{\Phi}$ and SRA28$^{\Phi}$ were approved for release in 2020 at the Herbert RVC meeting and has been available to growers through the HCPSL approved seed cane plots since 2024.

All varieties of cane are available through tissue culture. Growers who wish to order any of these varieties as tissue culture, please contact HCPSL on PH: 47761808 or Rhiannan Harrigan (HCPSL Field Officer) on 0490 905 367. Orders close by the end of June 2025, for Autumn 2026 delivery, and end of October 2025, for Spring delivery 2026.

If you would like more information on the variety release process or the Regional Variety Committee (RVC) please visit the SRA website: ***sugarresearch.com.au or scan the QR code.***

The limited trial results obtained in the Herbert region for SRA32$^{\Phi}$, SRA48, SRA43, SRA40$^{\Phi}$, SRA31$^{\Phi}$, SRA28$^{\Phi}$, SRA26$^{\Phi}$, and SRA6$^{\Phi}$ are presented below.

Variety: SRA48 QN11-372		***Parentage:*** *Q208 X CP94-1607* **/** ***Summary:*** *High TCH; lower CCS*										
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**					**CCS**					**# OF HARVESTS**
		SRA48	**Q200**	**Q208**	**Q232$^{\Phi}$**	**Q240$^{\Phi}$**	**SRA48**	**Q200**	**Q208**	**Q232$^{\Phi}$**	**Q240$^{\Phi}$**	
(2017 series FATs): 2018	Plant	99	98	91	97	89	16.8	17.2	17.7	16.3	17.7	4
2019	1R	94	87	88	88	89	16.2	17.4	17.2	15.6	16.9	4
2020	2R	78	74	74	82	71	16.8	17.3	17.6	16.5	17.4	4
(2019 series FATs): 2020	Plant	93	88	88	92	87	17.1	16.8	17.1	16.5	17.2	2
2021	1R	103	96	98	105	98	16.9	16.9	16.9	16.2	16.9	2
2022	2R	111	106	106	124	109	15.4	15.3	15.5	14.7	15.3	2
Overall performance		**96**	**92**	**91**	**98**	**91**	**16.5**	**16.8**	**17**	**16.0**	**16.9**	**18**
Available from 2027 through HCPSL approved seed cane plots (limited) or 2026 as tissue culture												
Comments:		SRA48 has a sugar yield advantage over Q200 (4%), Q208 (3%), Q232$^{\Phi}$ (3%), and Q240$^{\Phi}$ (4%) in SRA field trials. SRA48 has shown a slightly lower CCS than Q200, Q208, and Q240$^{\Phi}$, but a slightly higher CCS than that of Q232$^{\Phi}$. It has demonstrated a cane yield advantage over Q200 (5%), Q208 (6%), and Q240$^{\Phi}$ (6%), and is comparable to Q232$^{\Phi}$. This advantage has been consistent across most crop classes and trial locations representing Herbert's main soils and growing environments. SRA48 has a strong disease resistance profile against Herbert's major diseases, including leaf scald (resistant) and smut (resistant). For Pachymetra (intermediate - susceptible resistance), it is advised to avoid planting in areas with a high Pachymetra spore count. Limited observations from Herbert trials indicate that SRA48 has low arrowing and light suckering. SRA48 is a reliable germinator with an average stalk population and a medium barrel of light green colour. It has medium loose trash and a clean, erect canopy with narrow leaves. SRA48 also features an erect, compact stool with an upright growth habit, providing excellent harvesting presentation.											

Variety: SRA32Φ QS09-8404		***Parentage:** QN80-3425 x QN86-2168 / **Summary:** High TCH; high CCS*												
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**						**CCS**						**# OF HARVESTS**
		SRA32Φ	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	**Q253Φ**	**SRA32Φ**	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	**Q253Φ**	
(2021 series FATs): 2022	Plant	138	115	108	113	123	118	15.9	16.3	16.3	15.0	15.7	15.7	4
2023	1R	104	87	79	89	96	91	17.1	17.4	17.5	16.1	17	17	4
2024	2R	90	76	70	75	83	78	17.3	17.5	17.6	16.5	16.8	17	4
Overall performance		**110**	**92**	**86**	**92**	**101**	**95**	**16.8**	**17.1**	**17.1**	**15.9**	**16.5**	**16.6**	**12**
Limited availability in 2025. Available from 2026 through HCPSL approved seed cane plots or 2026 as tissue culture														
Comments:		SRA32Φ was released in the Burdekin in 2021, in FNQ in 2022, and in the Central region in 2024. This variety was fast-tracked in the Herbert (tested in one series in 2021 and planted for a second series in 2024). SRA32Φ has shown a significant sugar yield advantage over Q200 (17%), Q208 (26%), Q232Φ (27%), Q240Φ (12%), and Q253Φ (17%). These yield advantages have been consistent across all trial sites in the 2021 series. SRA32Φ has shown a CCS advantage over Q232Φ and is similar to Q253Φ, while slightly lower than Q200 and Q208. In terms of cane yield, SRA32Φ has demonstrated a substantial advantage over Q200 (20%) and Q232Φ (20%), Q208 (29%), Q240Φ (10%), and Q253Φ (16%). SRA32Φ is a reliable germinator, similar to Q208. It has a sprawled growth habit and can experience lodging due to its vigorous and tall growth. SRA32Φ is resistant to leaf scald, intermediate in resistance to smut, and intermediate to Pachymetra. Therefore, it is advised to plant it in low disease pressure areas and to rotate with more resistant varieties. The stool of SRA32Φ is sprawled, with moderate to thick and tall stalks, and some lodging can be expected. SRA32Φ has large, pointy eyes and moderate to loose trash. CCS maturity sampling on plant crops suggests SRA32Φ is best harvested mid to late in the season.													

Variety: SRA43 QS10-7130		***Parentage:** Q170 X QC90-289 / **Summary:** High TCH; lower CCS*											
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**					**CCS**						**# OF HARVESTS**
		SRA43	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	**SRA43**	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**		
(2017 series FATs): 2018	Plant	111	98	91	97	89	16.5	17.2	17.7	16.3	17.7		4
2019	1R	100	87	88	88	89	16.1	17.4	17.2	15.6	16.9		4
2020	2R	84	74	74	82	71	16.7	17.3	17.6	16.5	17.4		4
(2019 series FATs): 2020	Plant	93	88	88	92	87	16.8	16.8	17.1	16.5	17.2		2
2021	1R	99	96	98	105	98	16.5	16.9	16.9	16.2	16.9		2
2022	2R	114	106	106	124	109	14.9	15.3	15.5	14.7	15.3		2
Overall performance		**102**	**90**	**89**	**95**	**88**	**16.1**	**17.0**	**17.2**	**16.0**	**17**		**18**
Available from 2025 through HCPSL approved seed cane plots (limited) or 2026 as tissue culture													
Comments:		SRA43 has a sugar yield advantage over Q200 (5%), Q208 (5%), Q232Φ (4%) and Q240Φ (6%) in SRA field trials. SRA43 has shown a lower CCS than Q200, Q208 and Q240Φ, but similar to that of Q232Φ. SRA43 has shown a cane yield advantage over Q200, Q208, Q232Φ and Q240Φ. This advantage was consistent across most crop classes and trial locations representing Herbert's main soils and growing environments. SRA43 has a good disease resistance profile to the Herbert's major diseases: Pachymetra and leaf scald (resistant) and with smut (intermediate) the advice is to avoid cane areas with high smut pressure. Limited observation in the Herbert trials indicates that SRA43 has low arrowing and light suckering. SRA43 is a reliable germinator with an average stalk population and medium barrel of light green colour. SRA43 has medium loose trash and a clean erect canopy with wide leaf, thick cabbage and tall stalks. SRA43 has an erect compact stool with an erect growth habit providing good harvesting presentation.												

Variety: SRA40Φ QS07-7049		***Parentage:** CP70-1547 X QA96-1492 / **Summary:** High TCH; low CCS*											
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**					**CCS**						**# OF HARVESTS**
		SRA40Φ	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	**SRA40Φ**	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**		
(2016 series FATs): 2017	Plant	106	88	82	92	88	15.1	16.8	16.3	14.5	16.7		3
2018	1R	94	77	81	83	81	16.2	17.8	18.0	16.4	17.7		3
2019	2R	77	64	68	62	72	16.1	17.0	17.4	15.7	16.9		3
(2018 series FATs): 2019	Plant	97	92	96	91	88	15.1	17.0	17.3	15.8	16.8		3
2020	1R	80	84	85	90	78	15.7	17.1	17.2	16.3	17.0		3
2021	2R	84	85	84	86	83	16.8	17.8	17.8	16.9	17.7		3
Overall performance		**90**	**83**	**83**	**85**	**82**	**15.8**	**17.3**	**17.4**	**16.0**	**17**		**18**
Available from 2025 through HCPSL approved seed cane plots (limited) or as tissue culture													
Comments:		SRA40Φ has shown a sugar yield advantage over Q232Φ (5%) and similar to Q200 and Q240Φ in SRA field trials. SRA40Φ has shown a lower CCS than Q200, Q208 and Q240Φ, but similar to that of Q232Φ. SRA40Φ has a cane yield advantage over Q200 (8%), Q208 (8%), Q232Φ (6%) and Q240Φ (9%). This advantage was consistent across most crop classes and trial locations representing Herbert's main soils and growing environments. SRA40Φ has a good disease resistance profile to the Herbert's major diseases: smut, Pachymetra and leaf scald, making it a profitable variety of choice for growers. Limited observation in Herbert trials indicates that SRA40Φ has low arrowing and suckering. SRA40Φ is a reliable germinator with a moderate stalk population and medium barrel, presenting distinctive reddish to light green stalks. SRA40Φ has medium tight trash and a clean erect canopy. SRA40Φ has an erect compact stool with an erect growth habit providing good harvesting presentation. Brown rust has been observed in this variety with a reaction similar to Q253Φ. The affected plants recover from it later in the growing season.												

