



Sugar Research
Australia

VARIETY GUIDE 2018/2019








New South Wales Region





HOW TO USE THIS GUIDE

*This guide is designed to help growers in the NSW 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:***

	New & Recent Varieties Available in the NSW Region	5
	Disease Resistance	10
	Harvest Management	11
	Variety Adoption in each Mill Area	12
	Sugarcane Biosecurity Zone Map	16
	Propagating New Varieties	17
	Planting and Managing Tissue-cultured Plantlets in the Field	18

WANT TO KNOW WHAT IS HAPPENING IN THE OTHER REGIONS?

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

ISSN 2208-763X (Online) ISSN 2208-7621 (Print) © Copyright 2018 by Sugar Research Australia Limited. All rights reserved. No part of the *Variety Guide 2018/19 NSW Region* (this publication), may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Sugar Research Australia Limited. Sugar Research Australia Limited acknowledges and thanks its funding providers, including levy payers (sugarcane growers and millers), the Commonwealth Government, and the Queensland Government (Department of Agriculture and Fisheries). **Disclaimer:** In this disclaimer a reference to 'SRA', 'we', 'us' or 'our' means Sugar Research Australia Limited and our directors, officers, agents and employees. Although we do our very best to present information that is correct and accurate, we make no warranties, guarantees or representations about the suitability, reliability, currency or accuracy of the information we present in this publication, for any purposes. Subject to any terms implied by law and which cannot be excluded, we accept no responsibility for any loss, damage, cost or expense incurred by you as a result of the use of, or reliance on, any materials and information appearing in this publication. You, the user, accept sole responsibility and risk associated with the use and results of the information appearing in this publication, and you agree that we will not be liable for any loss or damage whatsoever (including through negligence) arising out of, or in connection with the use of this publication. We recommend that you contact our staff before acting on any information provided in this publication. **Warning:** Our tests, inspections and recommendations should not be relied on without further, independent inquiries. They may not be accurate, complete or applicable for your particular needs for many reasons, including (for example) SRA being unaware of other matters relevant to individual crops, the analysis of unrepresentative samples or the influence of environmental, managerial or other factors on production.





NEW & RECENT VARIETIES AVAILABLE IN THE NSW REGION

New Variety Recommendation and Release Process

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

The NSW RVC Membership is drawn from the NSW Agricultural Advisory Committee, Sunshine Sugar, Agricultural Services staff and Sugar Research Australia and will review and approve new varieties for release in NSW. The NSW RVC requires committee consensus for progression of a variety through the breeding program and committee consensus for the release of a variety.

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

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

Variety: SRA11 [Ⓛ] Q505-6092			Parentage: QN81-289 x QC75-139 / Summary: 1 yr Crop equal tonnes cane; equal CCS 2 yr Crop higher tonnes cane; lower CCS									
TRIAL CYCLE	TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS	
			SRA11 [Ⓛ]	Q208 [Ⓛ]	Q200 [Ⓛ]	KQ228 [Ⓛ]	SRA11 [Ⓛ]	Q208 [Ⓛ]	Q200 [Ⓛ]	KQ228 [Ⓛ]		
1 Year Crop	(2011 series FATs): 2012	Plant	55	64	49	58	14.9	14.9	15.1	14.9	2	
	2013	1R	95	89	80	91	15.9	16.1	16.4	16.3	2	
	2014	2R	113	114	103	116	12.0	12.0	12.3	12.2	2	
	2015	3R	123	142	128	135	14.6	13.7	15.1	14.0	1	
	(2014 series FATs): 2015	Plant	114	101	88	97	13.9	13.7	14.3	13.4	2	
	2016	1R	71	71	71	74	14.1	14.3	14.2	13.9	2	
	2017	2R	94	96	86	104	13.8	14.6	14.5	14.5	2	
	Overall performance 1 Yr crop		93	93	83	93	14.1	14.2	14.5	14.2	13	
2 Year Crop	TRIAL HARVEST YEAR	CROP CLASS	SRA11 [Ⓛ]	Q232 [Ⓛ]	Q203 [Ⓛ]	Q208 [Ⓛ]	SRA11 [Ⓛ]	Q232 [Ⓛ]	Q203 [Ⓛ]	K208 [Ⓛ]	# OF HARVESTS	
	(2014 series AATs): 2016	Plant 2yr	226	202	204	193	13.4	13.7	13.5	13.4	4	
	Overall performance 2 Yr crop		226	202	204	193	13.4	13.7	13.5	13.4	4	
Available 2018												
Comments:	Results for 2011 and 2014 series final assessment trials (FAT's) 1- year and 2014 series (AAT's) 2-year trials. SRA11 [Ⓛ] disease ratings: resistant to smut, pachymetra, mosaic, leaf scald and Fiji leaf gall. Released as a 1-year variety.											

