



Variety Guide 2017/18

Central region 

How to use this guide

This guide is designed to help growers in the Central 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:

Which new varieties are available & how they performed in SRA trials

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The disease resistance ratings of each variety

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Which varieties are most suited to the environment on your farm

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Planting & managing
tissue-cultured plantlets
in the field

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Managing the varieties on your farm is vital. By making informed choices at planting, you can make a positive difference to your farm productivity and profitability for the whole crop cycle. To help you make decisions about the best-suited varieties for your farm, use QCANSelect® – our online variety decision-support tool. This tool is available on the SRA website www.sugarresearch.com.au

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

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Variety: SRA9^{db} **Parentage:** Q107 x H56-752 **Summary:** Higher tonnes cane; lower CCS

Variety: Q250[Ⓛ] **Parentage:** QN79-183 x QN89-1043 **Summary:** Equal tonnes cane; higher CCS

Variety: Q252[♂] **Parentage:** Q208[♂] x Q96 **Summary:** Equal tonnes cane, higher CCS

Trial harvest year	Crop class	Yield (tonnes cane/ha)				CCS				# of trials
		Q252 [Ⓛ]	Q208 [Ⓛ]	Q183 [Ⓛ]	Q238 [Ⓛ]	Q252 [Ⓛ]	Q208 [Ⓛ]	Q183 [Ⓛ]	Q238 [Ⓛ]	
(2010 series FATs): 2011	Plant	87	89	72	84	16.0	15.3	16.4	16.3	2
2012	1R	87	88	81	83	17.9	17.7	17.9	17.3	3
2013	2R	80	81	71	78	18.7	18.5	18.7	18.5	3
(2012 series FATs): 2013	Plant	86	86	84	88	18.1	17.6	17.9	18.1	3
2014	1R	89	86	92	98	18.4	17.9	18.2	18.2	3
2015	2R	63	63	72	75	18.2	18.1	18.1	17.9	3
Overall performance		82	82	79	84	18.0	17.6	18.0	17.8	17
Available from 2015										
Comments: Q252 [Ⓛ] has average TCH, higher CCS when compared to the current standards, intermediate to pachymetra and smut.										

Disease resistance



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



Clone	Smut	Pachymetra	Leaf scald	Chlorotic streak	Orange rust	Brown rust	RSD	Red rot	Yellow spot	Fiji Leaf Gall	Mosaic
SRA9 [♂]	Intermediate/Susceptible	Resistant	Resistant	Unknown	Unknown	Unknown	Unknown	Intermediate/Resistant	Unknown	Intermediate	Resistant
Q252 [♂]	Intermediate	Intermediate	Resistant	Unknown	Resistant	Unknown	Resistant	Resistant	Intermediate	Intermediate	Resistant
Q250 [♂]	Resistant	Intermediate/Susceptible	Resistant	Unknown	Intermediate	Unknown	Intermediate/Resistant	Intermediate	Intermediate/Resistant	Susceptible	Intermediate/Resistant
Q249 [♂]	Resistant	Intermediate	Resistant	Unknown	Resistant	Unknown	Susceptible	Intermediate/Resistant	Unknown	Resistant	Intermediate/Resistant
Q247 [♂]	Intermediate	Resistant	Resistant	Unknown	Resistant	Unknown	Susceptible	Resistant	Susceptible	Resistant	Resistant
Q242 [♂]	Intermediate	Resistant	Resistant	Intermediate	Resistant	Unknown	Susceptible	Intermediate/Resistant	Resistant	Resistant	Resistant
Q240 [♂]	Resistant	Intermediate	Resistant	Intermediate/Resistant	Resistant	Unknown	Resistant	Resistant	Intermediate	Intermediate/Susceptible	Resistant
Q238 [♂]	Resistant	Resistant	Resistant	Susceptible	Resistant	Resistant	Intermediate	Intermediate/Resistant	Susceptible	Intermediate/Resistant	Resistant
Q232 [♂]	Resistant	Intermediate	Resistant	Resistant	Resistant	Unknown	Intermediate	Intermediate/Resistant	Resistant	Intermediate	Resistant
KQ228 [♂]	Resistant	Intermediate	Resistant	Susceptible	Resistant	Resistant	Susceptible	Resistant	Intermediate	Intermediate	Resistant
Q226 [♂]	Resistant	Intermediate/Resistant	Resistant	Unknown	Resistant	Intermediate/Susceptible	Intermediate	Resistant	Resistant	Resistant	Resistant
Q212 [♂]	Resistant	Resistant	Resistant	Resistant	Resistant	Intermediate/Susceptible	Intermediate	Resistant	Susceptible	Intermediate/Resistant	Resistant
Q209 [♂]	Susceptible	Resistant	Resistant	Unknown	Resistant	Resistant	Unknown	Intermediate/Susceptible	Unknown	Intermediate/Resistant	Resistant
Q208 [♂]	Intermediate/Resistant	Intermediate	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Resistant	Intermediate/Susceptible	Resistant
Q200 [♂]	Resistant	Intermediate	Resistant	Intermediate	Resistant	Resistant	Resistant	Resistant	Intermediate/Resistant	Intermediate	Resistant
Q190 [♂]	Intermediate	Resistant	Resistant	Unknown	Resistant	Intermediate/Resistant	Resistant	Resistant	Intermediate/Susceptible	Resistant	Resistant
Q183 [♂]	Intermediate/Resistant	Resistant	Intermediate	Susceptible	Resistant	Resistant	Intermediate	Intermediate	Intermediate/Susceptible	Resistant	Resistant
Q177 [♂]	Resistant	Susceptible	Resistant	Unknown	Intermediate	Resistant	Intermediate	Intermediate/Resistant	Resistant	Intermediate/Resistant	Intermediate/Resistant
Q171 [♂]	Resistant	Susceptible	Resistant	Unknown	Resistant	Resistant	Intermediate	Intermediate	Unknown	Resistant	Susceptible
Q138	Susceptible	Resistant	Resistant	Intermediate/Resistant	Resistant	Resistant	Susceptible	Intermediate/Susceptible	Intermediate	Resistant	Intermediate/Susceptible
Q135	Intermediate	Intermediate	Resistant	Susceptible	Resistant	Resistant	Resistant	Susceptible	Resistant	Resistant	Susceptible
Q96	Intermediate	Intermediate/Susceptible	Intermediate/Resistant	Resistant	Resistant	Resistant	Susceptible	Resistant	Resistant	Susceptible	Resistant
SP80-1816	Intermediate/Susceptible	Resistant	Resistant	Unknown	Resistant	Unknown	Unknown	Resistant	Unknown	Resistant	Resistant