NEW AND RECENT VARIETIES (CONT)

Variety: SRA36Φ QA07-2978	Parentage: QN80-3425 X Q142 / Summary: High TCH; low CCS										
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		SRA36Φ	Q200	Q208	*Q232Φ	Q240Φ	SRA36Φ	Q200	Q208	*Q232Φ	Q240Φ	
(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 through HCPSL approved seed cane plots since 2024 or to order as tissue culture												
Comments:	SRA36Φ has shown a sugar yield advantage over Q200 (2%), Q208 (2%), Q240Φ (4%) and *Q232Φ (6%) in SRA field trials. SRA36Φ has shown a 5% lower CCS than Q200, Q208 and Q240Φ, but has a cane yield advantage over Q200 (7%), Q208 (7%), and Q240Φ (8%). This advantage was consistent across most crop classes and trial locations representing Herbert's main soils and growing environments. SRA36Φ has a good disease resistance profile to the Herbert's major diseases: smut, Pachymetra and leaf scald, making it a profitable variety of choice for growers. SRA36Φ is a reliable germinator with a moderate stalk population and thick barrel, presenting a distinctive reddish to light purple stalk and leaf sheath. SRA36Φ has medium tight trash and a clean semi-erect canopy offering good closure for weed control. SRA36Φ has a compact stool with an erect growth habit providing a good harvester presentation. Given favourable growing conditions, SRA36Φ can develop as an outstanding tall crop but may lodge due to its tall and heavy stalks. Initial maturity sampling data suggests SRA36Φ is best harvested mid or late in the season (see CCS profiles). 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. Patches of red stripe top rot were observed in this variety in 2022. 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. *Q232Φ only for comparison to the individual crop classes and sugar yield in the 2016, 2017, and 2018 FAT series.*											

Variety: SRA6Φ QN05-507	Parentage: QN80-3425 x QH93-1197 / Summary: Lower CCS; similar TCH										
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		SRA6Φ	Q200	Q208	*Q232Φ	*Q240Φ	SRA6Φ	Q200	Q208	*Q232Φ	*Q240Φ	
(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 since 2024 through HCPSL approved seed cane plots (limited) or to order as tissue culture												
Comments:	SRA6Φ has limited data collected from the SRA Herbert trials. It was released in 2022 at the Herbert RVC due to its ratoon performance. SRA6Φ has shown slightly lower to similar cane yield to Q208, Q200 and Q240Φ. SRA6Φ cane yield has shown to be sustained after plant crop, indicating that SRA6Φ may provide growers with sustained ratoonability. Indications are that SRA6Φ may be more suitable to grow in the district's wet zones than those with poor/dry conditions. SRA6Φ has lower CCS than that of Q200, Q208 and Q240Φ but similar to Q232Φ. SRA6Φ has a good disease resistance profile to the Herbert's major diseases: smut, Pachymetra, and leaf scald, potentially making it a profitable variety of choice for growers. The germination of SRA6Φ is rapid, but initial growth can be slow. Arrowing is sparse. The stalks of SRA6Φ are short with high stalk density compared to other varieties. SRA6Φ has a clean upright canopy with free to average trash. Because of its slow growth, it is recommended to be harvested mid to late season. *Q232Φ and *Q240Φ only for comparison to individual crops classes in the 2013 and 2016 FAT series.*											

Variety: SRA31Φ QC05-1281	***Parentage:*** *QS87-7427 X QC82-954* ***/ Summary:*** *Similar TCH; Slightly higher CCS*											
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**					**CCS**					**# OF HARVESTS**
		SRA31Φ	**Q200**	**Q208**	***Q232Φ**	**Q240Φ**	**SRA31Φ**	**Q200**	**Q208**	***Q232Φ**	**Q240Φ**	
(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 through HCPSL approved seed cane plots												
Comments:	SRA31Φ was released in the Herbert in 2021. SRA31Φ has shown a sugar yield similar to Q200, Q208 and Q240Φ in the Herbert SRA trials. The cane yield of SRA31Φ is similar to Q200 and Q208 and slightly lower than Q240Φ. Initial maturity sampling data suggests SRA31Φ has shown a CCS advantage over standard varieties in the early to mid-season from plant and ratoon crops (see CCS profiles), which was consistent across the SRA Herbert trial locations. SRA31Φ has shown a good disease resistance profile to the Herbert's major diseases: smut[1], Pachymetra, and leaf scald. SRA31Φ is a reliable germinator and has an erect growth habit and an open stool with fair presentation for harvesting. SRA31Φ has a more erect canopy than Q200, 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 SRA31Φ may be less sensitive to waterlogging than other varieties. SRA31Φ may be a competitive variety option to replace Q250Φ as an early harvest season. *Q232Φ is only for comparison to the individual crop classes in the 2016 FAT series and not included in the overall comparison. [1]*In 2022, SRA31Φ manifested an unusual secondary smut infection at the HCPSL Stone River and Hamley approved seed blocks. Considerations on the seasonal conditions, timing of herbicide application (2,4-D and Starane), high count of airborne smut innoculum spores has been considered, among other factors, as altering the expression of smut resistance of SRA31Φ. Specific field evaluation work was conducted in 2023 to improve the understanding of the difference in smut incidence in a range of varieties in the Herbert district.*											

Variety: SRA28Φ QS08-8776	***Parentage:*** *Q233Φ X Q135* ***/ Summary:*** *Similar TCH; Slightly higher CCS*											
TRIAL HARVEST YEAR	**CROP CLASS**	**YIELD (TCH)**					**CCS**					**# OF HARVESTS**
		SRA28Φ	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	**SRA28Φ**	**Q200**	**Q208**	**Q232Φ**	**Q240Φ**	
(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 since 2024 through HCPSL approved seed cane plots or to order as tissue culture												
Comments:	SRA28Φ has shown a sugar yield advantage over Q232Φ (5%) and Q240Φ (3%) and is comparable to Q200 and Q208 in SRA field trials. SRA28Φ cane yield is similar to Q200, Q208, Q240Φ and slightly lower than Q232Φ, but has a CCS advantage of 10% over Q232Φ and similar to that of Q200, Q208 and Q240Φ. The CCS advantage was consistent across crop classes and trial locations which represent the main soils and growing environments of the Herbert. Initial maturity sampling data suggests SRA28Φ is best harvested early or mid season (see CCS profiles). SRA28Φ has also shown broad adaptability across the Northern coastal and Tableland regions. Field observations suggest that SRA28Φ may be less sensitive to waterlogging than other varieties. SRA28Φ has a good disease resistance profile and is a profitable variety of choice especially for growers with higher Pachymetra spore counts. SRA28Φ initial growth and tillering can be slow, but 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; and the purchase of approved seed or tissue culture is advised. SRA28Φ exhibits similar ratooning ability to Q208 and Q200 in SRA trial data. 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 presentation for harvesting. Suckers in SRA28Φ are visibly obvious due to their purple colour; evaluation in the Far North and the Herbert indicates suckering levels are similar to Q240Φ. Arrowing in the Far North has been reported as similar to Q200 in an average year, but profuse in favourable conditions.											

NEW AND RECENT VARIETIES (CONT)

Variety: SRA26Φ QN08-2282	Parentage: QN97-2122 x Q146 / Summary: Similar TCH; slightly higher CCS										
TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)					CCS					# OF HARVESTS
		SRA26Φ	Q200	Q208	*Q232Φ	Q240Φ	SRA26Φ	Q200	Q208	*Q232Φ	Q240Φ	
(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 since 2024 through HCPSL approved seed cane plots or to order as tissue culture												
Comments:	SRA26Φ has shown similar sugar yield as Q200, Q208, and Q240Φ in SRA field trials. SRA26Φ has an equivalent cane yield, but higher CCS than Q240Φ, Q208 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. SRA26Φ has a good 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. SRA26Φ 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. SRA26Φ has 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 presentation for harvesting. SRA26Φ has internodes of even length and protected eyes, making it an ideal variety for billet planting. Preliminary experimental results and initial commercial experience suggest SRA26Φ has RSD sensitivity similar to Q253Φ. Chlorotic streak disease have been observed by HCPSL in clay waterlogged soils. SRA26Φ is a very sparse or non-arrowing variety with moderate trashing and does not sucker readily. It will continue to grow steadily throughout the autumn and winter months. Initial maturity sampling data of SRA26Φ suggests it's best harvested mid-to-late season to maximise CCS, similar to Q200. 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 Q200 and Q208. Poor ratooning has been reported in some commercial blocks, mostly occurring in the wetter areas of paddocks, particularly where higher rat populations were present, and also when the crop was cut late in the season or cut too low. *Q232Φ is only for comparison to the individual crop classes in the 2016 FAT series and is not included in the overall comparison. **2022 season Northern commercial mill data suggests SRA26Φ has higher sugar yield and cane yield compared to other commercial varieties, with a high CCS early, mid and late season.											