Variety: SRA1 [Ⓓ] QS05-2595			Parentage: QN86-2139 x QC90-289 / Summary: 1 yr Crop lower to equal tonnes cane; equal CCS 2yr Crop lower tonnes of cane; lower CCS								
TRIAL CYCLE	TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)				CCS				# OF HARVESTS
			SRA1 [Ⓓ]	Q208 [Ⓓ]	Q240 [Ⓓ]	KQ228 [Ⓓ]	SRA1 [Ⓓ]	Q208 [Ⓓ]	Q240 [Ⓓ]	KQ228 [Ⓓ]	
1 Year Crop	(2010 series FATs): 2011	Plant	53	55	43	45	12.9	11.7	13.1	12.8	2
	2012	1R	68	91	65	67	15.7	14.4	15.7	15.6	2
	2013	2R	77	100	72	69	17.0	15.6	16.7	16.5	2
	2015	4R	82	100	116	112	15.3	15.0	14.6	13.7	1
	(2012 series FATs): 2013	Plant	66	53	49	43	16.6	15.9	16.2	15.8	2
	2014	1R	124	112	109	111	15.5	14.9	15.3	14.9	2
	2015	2R	91	81	88	92	14.6	13.5	14.4	13.9	2
	(2015 series FATs): 2016	Plant	112	97	100	100	12.7	12.8	13.4	13.1	2
	2017	1R	90	116	124	116	14.3	15.3	15.1	15.6	2
Overall performance 1 Yr crop			85	90	83	82	14.9	14.4	15.0	14.7	17
2 Year Crop	TRIAL HARVEST YEAR	CROP CLASS	SRA1 [Ⓓ]	Q200 [Ⓓ]	Q203 [Ⓓ]	Q208 [Ⓓ]	SRA1 [Ⓓ]	Q200 [Ⓓ]	Q203 [Ⓓ]	Q208 [Ⓓ]	# OF HARVESTS
	(2013 series FATs): 2015	Plant 2yr	120	129	130	146	14.1	15.0	14.5	14.1	1
	2017	1R 2yr	76	86	85	87	13.1	13.5	13.1	13.1	1
	(2014 series AATs): 2016	Plant 2yr	164	187	204	193	12.6	13.8	13.5	13.4	4
	(2015 series AATs): 2017	Plant 2yr	133	135	149	159	13.4	14.3	13.6	13.5	2
	Overall performance 2 Yr crop			140	154	166	165	13.1	14.0	13.6	13.5
Available 2015											
Comments:	Results for 2010, 2012 and 2015 series final assessment trials (FATs) 1- year and 2013 (FATs), 2014 and 2015 series (AATs) 2-year trials. SRA1 [Ⓓ] disease ratings: resistant to smut, mosaic and leaf scald; intermediate rating for Fiji leaf gall and pachymetra. Released as a 1-year variety. Low fibre content; low impact resistance and shear strength.										

Variety: SRA2 [Ⓛ] QS03-2717			Parentage: QS92-206 x QS87-7430 / Summary: 1 Yr higher tonnes cane; higher CCS 2 Yr lower tonnes cane; equal CCS						
TRIAL CYCLE	TRIAL HARVEST YEAR	CROP CLASS	YIELD (TCH)			CCS			# OF HARVESTS
			SRA2 [Ⓛ]	Q208 [Ⓛ]	KQ228 [Ⓛ]	SRA2 [Ⓛ]	Q208 [Ⓛ]	KQ228 [Ⓛ]	
1 Year Crop	(2009 series FATs): 2010	Plant	103	134	93	12.9	10.9	13.3	2
	2011	1R	48	43	43	11.0	11.2	10.7	1
	2012	2R	97	75	86	15.4	15.7	15.1	1
	(2012 series FATs): 2013	Plant	49	53	43	16.7	15.9	15.8	2
	2014	1R	112	112	111	16.0	14.9	14.9	2
	2015	2R	91	81	92	14.3	13.5	13.9	2
	(2013 series FATs): 2014	Plant	93	76	88	11.9	11.8	12.2	2
	2015	1R	148	131	129	14.1	13.7	14.3	2
	2016	2R	104	83	99	14.2	14.1	14.4	2
	(2015 series FATs): 2016	Plant	76	69	75	11.4	10.9	11.1	1
	2017	1R	88	83	80	15.6	15.9	16.1	1
Overall performance 1 Yr crop			95	87	89	14.1	13.7	13.9	18
2 Year Crop	TRIAL HARVEST YEAR	CROP CLASS	SRA2 [Ⓛ]	Q208 [Ⓛ]	Q232 [Ⓛ]	SRA2 [Ⓛ]	Q208 [Ⓛ]	Q232 [Ⓛ]	# OF HARVESTS
	(2014 series AATs): 2016	Plant 2yr	189	193	202	13.5	13.4	13.7	4
Available 2015									
Comments:	Results for 2009, 2012, 2013 and 2015 series final assessment trials (FATs) 1-year and 2014 series (AATs) 2-year trials. SRA2 [Ⓛ] disease ratings: Resistant to fiji leaf gall, pachymetra and leaf scald, intermediate to mosaic and smut. Released as a 1-year and/or 2 year variety.								

SRA11[Ⓛ]



SRA1[Ⓛ]