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

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.

Central

Variety	Early sugar	Mid sugar	Late sugar
SRA9 ^{db}	Poor	Average	Good
Q252 ^{db}	Average	Good	Good
Q249 ^{db}	Average	Average	Average
Q247 ^{db}	Average	Average	Average
Q242 ^{db}	Good	Good	Good
Q240 ^{db}	Average	Good	Good
Q238 ^{db}	Good	Good	Good
Q232 ^{db}	Average	Average	Poor
KQ228 ^{db}	Good	Good	Poor
Q226 ^{db}	Average	Average	Average
Q212 ^{db}	Poor	Poor	Average
Q209 ^{db}	Average	Average	Average
Q208 ^{db}	Good	Good	Good
Q200 ^{db}	Average	Good	Good
Q190 ^{db}	Poor	Poor	Poor
Q183 ^{db}	Average	Good	Good
Q177 ^{db}	Average	Poor	Poor
Q171 ^{db}	Average	Poor	Poor
Q138	Poor	Poor	Poor
Q135	Poor	Average	Good
Q96	Poor	Average	Poor
SP80-1816	Poor	Average	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.

Variety management

This chart is useful for matching a variety to a particular field situation. For example, if a field has a drainage problem, then select a variety with some tolerance to waterlogging.

Central

Variety	Fast and reliable germination	Drought tolerance	Tolerance to waterlogging	Frost tolerance	Ratooning after early harvest	Ratooning after late harvest
SRA9 [♢]	Good	Average	Poor	Unknown	Unknown	Good
Q252 [♢]	Average	Average	Unknown	Unknown	Unknown	Unknown
Q249 [♢]	Average	Average	Average	Unknown	Average	Average
Q247 [♢]	Average	Poor	Unknown	Unknown	Unknown	Unknown
Q242 [♢]	Good	Good	Good	Unknown	Good	Good
Q240 [♢]	Good	Average	Average	Good	Good	Good
Q238 [♢]	Good	Average	Poor	Average	Good	Average
Q232 [♢]	Average	Average	Good	Average	Good	Poor
KQ228 [♢]	Good	Average	Poor	Good	Good	Average
Q226 [♢]	Good	Average	Poor	Average	Average	Average
Q212 [♢]	Good	Average	Average	Average	Good	Average
Q209 [♢]	Average	Average	Average	Average	Average	Average
Q208 [♢]	Average	Average	Good	Good	Average	Good
Q200 [♢]	Average	Poor	Average	Poor	Average	Average
Q190 [♢]	Good	Poor	Good	Average	Good	Poor
Q183 [♢]	Good	Poor	Poor	Average	Average	Good
Q177 [♢]	Average	Poor	Poor	Unknown	Average	Average
Q171 [♢]	Average	Average	Average	Unknown	Good	Average
Q138	Average	Good	Average	Poor	Average	Average
Q135	Average	Poor	Poor	Good	Average	Average
Q96	Average	Poor	Poor	Average	Poor	Poor
SP80-1816	Average	Average	Good	Unknown	Good	Good



Variety performance 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).