SRA6Φ

SRA26Φ

SRA28Φ

SRA31Φ

SRA32Φ

SRA36Φ

SRA40Φ

SRA43

SRA48

Other regions' released SRA varieties, discarded/not released for planting in the Herbert

SRA7Φ: Discarded due to poor performance.

SRA11Φ: Discarded due to milling data issues and poor ratoon ability.

SRA12Φ: Discarded due to fibre quality.

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

SRA22:Φ Discarded due to milling data issues and poor performance.

SRA37Φ: Not released in the Herbert due to sugar quality.

For more information on *variety field trials* contact: *SRA Herbert Variety Officer Linda Di Maggio*
E: LDimaggio@sugarresearch.com.au **M:** 0457 877 126

APPROVED VARIETIES FOR 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 to meet 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 2025 and added to the planting and harvesting list - SRA32(ф) and SRA48 making a total of 46 approved varieties to use in the district, from which 30 varieties are approved for planting and harvesting, and 16 varieties only for harvesting.

Herbert approved varieties for planting and harvesting

VARIETY	PLANTING	HARVESTING
KQ228(ф)	Yes	Yes
MQ239(ф)	Yes	Yes
Q138	Yes	Yes
Q183	Yes	Yes
Q200	Yes	Yes
Q208	Yes	Yes
Q215	Yes	Yes
Q219	Yes	Yes
Q226(ф)	Yes	Yes
Q231(ф)	Yes	Yes
Q232(ф)	Yes	Yes
Q240(ф)	Yes	Yes
Q242(ф)	Yes	Yes
Q247(ф)	Yes	Yes
Q250(ф)	Yes	Yes
Q252(ф)	Yes	Yes
Q253(ф)	Yes	Yes
SRA5(ф)	Yes	Yes
SRA6(ф)	Yes	Yes
SRA10(ф)	Yes	Yes
SRA14(ф)	Yes	Yes
WSRA24(ф)	Yes	Yes
SRA28(ф)	Yes	Yes
SRA26(ф)	Yes	Yes
SRA31(ф)	Yes	Yes
SRA36(ф)	Yes	Yes
SRA40(ф)	Yes	Yes
SRA43	Yes	Yes
SRA32(ф)	Yes	Yes
SRA48	Yes	Yes

VARIETY	PLANTING	HARVESTING
Q120	No	Yes
Q124	No	Yes
Q135	No	Yes
Q158	No	Yes
Q172	No	Yes
Q186	No	Yes
Q190	No	Yes
Q204	No	Yes
Q237	No	Yes
Q238	No	Yes
Q251	No	Yes
CASSIUS	No	Yes
ARGOS	No	Yes
KQ236	No	Yes
SRA3	No	Yes
Q216	No	Yes

SMUT RATINGS

Smut ratings are calculated from the incidence and severity of infection compared to standard varieties in inoculated field trials.

The graphic includes the rating (weighed mean), the variation of the mean (standard error, SE), and the number of times an experimental variety has been tested in a disease trial (number in the "Y" axis).

The variation in the results [observations] is influenced by factors such as the number and quality of the trials, the uniformity of smut infection and environmental conditions. The more tests performed, the more accurate is the prediction of the rating and its deviation.

The weighed mean reflects the relative importance of each observation and is thus more descriptive than a simple average, enhancing the accuracy of the rating.

The variation [SE] depicts the expected deviation of the mean, helping to check the accuracy level of the rating. The variation [SE] of the rating is represented by the horizontal line projected from the mean.

For example, variety Q200 has been tested in 12 trials for Smut resistance and has an 'Intermediate' rating ranging from 4.4 to 5.8, indicated by the narrow variation interval. The variety SRA28$^{\Phi}$ has been tested in five trials and has a 'Intermediate' rating ranging from 3.4 to 5.2, showing a wider variation.

PACHYMETRA RATINGS

Pachymetra ratings are calculated in the same way as for smut ratings. For example, variety Q240Φ has been tested in eight trials for Pachymetra resistance and has an 'Intermediate' rating with a 95% confidence interval ranging from 4.1 to 5.9. The variety SRA28Φ has been tested in six trials and has a 'Resistant' rating with a 95% confidence interval ranging from 2 to 4.2

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	RED ROT	YELLOW SPOT	FIJI LEAF GALL	MOSAIC
KQ228ф	Wet, Dry	I	I	R	S	R	R	R	I	I	R
MQ239ф	Wet, Dry	R	I-R	R		R		I-R	I	S	
Q138	Wet, Dry	S	R	R	I-R	R	R	I-S	I	R	I-S
Q183	Wet, Dry	R	R	I	S	R	R	I	I-S	R	R
Q200	Wet, Dry	I	I	R	I	R	R	R	I-R	R	R
Q208	Wet, Dry	I-R	I	R	R	R	R	R	R	I-S	R
Q215	Dry	I-S	R	R		R	R	R	R	R	R
Q219	Wet, Dry	R	R	R		R		R		S	S
Q226ф	Wet, Dry	R	I-S	R		R	I-S	R	R	R	R
Q231ф	Wet, Dry	R	R	I-R		R		R	I	S	I-R
Q232ф	Wet, Dry	I-R	I	R	R	R		I-R	R	I	R
Q240ф	Wet, Dry	R	I	R	I-R	R		R	I-S	I-S	R
Q242ф	Wet, Dry	I-R	R	R	I	R		I-R	R	R	R
Q247ф	Wet, Dry	I-R	R	R		R		R	S	R	R
Q250ф	Wet, Dry	R	I	R		I		I	I-R	I-S	I-R
Q252ф	Wet, Dry	I-R	I	R		R		R	I	I	R
Q253ф	Wet, Dry	R	R	R		R	I-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		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		R	R	I-R	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
SRA40ф	Wet, Dry	R	R	R		R	I-S	R		I	R
SRA43	Wet, Dry	I-R	R	R						R	I-S
SRA32ф	Wet, Dry	I	I	R		R		I	I-R	I-R	R
SRA48	Wet, Dry	R	I-S	R							

* Region approved

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. or scan the QR code.**

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

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

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, optimising 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
Q183	F-Av	A	A	G	A	A	G	A
Q200	F	A	G	G	G	G	G	G
Q208	F	A	G	G	G	G	G	G
Q215		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	A	G
SRA28ф	F-Av	A	G	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
SRA40ф	F-Av	A	A	A	G	A	A	G
SRA43	F-Av	A	G	G	G	A	G	G
SRA32ф	F-Av	A	A	G	G	A	G	G
SRA48	F-Av	A	A	G	G	A	G	G

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

OTHER FEATURES
- 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$^{(\phi)}$ is assessed and used as a susceptible reference variety to compare to other tested varieties.

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

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

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

For more information contact:
Emilie Fillols, SRA Weed Scientist
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$^{(\phi)}$

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

TABLE 3. Herbicide symptoms severity on the cane foliage for all testing varieties. (Legend: Refer to Table 1 (left) Page 14)

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228ϕ	**1.6**	**1.9**	**1.7**	**1.3**	**1.9**	**1.3**	**3.6**	**1.8**	**1.6**	**2.7**
Q208	1.6		1.6		1.6			1.8	1.6	2.7
Q232ϕ	1.6		1.7		1.6			1.8	1.6	2.7
Q240ϕ	1.6		1.6		1.6			1.8	1.6	2.7
Q242ϕ	1.6		1.6		1.6			1.8	1.6	2.7
Q250ϕ	1.6		1.8		1.6			1.8	1.6	2.7
Q252ϕ	1.6		1.7		1.6			1.8	1.6	2.7
Q253ϕ	1.6		1.6		1.6			1.8	1.6	2.7
SRA5ϕ	1.6	2.1			1.7			1.8	1.6	2.7
SRA6ϕ	1.6	2.1		1.4	1.9	1.6		1.8	1.6	2.7
SRA10ϕ	1.5	2.0		1.3	1.6		3.5	1.9	1.5	2.5
SRA14ϕ	1.5	1.9		1.7	1.6		3.5	1.5	1.6	2.3
SRA26ϕ	1.5	1.9		1.6	1.6	1.4		1.8	1.5	3.2
SRA28ϕ	1.5	2.0		1.3	2.2	1.6		1.8	1.6	2.7
SRA31ϕ	1.7	2.1		1.5	1.8	1.6		1.8	1.5	2.8
SRA32ϕ	1.7	1.8		1.5	1.9	1.5		1.7	1.6	2.7
SRA36ϕ	1.7	2.2		1.7	1.8	1.8		1.5	1.6	2.8
SRA40ϕ	1.5	2.1		1.4	1.6	1.6		1.9	1.5	2.7
SRA43	1.5	2.0		1.4	1.7	1.6		1.8	1.6	2.7