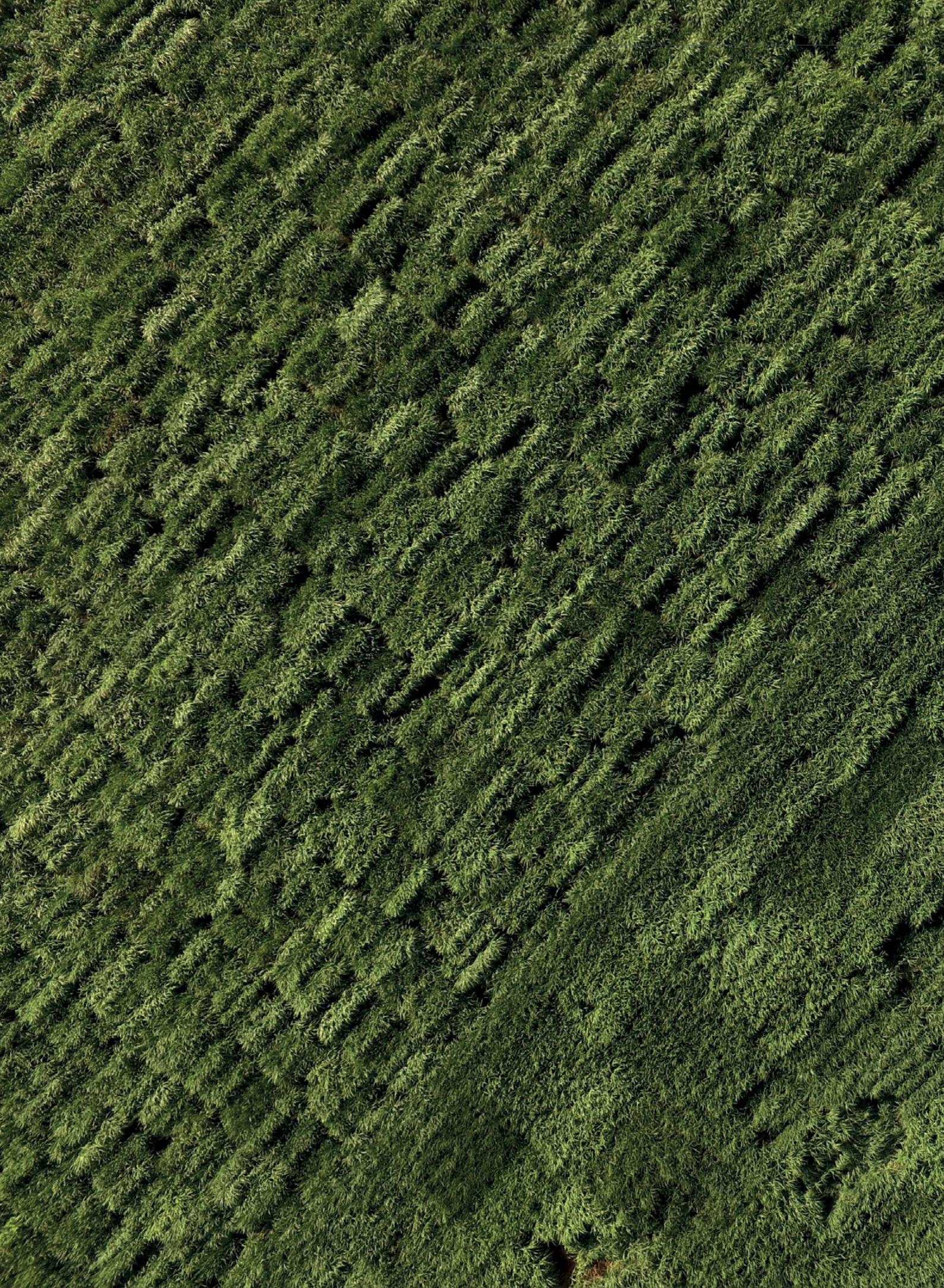


SRA2[Ⓛ]



The top five Australian varieties in 2017 were Q208[Ⓛ], Q183[Ⓛ], Q240[Ⓛ], KQ228[Ⓛ], and Q232[Ⓛ], representing a combined 73 percent of the entire crop.

For more information on
variety field trials contact:
NSW Variety Officer Anthony Cattle
E acattle@sugarresearch.com.au
M 0418 694 656



An aerial photograph of a sugarcane field. The image shows dense, green sugarcane plants arranged in neat, parallel rows. A light brown dirt road or path runs diagonally through the field, separating different sections of the plantation. The perspective is from directly above, looking down on the crops.

Varieties form the foundation of SRA's work to improve the profitability, productivity, sustainability of Australia's sugarcane industry. Every year SRA plants around 100,000 new seedlings as potential varieties for the future.



DISEASE RESISTANCE

Disease has the potential to lower the performance of varieties on your farm. This table will help you select varieties given the diseases that may be present on your farm. White indicates unknown.