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

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

VARIETY	2,4-D	AMETRYN	AMETRYN+ TRIFLOXY-SULFURON	AMICARBA-ZONE	ASULAM	DIURON	FLUMIOXAZIN	METOLACHLOR	METRIBUZIN	MSMA
KQ228ϕ	**-9%**	**-49%**	**-57%**	**-15%**	**-6%**	**-14%**	**-36%**	no reduction	**-28%**	**-24%**
Q208	-12%		-49%		-5%			-13%	-26%	-35%
Q232ϕ	-6%		-52%		-10%			-6%	-23%	-29%
Q240ϕ	-15%		-47%		-16%			no reduction	-26%	-30%
Q242ϕ	-7%		-40%		no reduction			no reduction	-21%	-21%
Q250ϕ	-20%		-56%		-26%			-15%	-26%	-40%
Q252ϕ	-16%		-40%		no reduction			no reduction	-26%	-26%
Q253ϕ	-13%		-55%		-20%			no reduction	-38%	-37%
SRA5ϕ	no reduction	no reduction			no reduction			no reduction	no reduction	no reduction
SRA6ϕ	no reduction	-35%		-63%	no reduction	-91%		no reduction	-18%	-39%
SRA10ϕ	no reduction	-31%		-12%	no reduction		-27%	no reduction	-13%	-17%
SRA14ϕ	no reduction	-67%		-42%	no reduction		-52%	-12%	no reduction	-64%
WSRA24ϕ	-39%	-73%		-23%	-53%	-29%		-1%	-24%	-45%
SRA26ϕ	-17%	-48%		-21%	-12%	-36%		no reduction	-32%	-38%
SRA28ϕ	-65%	-98%		-73%	-69%	-49%		-113%	-84%	-116%
SRA31ϕ	-45%	-5%		no reduction	-55%	-53%		-5%	-2%	-30%
SRA32ϕ	-97%	-43%		-44%	-168%	-96%		-41%	-56%	-64%
SRA36ϕ	-19%	-38%		no reduction	-55%	-42%		-20%	-13%	-4%
SRA40ϕ	-25%	-54%		no reduction	-34%	-43%		-2%	-9%	-45%
SRA43	-27%	-42%		no reduction	-33%	-36%		-18%	-21%	-45%

The predicted biomass reduction in the pot trials is represented in a green-to-red scale. The predicted biomass reduction is derived from the biomass reduction for each trial series, using KQ228ϕ as the reference variety, in an attempt to harmonise trial variations: weather conditions at application, and/or during the trial can alter cane growth and herbicide response. Predicted biomass reduction compared to the untreated control is indicated in the table. The derived predicted biomass reduction values differ from the observed biomass reduction values in each trial series and should only be used as indicators to compare the severity of the treatments on cane growth across all varieties (in some cases the predicted values exceed 100% biomass reduction. It does not mean the death of the treated plant). 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	DIURON	METO-LACHLOR	METRI-BUZIN	MSMA
KQ228	-1%	**-14%**		-11%	no reduction	-6%	-3%	no reduction	no reduction
Q232ϕ			-9%				no reduction	-4%	no reduction
Q242ϕ			no reduction				-3%	no reduction	-24%
Q250ϕ			no reduction				no reduction	no reduction	-7%
SRA6ϕ	-4%			-22%	-9%	-11%		no reduction	-11%
SRA14ϕ		no reduction							
SRA26ϕ				-4%		-17%			
SRA28ϕ	no reduction	-1%		-1%	no reduction		no reduction		

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

CCS PROFILES

SRA Herbert started CCS maturity data collection in 2022 and continued in 2023 and 2024. Samples were taken once a month starting in May until October and analysed in the SRA Herbert Juice Lab.

This information will help growers to optimise their planting and harvesting decision-making and facilitate the adoption of new varieties by monitoring the CCS curves across productivity zones.

The CCS performance of a variety is, however, influenced by many factors such as crop age, crop class, environment (rain, temperature, and soil) and management practices. The following data represents a "snapshot" of the past season; further work will be carried out to better understand the maturity profile of a given variety.

The data was collected by the Industry Service Team from the Herbert's Plant Breeding trials.

FIGURE 1. CCS maturity curves of recent releases Vs standards (Plant Crop, Fairford Rd.)

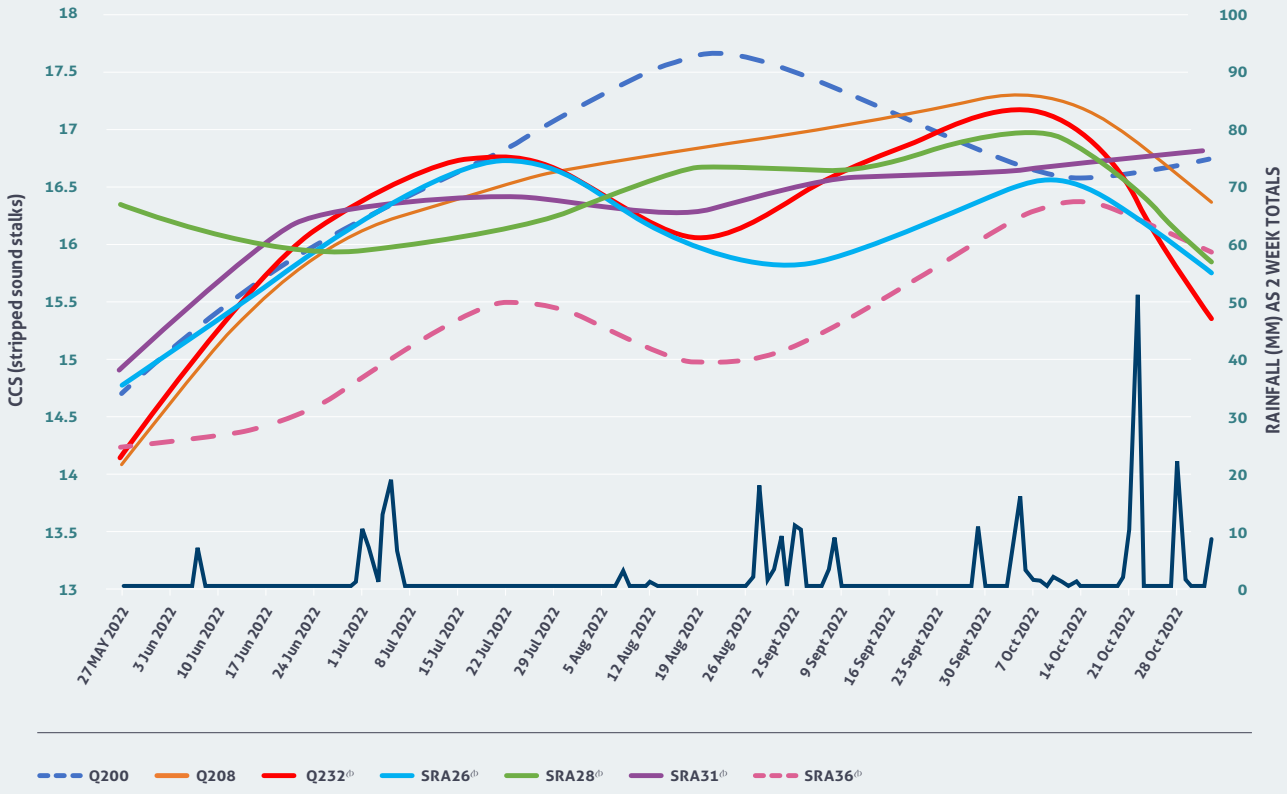


Figure 1, presents the curves for CCS on Plant Crop for the 2022 season.

Q200 presented the highest CCS from mid-July to early-September, then declining towards the end of the season. Q208 presented a sustained CCS increase arriving at its peak in late-September, but declining from October. Q232Φ presented a slightly high CCS in early-mid July, but drops in August and peaks in late-September similar to Q208.

SRA26Φ CCS peaked in early-July and peaked again in October, similar to Q232Φ.

SRA28Φ recorded the highest CCS in May compared to other varieties, and then sustaining a slight CCS growth from August to early-October, but declining in mid-October, similar to Q232Φ and Q208.

SRA31Φ had the highest CCS in mid-June, sustaining its CCS further to October without declining after a major rainfall event as occurred with other varieties.

SRA36Φ recorded the lowest CCS with a sustained CCS increasing towards mid-October, similar to Q232Φ. The CCS of SRA36Φ might be negatively impacted late in the harvest season due to the crop being heavily lodged.

FIGURE 2. CCS maturity curves of recent release Vs standards (1R, Fairford Rd)

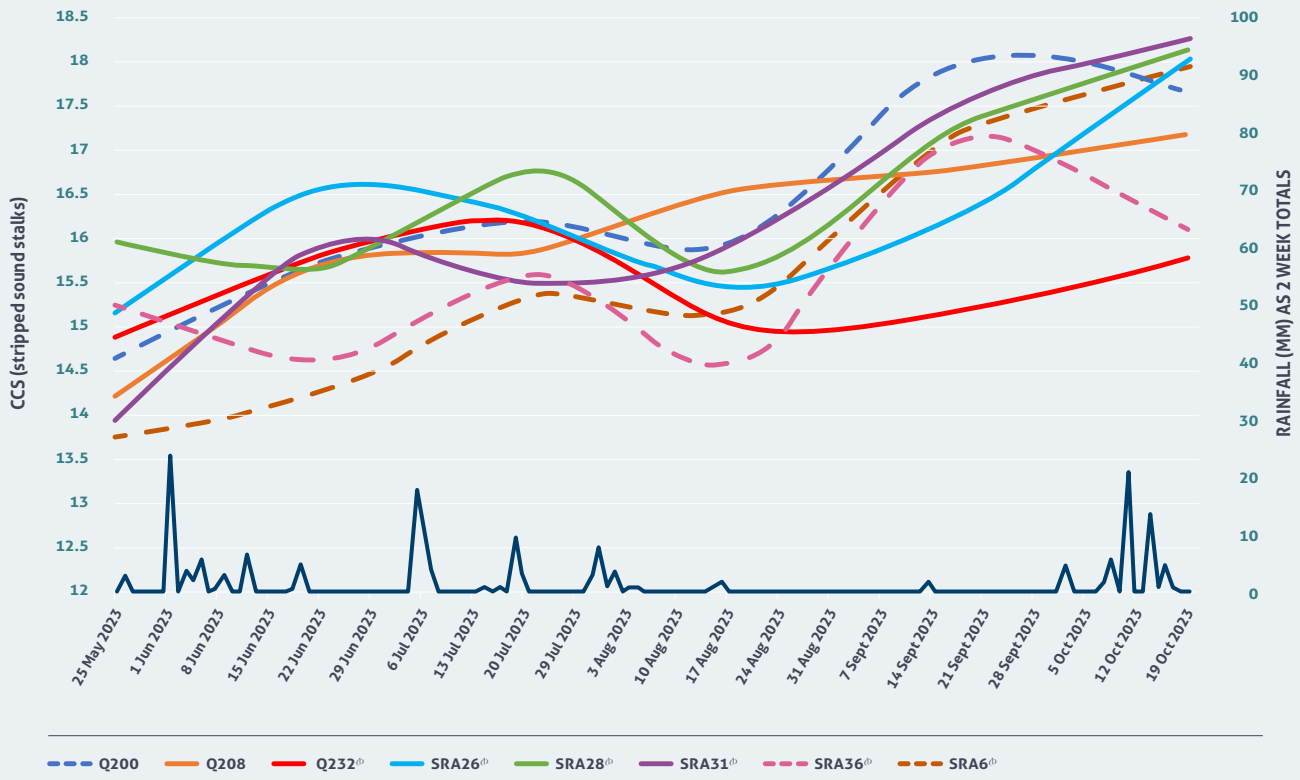


Figure 2, presents the curves for CCS on first ratoon for the 2023 season.

Q200 presented its first peak of CCS in mid-July with a slight decline in late-August, then showed a sustained CCS increase arriving at its peak in late-September.

Q208 presented a sustained CCS increase, with a higher CCS towards the end of October.

Q232Φ presented a slightly high CCS in early-mid July, but dropped in August and came back up in late-September similar to Q208.

SRA26Φ CCS had the highest CCS compared with other varieties in late-June, then declining toward early-August, but increased from late-August, and peaked again in October, similar to Q200.

SRA28Φ recorded the highest CCS in late-May and again in mid-July compared to other varieties and then dropping in August, but sustainably increasing again towards October similar to Q200, SRA6Φ and SRA31Φ.

SRA31Φ showed the first peak in late-June, then started dropping towards late-July, and then increased from early-August and peaked in October similar to SRA6Φ and SRA28Φ.

SRA36Φ recorded a higher CCS in late-May, then fluctuated up and down, arriving at its peak in mid-September, and then declining again towards October similar to Q200. The CCS of SRA36Φ might be negatively impacted late in the harvest season due to the crop being heavily lodged.

SRA6Φ recorded a low CCS compared with other varieties in the early-mid season, but increased from mid-August, and then peaked towards October, similar to SRA28Φ and SRA31Φ.

CCS PROFILES (CONT)

FIGURE 3. CCS maturity curves of recent releases Vs standard (2R, Fariford Rd.)

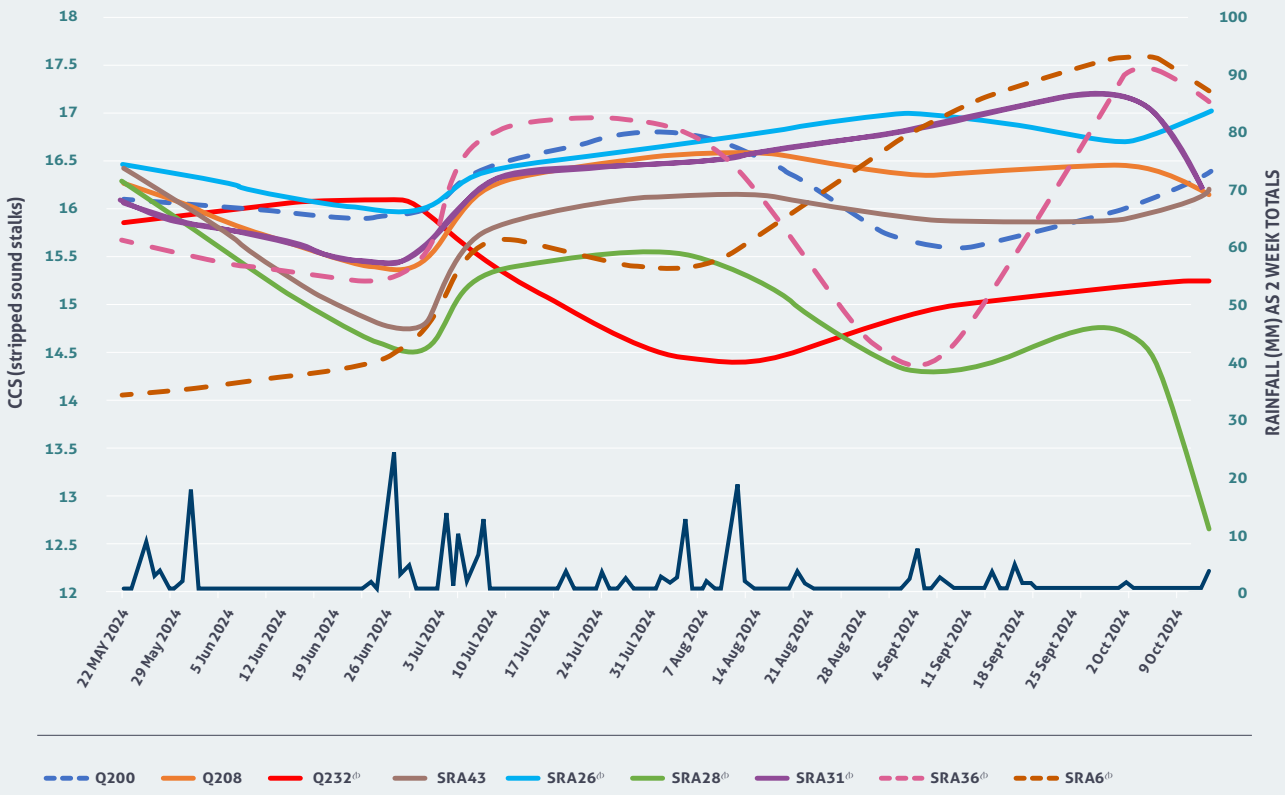


Figure 3, presents the curves for CCS in the second ratoon for the 2024 season.

Q200 had a relatively high CCS from late-May to late-June (similar to SRA26Φ), later increasing through July and peaking in early-August. It then showed a sustained CCS decrease from mid-August to late-September before lifting again towards October.

Q208 presented a sustained CCS decrease from May to June, then rapidly increased through July, followed by a slight decline from August to October.

Q232Φ recorded a high CCS from May to late-June, declining throughout July to mid-August, then showing a slight and sustained increase from mid-August to October, similar to Q200.

SRA43 had a high CCS from late-May to mid-June. After declining in mid-June, it sustainably increased from early-July through to late-August, then slightly declined towards October.

SRA26Φ recorded the highest CCS compared to other varieties from late-May to mid-June. After declining in mid-June, CCS increased from early-July through to mid-September, slightly declining towards October, with a slight recovery by mid-October.

SRA28Φ had the third-highest CCS in late-May, declined throughout June, then increased again from July to early-August, followed by a decline from late-August through September, similar to the trend of Q200, although showing a sharp CCS drop in October.

SRA36Φ recorded a low CCS from late-May to late-June, followed by a sharp surge in early-July, plateauing throughout July with the highest CCS among all varieties. It declined sharply from August to early-September, then sharply increased from mid-September, peaking again in early-October as the second-highest CCS after SRA6Φ.

SRA31Φ recorded high CCS from late-May to mid-June. After declining in mid-June, CCS increased from early-July through late-September, peaking before declining towards October.

SRA6Φ recorded the lowest CCS compared to other varieties from late-May to late-June. It then sharply increased CCS around July and August, sustaining an increase that reached the highest peak in September, registering the highest CCS in the late season compared to other varieties.