Disease Ratings										
VARIETY	MILL AREA RECOMMENDED	FIJI LEAF GALL	SMUT	LEAF SCALD	CHLOROTIC STREAK	ORANGE RUST	BROWN RUST	RSD	RED ROT	PACHYMETRA
SRA11 [Ⓛ]	B, C, H	R	R	R		R			I	R
SRA2 [Ⓛ]	B, C, H	R	I	R		I		S	R	R
SRA1 [Ⓛ]	B, C, H	I	R	R		R	R	S	I	I
Q254 [Ⓛ]	B, C, H	R	I	R		R		I	I	I
Q252 [Ⓛ]	B, C, H	I	I	R		R		I-R	R	I
Q244 [Ⓛ]	B, C, H	R	I	R	S	R			I	I-S
Q243 [Ⓛ]	B, H	I-R	I-R	R	I	R		I-R	R	S
Q242 [Ⓛ]	B, C, H	R	I	R	I	R		S	I-R	R
Q240 [Ⓛ]	B, C, H	I-S	R	R	I-R	R		I-R	R	I
Q235 [Ⓛ]	B, C, H	R	R	R	I-R	I-R		S	R	R
Q234 [Ⓛ]	B, C, H	R	I-S	R	I-S	R	S	S	I-R	I-S
Q232 [Ⓛ]	B, C, H	I	R	R	R	R		I	I-R	I
KQ228 [Ⓛ]	B, C, H	I	R	R	S	R	R	S	R	I
Rogan (Q212 [Ⓛ])	B, C, H	I-R	R	R	R	R	I-S	I	R	R
Q211 [Ⓛ]	C	S	S	R		R	R	S	R	R
Q210 [Ⓛ]	B, H	I	S	R	I	R	R	I	R	I-S
Q208 [Ⓛ]	B, C, H	I-S	I-R	R	R	R	R	I-R	R	I
Q203 [Ⓛ]	B, C, H	R	I-S	R	S	R	R	I	R	S
Q200 [Ⓛ]	B, C, H	I	R	R	I	R	R	I-R	R	I
Q193 [Ⓛ]	B, H	R	S	R	I	R		I	R	I
Q190 [Ⓛ]	B, C	R	I	R		R	I-R	I-R	R	R
Q188 [Ⓛ]	B, C	R	S	R		R	R	I-R	I	R
Q183 [Ⓛ]	B, C, H	R	I-R	I	S	R	R	I	I	R
Q167 [Ⓛ]	H	I	S	R	I-R				R	I-R
Q155	B, C, H	R	I	R	I	R	R	S	S	S
Q124	B, C, H	I-S	I-S	R	I	S	R	S	I-S	I-S
ARRIS	H	I	I-S	R					R	I-S
EMPIRE	B, C, H	R	S			R		I-R		
BN88-3345	H	R	S	R		R			R	
BN83-3120	B, H	R	S	R						S
BN82-2384	H	S		R		R	R			
BN81-1394	B, C, H	R	R	I-S				S	I	S
QC75-326	H	R	I-R	R						R
RB72-454	B, H	I-S	S	I-R		S				S
SP79-2313	H	R	I	I-R			R		R	S

Rotation of varieties is important in the management of diseases. Arrange for your local productivity services officer to inspect your farm for disease. The Diseases of Australian Sugarcane Field

Guide provides information on diseases including how to identify and manage them. The guide is available on the SRA website www.sugarresearch.com.au

- Resistant (R)
- Resistant -Intermediate (I-R)
- Intermediate (I)
- Intermediate- Susceptible (I-S)
- Susceptible (S)
- B Broadwater
- C Condong
- H Harwood



HARVEST MANAGEMENT

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

Harvest Management					
VARIETY	EARLY SUGAR	MID SUGAR	LATE SUGAR	FLOWERING	LODGING TOLERANCE
SRA11 [Ⓛ]	Average	Average	Average	Unknown	Unknown
SRA2 [Ⓛ]	Good	Good	Good	Moderate	Average
SRA1 [Ⓛ]	Good	Good	Good	Moderate	Average
Q254 [Ⓛ]	Average	Average	Average	Sparse	Unknown
Q252 [Ⓛ]	Average	Average	Average	Moderate	Average
Q244 [Ⓛ]	Good	Average	Average	Sparse	Average
Q243 [Ⓛ]	Average	Good	Good	Sparse	Unknown
Q242 [Ⓛ]	Good	Average	Average	Moderate	Poor
Q240 [Ⓛ]	Good	Good	Good	Sparse	Average
Q235 [Ⓛ]	Good	Good	Good	Heavy	Unknown
Q234 [Ⓛ]	Good	Good	Good	Sparse	Good
Q232 [Ⓛ]	Average	Average	Good	Heavy	Unknown
KQ228 [Ⓛ]	Good	Average	Poor	Moderate	Average
Q212 [Ⓛ]	Poor	Average	Average	Sparse	Good
Q211 [Ⓛ]	Good	Good	Average	Sparse	Average
Q210 [Ⓛ]	Average	Good	Good	Moderate	Average
Q208 [Ⓛ]	Average	Good	Good	Moderate	Average
Q203 [Ⓛ]	Average	Average	Average	Moderate	Average
Q200 [Ⓛ]	Good	Good	Good	Sparse	Average
Q193 [Ⓛ]	Good	Good	Average	Unknown	Average
Q190 [Ⓛ]	Poor	Average	Average	Sparse	Average
Q188 [Ⓛ]	Poor	Average	Average	Heavy	Average
Q183 [Ⓛ]	Average	Average	Average	Sparse	Average
Q167 [Ⓛ]	Poor	Average	Average	Sparse	Average
Q155	Good	Good	Good	Sparse	Average
Q124	Average	Good	Good	Sparse	Average
ARRIS	Poor	Poor	Average	Moderate	Good
EMPIRE	Average	Good	Good	Unknown	Good
BN88-3345	Poor	Average	Average	Unknown	Average
BN83-3120	Poor	Poor	Poor	Sparse	Average
BN73-3416	Good	Good	Average	Unknown	Good
BN81-1394	Average	Average	Average	Unknown	Average
QC75-326	Average	Average	Poor	Sparse	Average
RB72-454	Average	Average	Average	Unknown	Good
SP79-2313	Poor	Average	Average	Sparse	Average

Maximise your profit at harvest:

Selecting varieties for specific sugar maturity profiles, planting and harvesting them for optimal CCS maturity at time of harvest can make a significant difference in the profit your crop can make for you.

Making harvest decisions based on in-field maturity maximises profit making decisions.