FIGURE 4. CCS maturity curves of recent releases Vs standard (3R, Fariford Rd.)

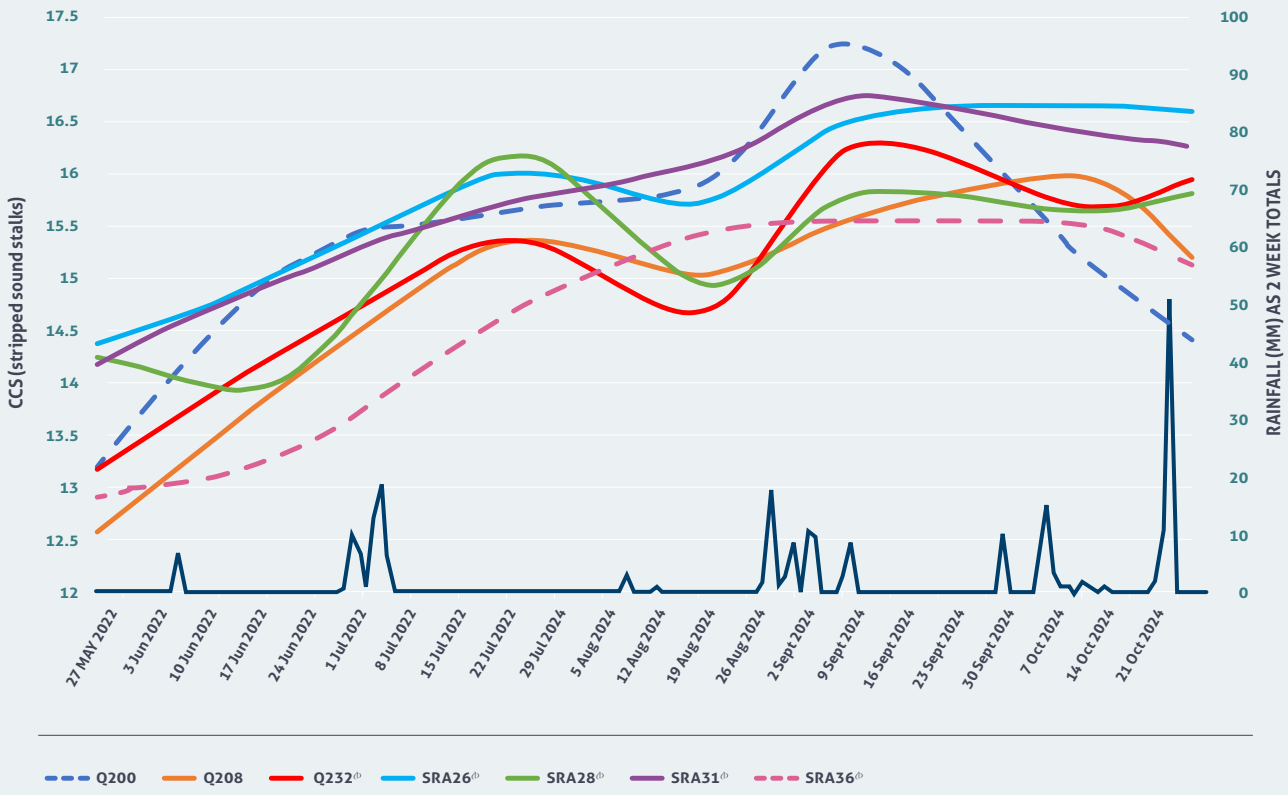


Figure 4, presents curves for CCS on third ratoon during the 2022 season. Q200 presented the highest CCS in September, then declining sharply towards the end of the season.

Q208 presented a CCS curve similar to Q232Φ, arriving at its peak in early-October, but Q232Φ CCS peaked in early-September.

SRA26Φ and SRA31Φ shared a similar CCS upward trend and recorded higher CCS in late-May to mid-June and kept increasing towards October which gave better CCS than other varieties.

SRA28Φ CCS peaked in mid-July with higher CCS than other varieties, but dropped towards October.

SRA36Φ CCS peaked in late-August. holding its CCS till mid-October. Overall it gave low CCS compared with other varieties.

CCS PROFILES (CONT)

FIGURE 5. CCS maturity curves of SRA40Φ Vs standards (2R, Fairford Rd.)

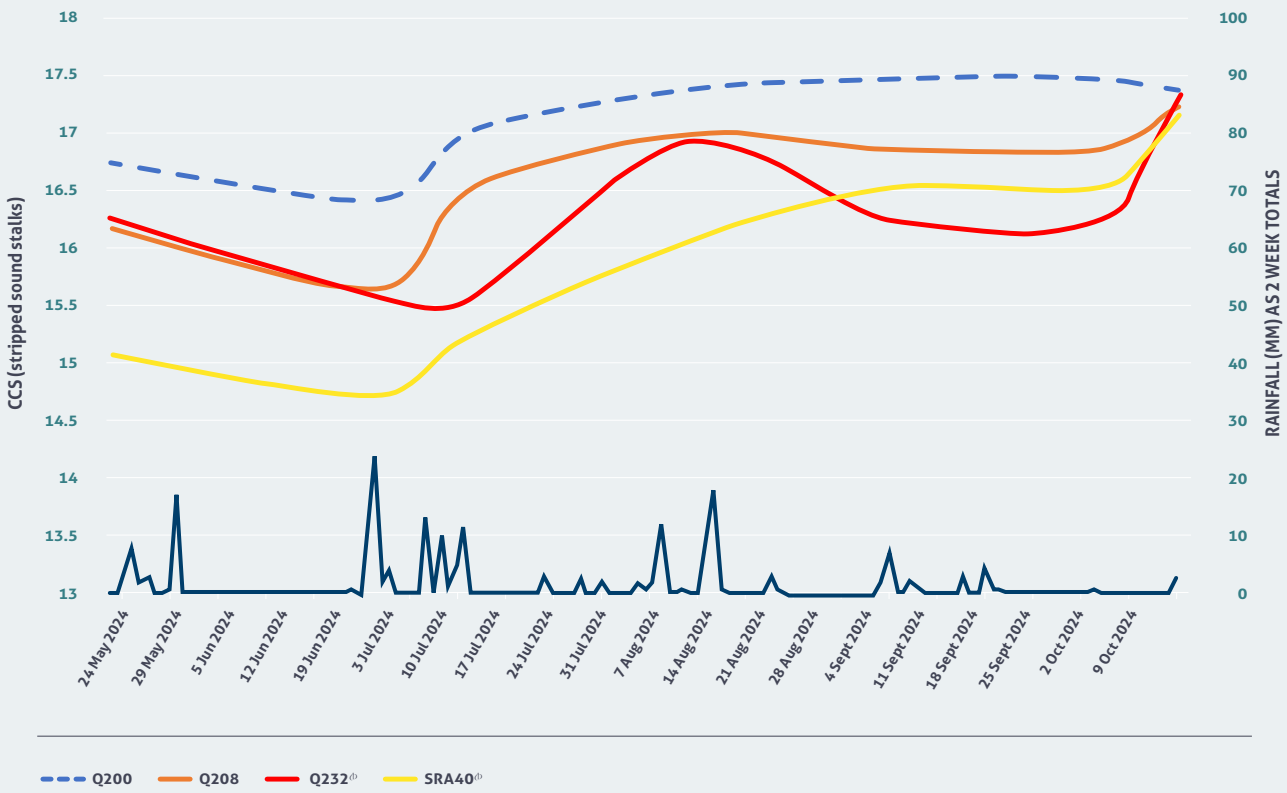


Figure 5, presents the curves for CCS on second ratoon for the 2024 season.

Q200 recorded a high CCS from late-May to late-June compared to other varieties, later showing a sustained CCS increase throughout the season from mid-July to October.

Q208 presented a sustained CCS decrease from May to June. It then rapidly increased CCS through July, sustaining high CCS levels through August to October.

Q232Φ recorded a high but declining CCS from May to early-July, similar to Q208. It then showed a sustained CCS increase from early-July, peaking in mid-August, declining again in September before increasing again in October.

SRA40Φ had the lowest CCS among the tested varieties from late-May to late-August. After a sustained CCS increase from July, it peaked in early-September, followed by another increase in October, showing a trend similar to Q208.