Good	Flowering
Average	Sparse
Low	Moderate
Poor	Heavy
Unknown	



VARIETY ADOPTION IN EACH MILL AREA

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

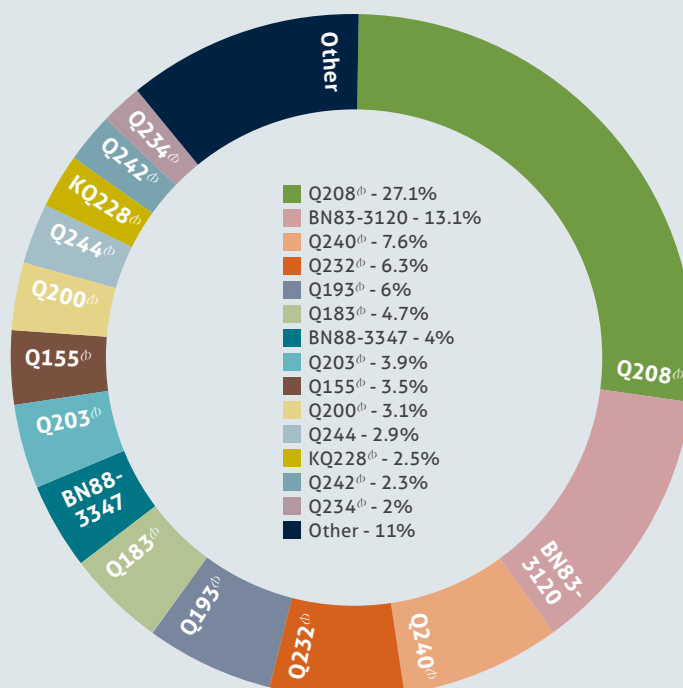
Broadwater (% TONNES 2017)

A total of 683,760 tonnes of cane were harvested from 6,066 hectares recording mill averages for CCS 11.9 and TCH 113.

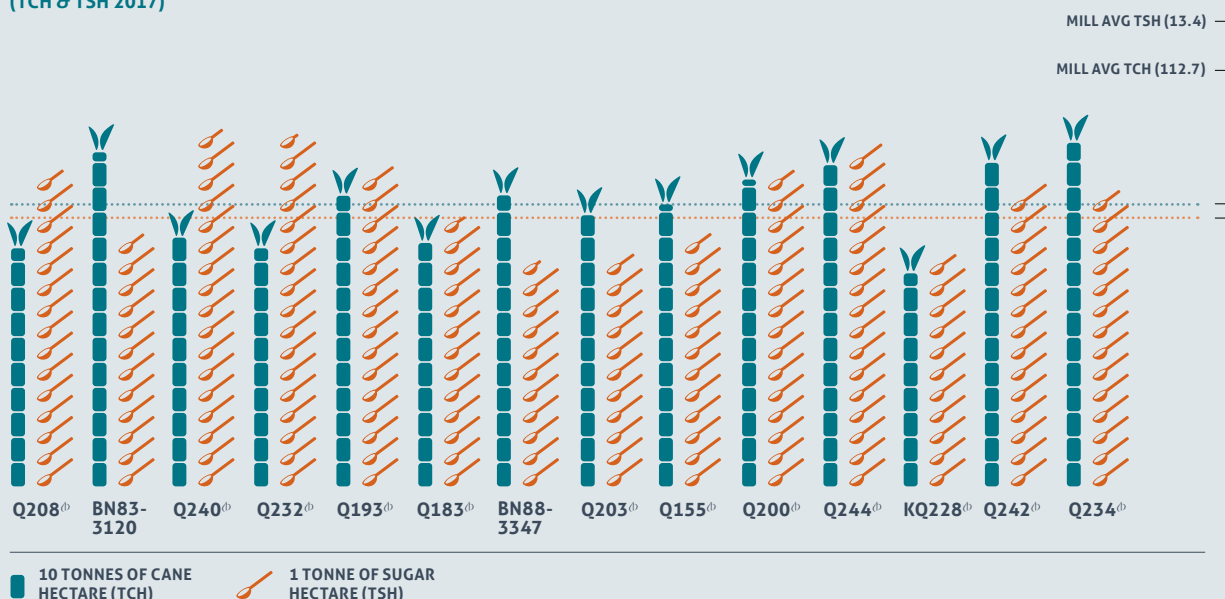
Q208[Ⓢ] remains the dominant variety in the Broadwater region increasing to 27.1% of the total harvest in 2017. BN83-3120 increased slightly from 11.9% to 13.1% in 2017. Q193[Ⓢ] dropped to 6.0%.

Q232[Ⓢ] and Q240[Ⓢ] increased slightly to 6.3% and 7.6% in 2017 whilst Q200[Ⓢ] and Q203[Ⓢ] declined to 3.9% and 3% respectively.

Q244[Ⓢ], Q234[Ⓢ] and Q200[Ⓢ] performed well above mill average for both TCH and TSH. Q242[Ⓢ] and Q193[Ⓢ] also returned above mill average TCH and TSH. Q208 also exceeded mill average for TSH.



(TCH & TSH 2017)

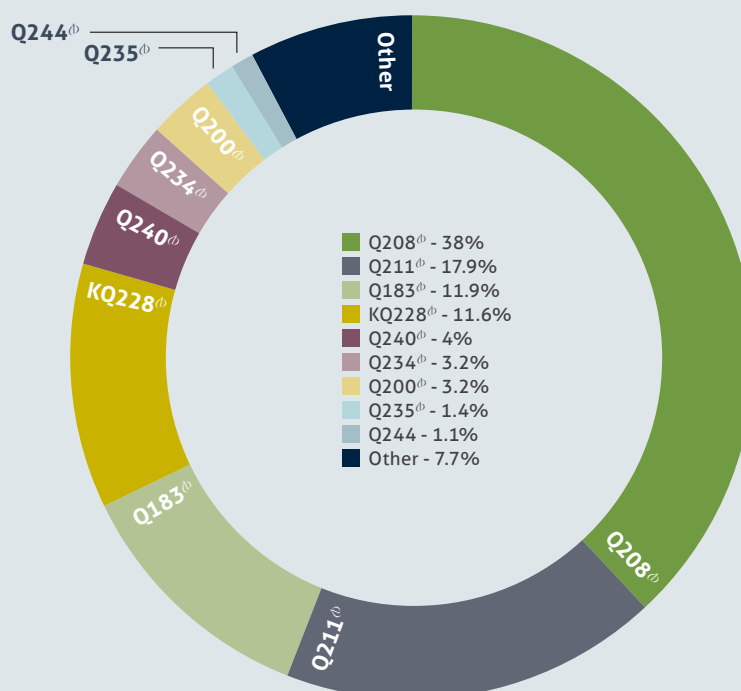


Condong (% TONNES 2017)

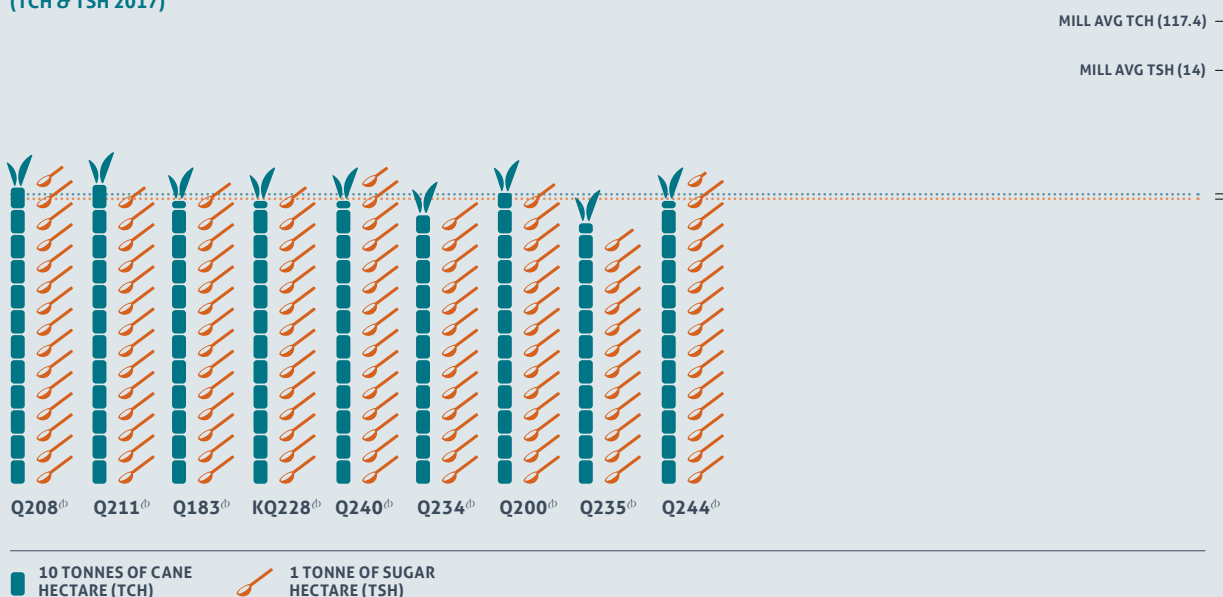
In 2017, the Condong region harvested 522,813 tonnes of cane from 4,455 hectares, returning an average CCS of 11.9 and TCH 117.

Q208th remains the most dominant variety increasing to 38.0% of total harvest in 2017. Q211th had previously averaged around 25% of the total annual tonnage but further reduced to 17.6% in 2017. KQ228th reduced slightly to 11.6%. Q183th increased to 11.9% of the total harvest in 2017, whilst Q234th and Q200th both declined to about 3%.

Q208th and Q200th both performed at or above mill average for TCH & TSH. Q244th, Q240th, Q208th and Q183th all recorded above mill average results for CCS.



(TCH & TSH 2017)