FIGURE 6. CCS maturity curves of SRA40Φ & SRA43 Vs standards (PC, Abergowrie)

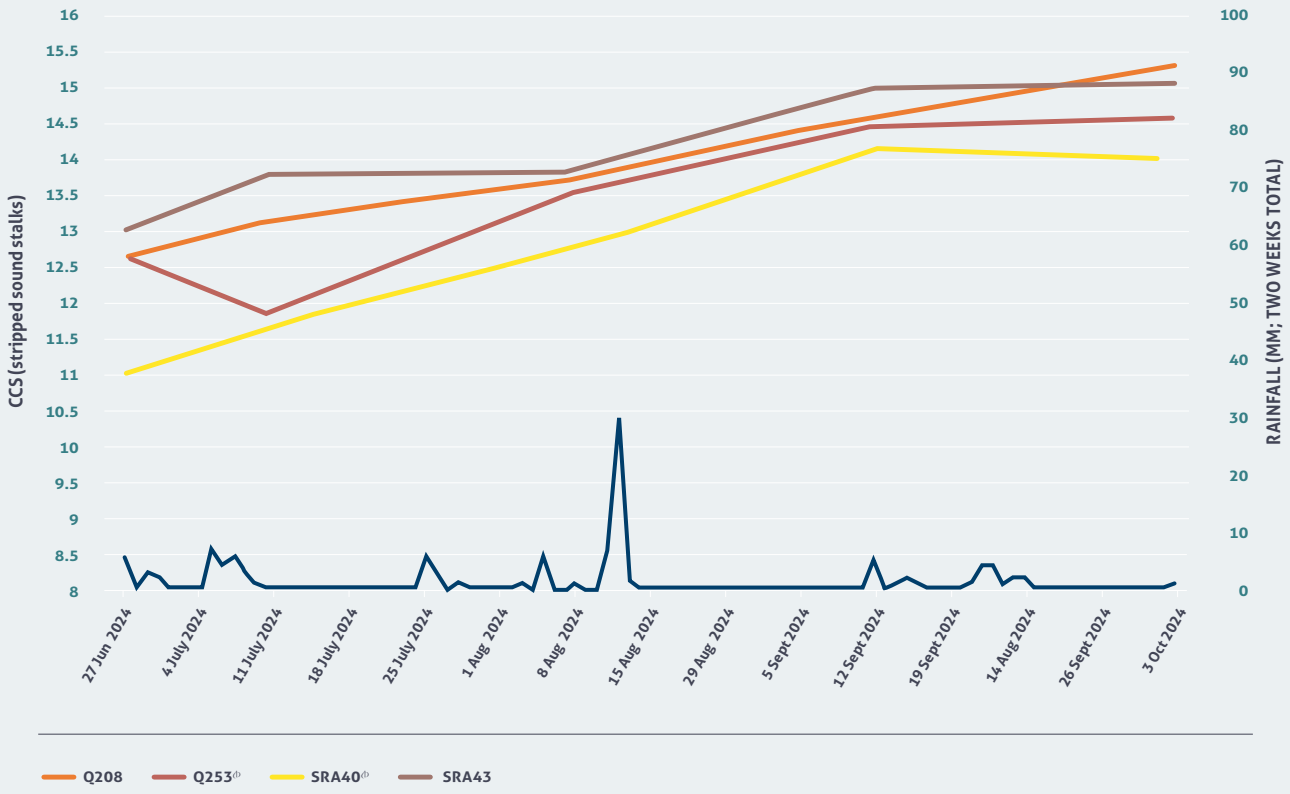


Figure 6, presents the curves for CCS on plant crop for the 2024 season.

Q208 sustained a CCS increase throughout the season, with the maximum CCS occurring towards the end of September-October.

Q253Φ presented a low CCS in late-June to early-July, steadily increasing from mid-July to then peak in early-September until October.

SRA40Φ had the lowest CCS of the tested varieties, showing a steady increase early-July to early-September, when it peaked and sustained until October.

SRA43 presented a low CCS from late-May to mid-July, steadily increasing throughout the season with its first peak in mid-July and its second in early-September, presenting the highest CCS of the tested varieties, although similar to Q208.

CCS PROFILES (CONT)

FIGURE 7. CCS maturity curves of SRA48 & SRA43 Vs standard (PC, Fariford Rd.)

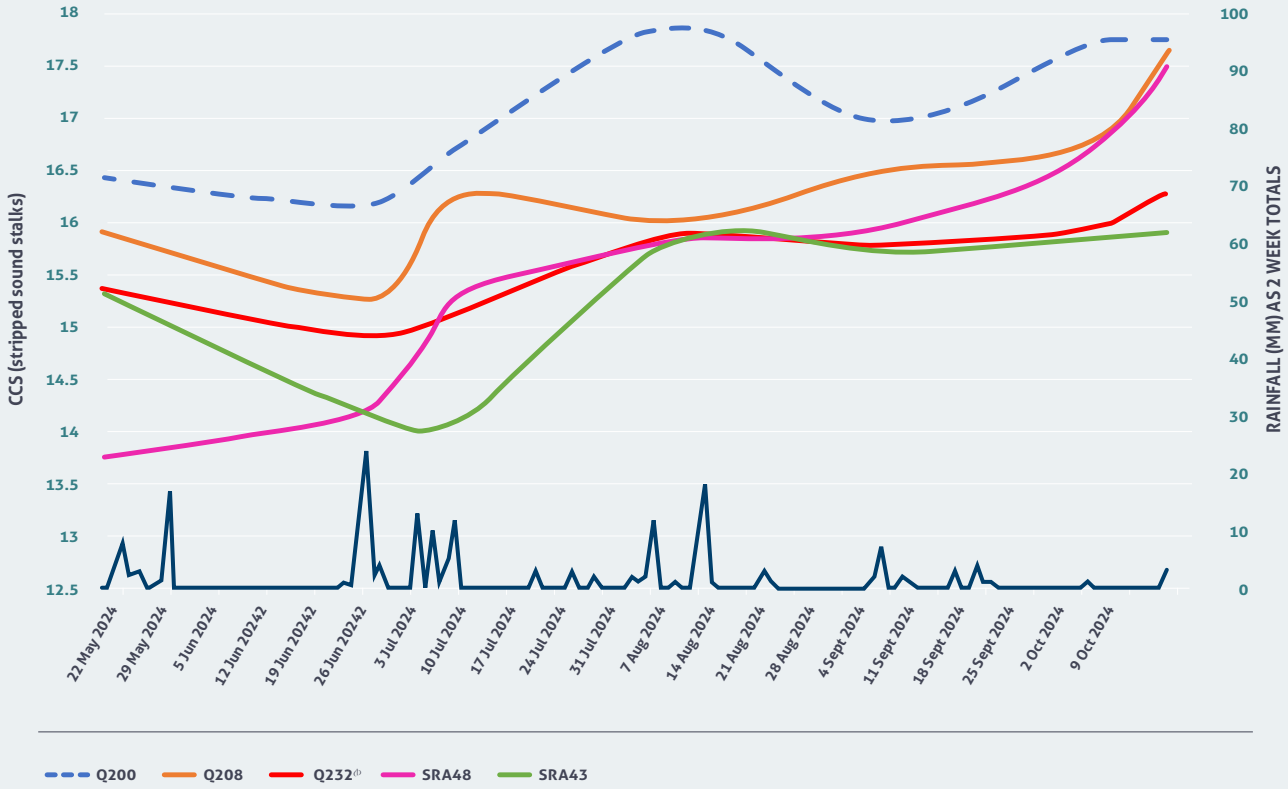


Figure 7, presents the curves for CCS on plant crop for the 2024 season.

Q200 recorded the highest CCS among the tested varieties. After a slight decline from late-May to late-June, it showed a sustained increase throughout the season, with its first and highest peak in early-August, followed by a slight decline in early-September and a second peak in October.

Q208 exhibited a sustained CCS decline from May to June, followed by a rapid increase through July. It then maintained high CCS levels through August, with a further rise from late-September to October.

Q232Φ showed a CCS decline from May to early-July, similar to Q208. It then recorded a sustained increase from early-July, peaking in mid-August and maintaining steady levels through to October.

SRA48 recorded the lowest CCS from late-May to late-June, followed by a sharp increase in early-July. It continued to steadily increase through early-September, with an additional rise towards October, a similar trend to Q208.

SRA43 recorded low and declining CCS from late-May to early-July. It then increased from July to mid-August, sustaining levels through to October, similar to Q232Φ.

VARIETIES HARVESTED IN 2024 IN THE HERBERT REGION AND THEIR PERFORMANCE

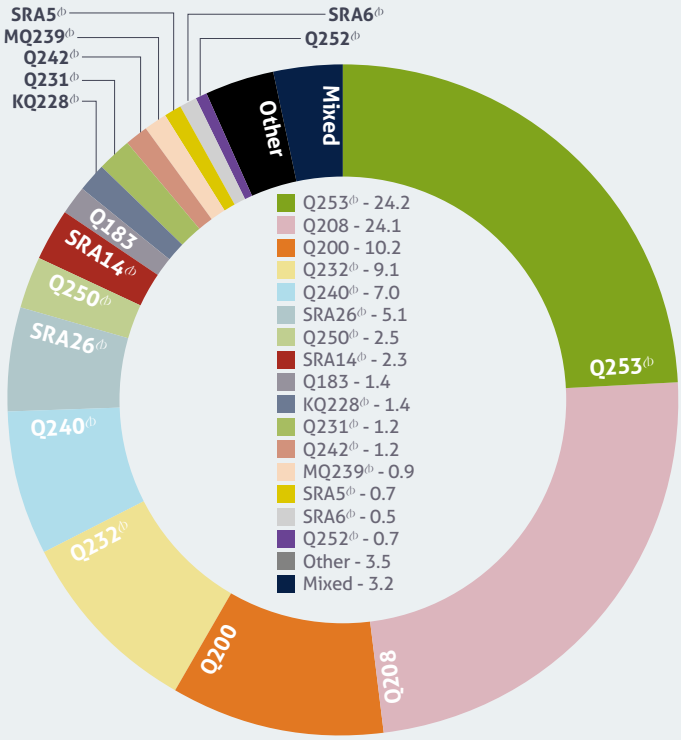
The predominant varieties harvested in the 2024 season, and their commercial performance in terms of tonnes of cane per hectare (TCH) and tonnes of sugar per hectare (TSH) are shown below.