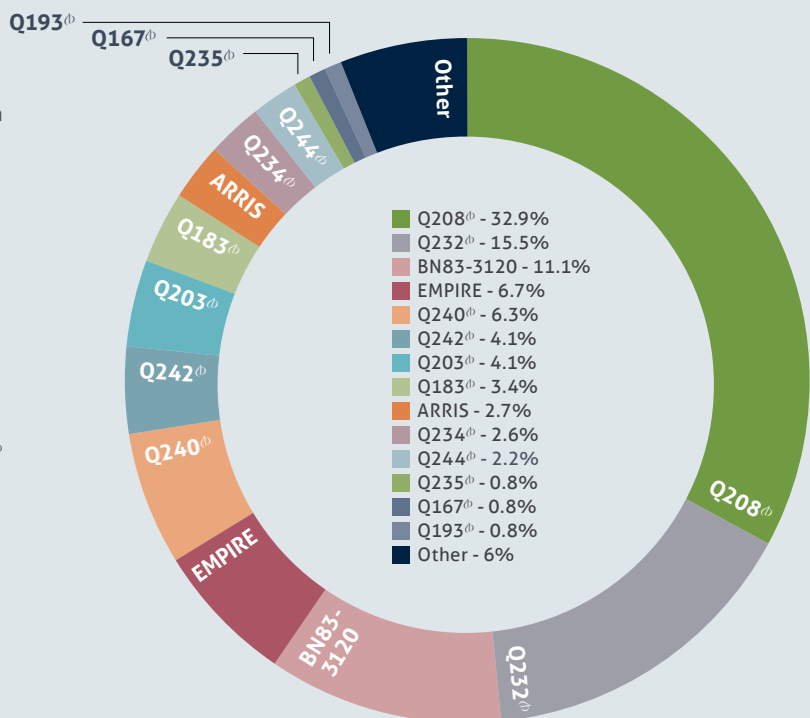


Harwood (% TONNES 2017)

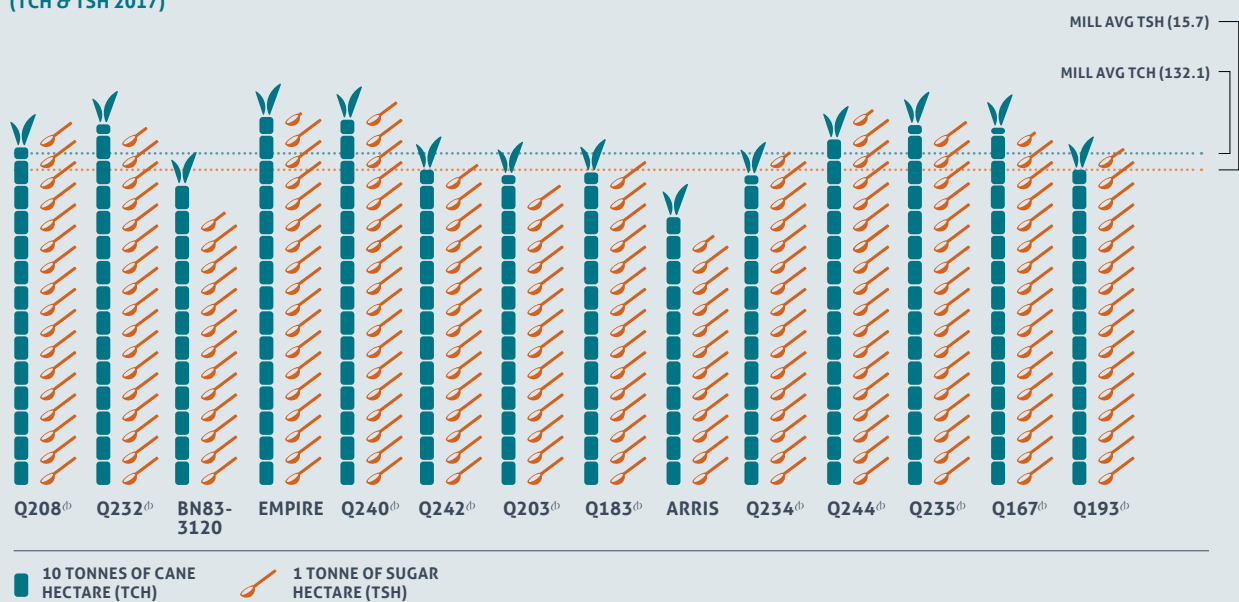
A harvest of 665,340 tonnes of cane from 5,035 hectares from the Harwood region resulted in mill average CCS of 11.88 and TCH 132.

Q208^h has increased from 1.9% in 2013 to 32.9% of total tonnage crushed in 2017. Q232^h remained stable at 15.5% of the Harwood harvest. BN83-3120 increased slightly to 11.1% and Empire declined slightly to 6.7% in 2017. Q240^h increased to 6.3% whilst Q183^h dropped to 3.4%. Arris and Q203^h continue to decline.

Q240^h, Q235^h, Q232^h, Q208^h, Q244^h, Q167^h and Empire all performed above mill average for TCH and TSH.



(TCH & TSH 2017)

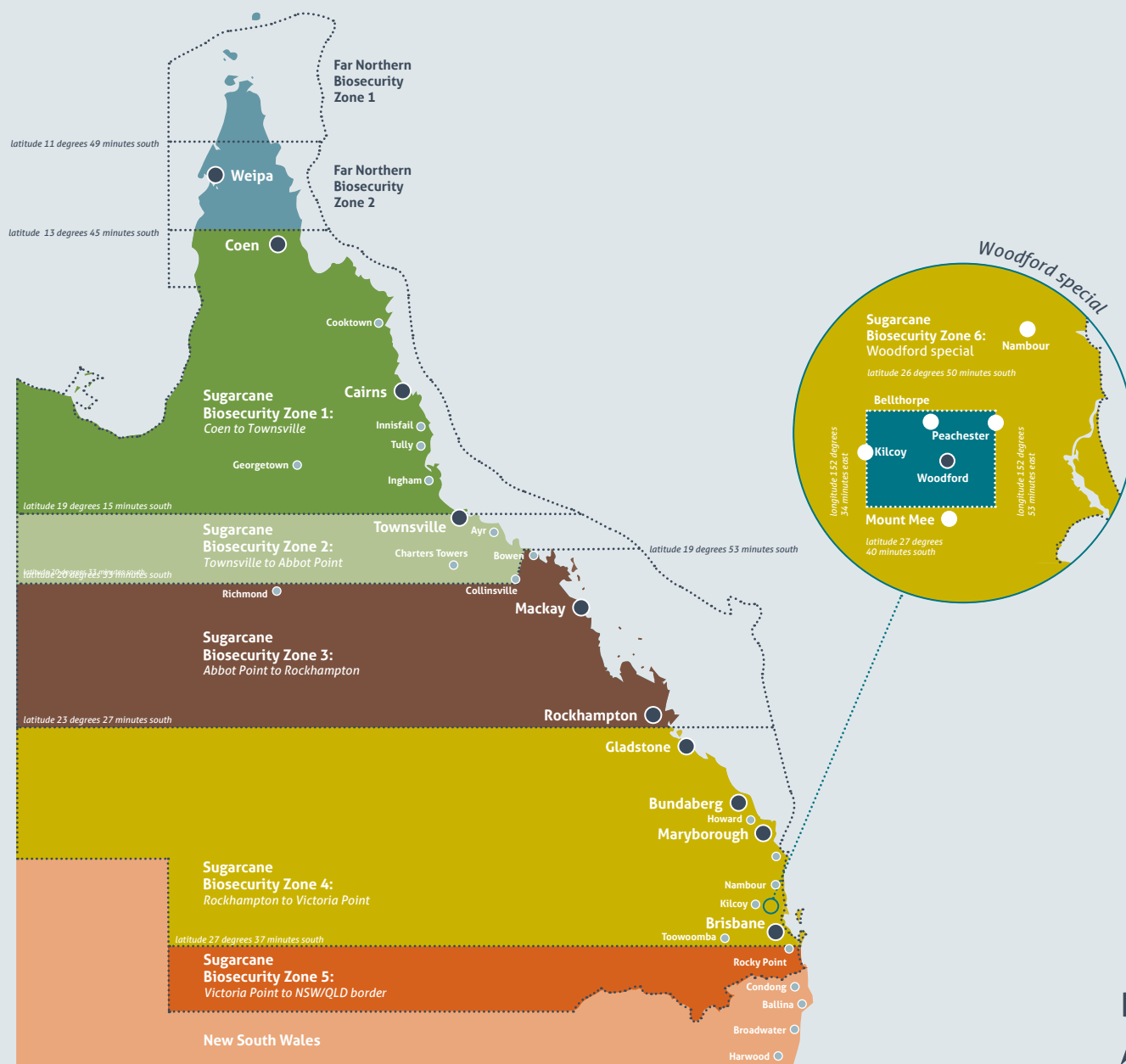




For more information please visit:
www.sugarresearch.com.au



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.
- For more information on movement of sugarcane plants (stalks, leaves, potted plants, etc) between biosecurity zones contact Biosecurity Queensland (13 25 23).



PROPAGATING NEW VARIETIES

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



NSW Agricultural Services:
T Broadwater 02 6620 8257
T Condong 02 6670 1745
T Harwood 02 6640 0479

Billet planting



PLANT MATERIAL FROM AN APPROVED SEED SOURCE

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



GROW SUGARCANE SPECIFICALLY FOR PLANTING MATERIAL

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

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



SET UP THE HARVESTER FOR CUTTING HIGH QUALITY SOUND BILLETS

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

Tissue culture



CALCULATE HOW MUCH TISSUE CULTURE TO ORDER

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



TRY TISSUE CULTURE AS AN APPROVED CLEAN SEED SOURCE

Tissue culture is an excellent source of clean seed for all varieties and can help reduce the spread of serious diseases such as ratoon stunting disease, 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 2018	1 July 2019
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 2019.	Delivery on agreed date between grower, productivity services group and nursery. Available in March 2020.

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

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

For more information on *varieties*, contact:

SRA Adoption Officer Tracy Hay
 E thay@sugarresearch.com.au T 07 4056 4527

For more information on *tissue culture*, contact:

SRA Tissue Culture Manager Clair Bolton
 E cbolton@sugarresearch.com.au T 07 4783 8619



PLANTING AND MANAGING TISSUE-CULTURED PLANTLETS IN THE FIELD

Planting

- Prepare soil to a fine tilth to ensure good soil/root contact.
- A seedling planter can be used if one is available, although hand planting small numbers is not a huge job. Plant them deep at the bottom of a drill to prevent stool tipping.
- Fill in after early growth.
- Plant the plantlets 500 mm to 1 m apart. A good distance is 800 mm, which will allow tillering to produce a high number of sticks.

Irrigating

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

Insects

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

Fertiliser

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

Weeds

Weed control is important for good establishment and growth.

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

QCANESelect®

- Using sugarcane varieties that are best-suited to your farm may help maximise productivity and profitability.
- QCANESelect® is an online tool that allows you to review, compare and select varieties for use on each block on your farm.
- To access QCANESelect® and the tissue culture calculator visit the SRA website www.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.





Sugar Research Australia Limited

ABN 16 163 670 068

Head Office 50 Meiers Road, Indooroopilly QLD 4068 Australia

Postal Address PO Box 86 Indooroopilly QLD 4068 Australia

T 07 3331 3333 **F** 07 3871 0383

E sra@sugarresearch.com.au

W sugarresearch.com.au