Varieties harvested

In the 2024 season, 4.3 million tonnes were forecasted for harvesting. The Herbert region harvested about 3.8 million tonnes of cane over a 34-week crushing season, covering 52,575 hectares, with 100% harvested green.

The mill average CCS was 12, and the average TCH and TSH were 69 and 8.3, respectively.

The diagram right shows the main varieties harvested in the Herbert region in the 2024 season, with one notable change in rankings: Q253Φ is now the most popular variety in the Herbert, accounting for 24.2% of the total tonnes harvested. Q208 follows closely with 24.1%; this variety has been decreasing compared to previous seasons (in 2018, 38.6% of the total cane harvested was Q208). Q200 remains the third most popular, with 10.2% in 2024. Q232Φ is fourth in preference with 9.1%. Q240Φ stays in fifth place with 7%, while SRA26Φ moved into sixth place with 5.1%, displacing Q250Φ to seventh place, now accounting for 2.5% of the total cane harvested.

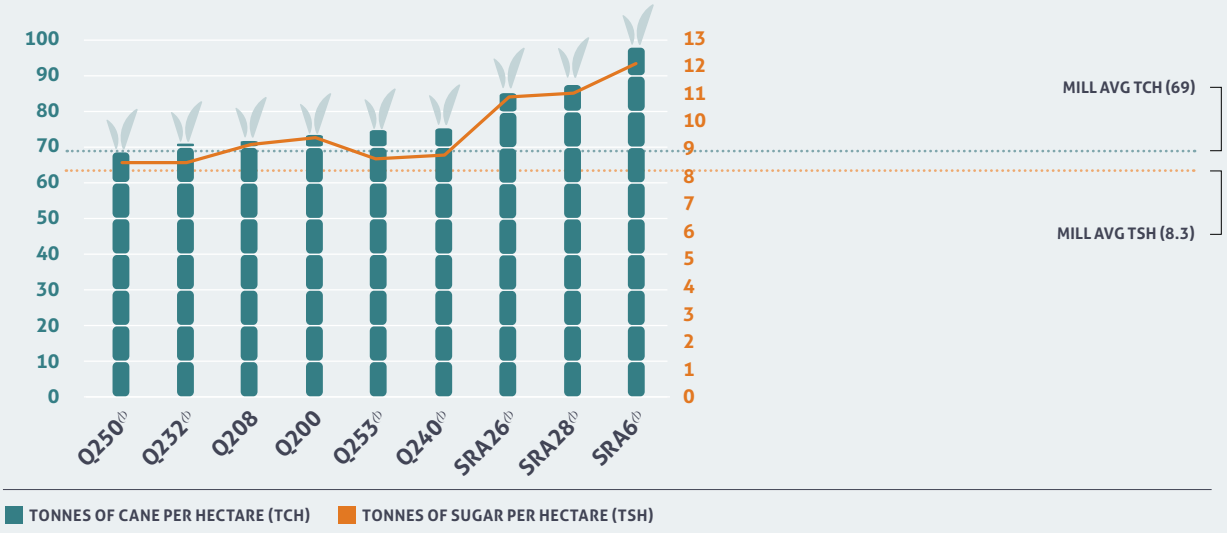


Commercial performance of harvested varieties

The TCH and TSH of the main varieties harvested in the 2024 season are compared to the Herbert mill averages in the diagram below. At this scale, it is difficult to compare the commercial performance of recently released varieties against that of well-established varieties.

The mill data for three new releases is shown alongside the major commercial varieties. Although these new releases account for a small percentage of the total cane harvested SRA26Φ (5.1%), SRA28Φ (1.6%), and SRA6Φ (0.5%), the graph provides an early indication of their commercial performance.

(TCH AND TSH 2024)



PROPAGATING NEW VARIETIES

Contact your local productivity services group for regional advice on varieties. They can supply approved planting material of varieties and place orders for tissue culture plantlets.

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

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, and have adequate nutrition immediately prior to harvest for billet planting. For irrigated regions you may need to reduce fertiliser rates, withhold irrigation, or plant late in the season. The cane should also have originated from an approved seed plot and therefore be no more than three years away from long hot water treatment.

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

SET UP THE HARVESTER FOR CUTTING HIGH QUALITY SOUND BILLETS

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

Tissue culture

CALCULATE HOW MUCH TISSUE CULTURE TO ORDER

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

TRY TISSUE CULTURE AS AN APPROVED SEED SOURCE

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

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

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

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

For more information on *tissue culture* contact:
SRA Tissue Culture Manager **Visu Wickramasinghe** **E:** VWickramasinghe@sugarresearch.com.au **T:** 07 3331 3333

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 tank.

Weeds

Weed control is important for good establishment and growth.

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

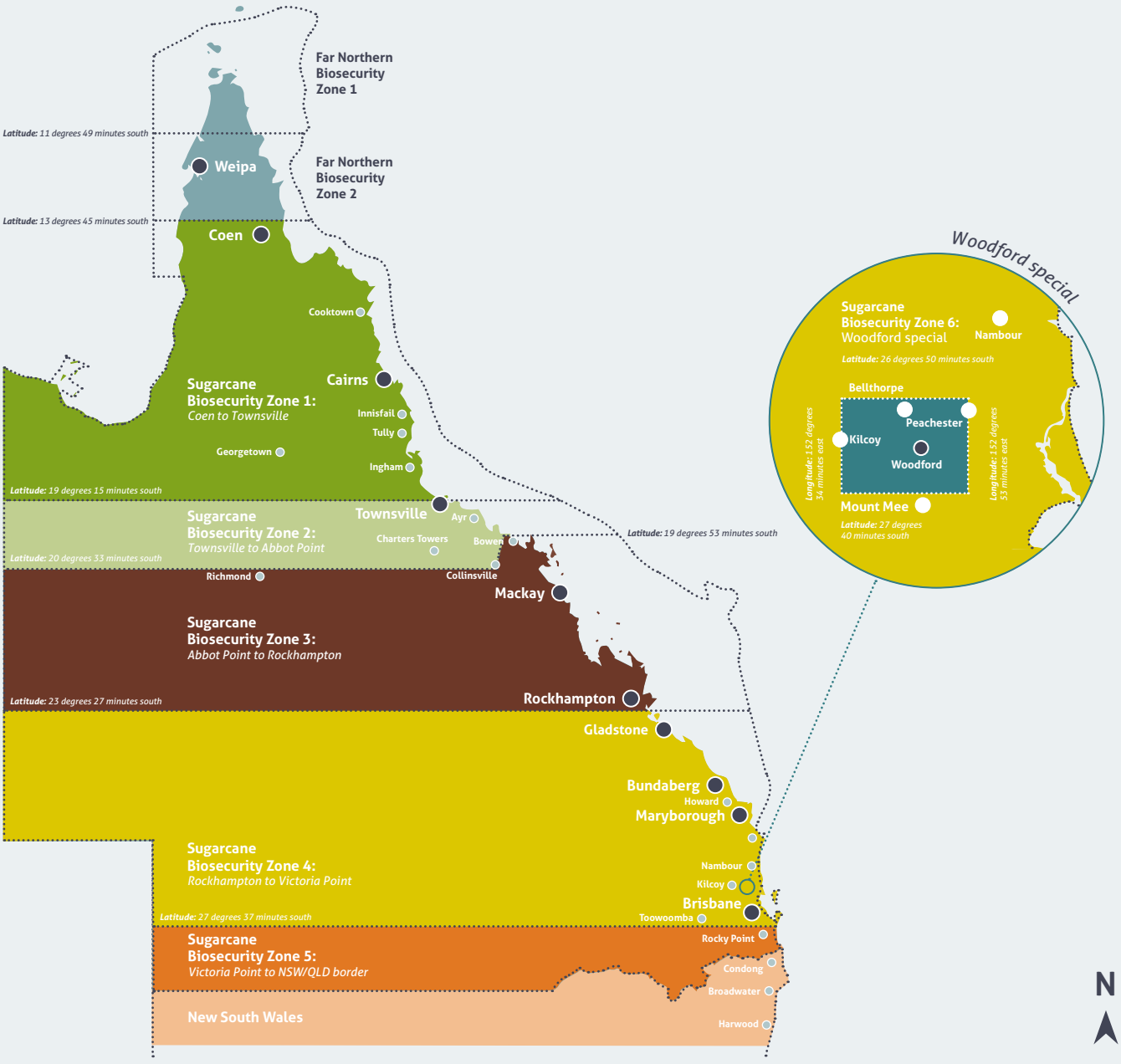
Insects

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

Fertiliser

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

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).

Flood irrigation of introgression seedlings at Macknade.

Your local productivity services and agronomy group:

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

HCPSL Manager, Adam Royle
E aroyle@hcpsl.com.au
T 0417 610 446

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