Proserpine

Proserpine % tonnes 2016



2016 produced a harvest of 2 million tonnes of cane from 20,853 hectares. The mill average CCS was 12.69 and average TCH was 95.9.

Q208[Ⓛ] remained the dominant variety in Proserpine at 33.3% of total harvest, down from 48.5% in 2012. KQ228[Ⓛ] also declined from 13.4% in 2012 to 6.4% in 2016. Q183[Ⓛ] and Q232[Ⓛ] both increased from 2.9% and 2.8% in 2012 to 17.1% and 15.2% in 2016, and Q240[Ⓛ] increased from 2.2% in 2014 to 11.5% in 2016.

Q183[Ⓛ], Q200[Ⓛ] and Q240[Ⓛ] all performed above mill average for TCH and TSH with Q240[Ⓛ] recording average TSH of 14.8.

Q208 [Ⓛ]	– 33.3%	Q212 [Ⓛ]	– 1.6%
Q183 [Ⓛ]	– 17.1%	Q138	– 1.6%
Q232 [Ⓛ]	– 15.2%	Q200 [Ⓛ]	– 1.6%
Q240 [Ⓛ]	– 11.5%	Q226 [Ⓛ]	– 1.3%
KQ228 [Ⓛ]	– 6.4%	Q190 [Ⓛ]	– 0.8%
Q242 [Ⓛ]	– 5.3%	Q249 [Ⓛ]	– 0.7%
Q238 [Ⓛ]	– 3.1%		

Plane Creek

Plane Creek % tonnes 2016



1.4 million tonnes of cane was harvested from 16,471 hectares returning mill average of 12.96 CCS and 81.8 TCH.

Q208[Ⓛ] continued to dominate the total harvest but has declined from 42.5% in 2012 to 34.5% in 2016. Q183[Ⓛ] steadily increased to 21.3% in 2016. KQ228[Ⓛ] declined to 9.6% in 2016, Q232[Ⓛ] saw a slight decline to 6.7%, Q238[Ⓛ] and Q240[Ⓛ] increased to 4.9% and 4.5% in 2016.

Q240[Ⓛ], Q183[Ⓛ], Q238[Ⓛ] and Q242[Ⓛ] all performed above mill average for TCH and TSH with Q240[Ⓛ] recording average TSH at 12.2.

Q208 [Ⓛ]	– 34.5%	Q242 [Ⓛ]	– 2.9%
Q183 [Ⓛ]	– 21.3%	Q200 [Ⓛ]	– 2.6%
KQ228 [Ⓛ]	– 9.6%	Q226 [Ⓛ]	– 2.3%
Q138	– 6.9%	Q209 [Ⓛ]	– 0.9%
Q232 [Ⓛ]	– 6.7%	Q249 [Ⓛ]	– 0.8%
Q238 [Ⓛ]	– 4.9%	Q247 [Ⓛ]	– 0.6%
Q240 [Ⓛ]	– 4.5%		

Variety performance (cont.)

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).

Mackay Sugar Mills

Mackay Sugar Mill % tonnes 2016



The 5.6 million tonnes of cane harvested from 63,083 hectares returned mill average CCS of 12.71 and TCH 88.1.

Q208[Ⓛ] remained the dominant variety despite a decline from 50.1% in 2012 to 39.3% in 2016. Q183[Ⓛ] remained relatively stable at 12.2%. Q240[Ⓛ] increased to 11% in 2016. Q232[Ⓛ] was stable at 9.4% similar to the previous 2 years and KQ228[Ⓛ] reduced from 16.3% in 2012 to 9.3% in 2016.

Q240[Ⓛ], Q242[Ⓛ], Q238[Ⓛ], and Q249[Ⓛ] all performed above mill average for TCH and TSH with Q240[Ⓛ] recording average TSH of 13.6.

Q208 [Ⓛ] – 39.3%	Q226 [Ⓛ] – 1.2%
Q183 [Ⓛ] – 12.2%	Q249 [Ⓛ] – 1.0%
Q240 [Ⓛ] – 11.0%	SP80-1816 – 0.8%
Q232 [Ⓛ] – 9.4%	Q200 [Ⓛ] – 0.4%
KQ228 [Ⓛ] – 9.3%	Q209 [Ⓛ] – 0.2%
Q242 [Ⓛ] – 8.1%	Q135 – 0.2%
Q138 – 4.4%	Q207 [Ⓛ] – 0.1%
Q238 [Ⓛ] – 2.2%	Q190 [Ⓛ] – 0.1%

New Variety Recommendation and Release Process

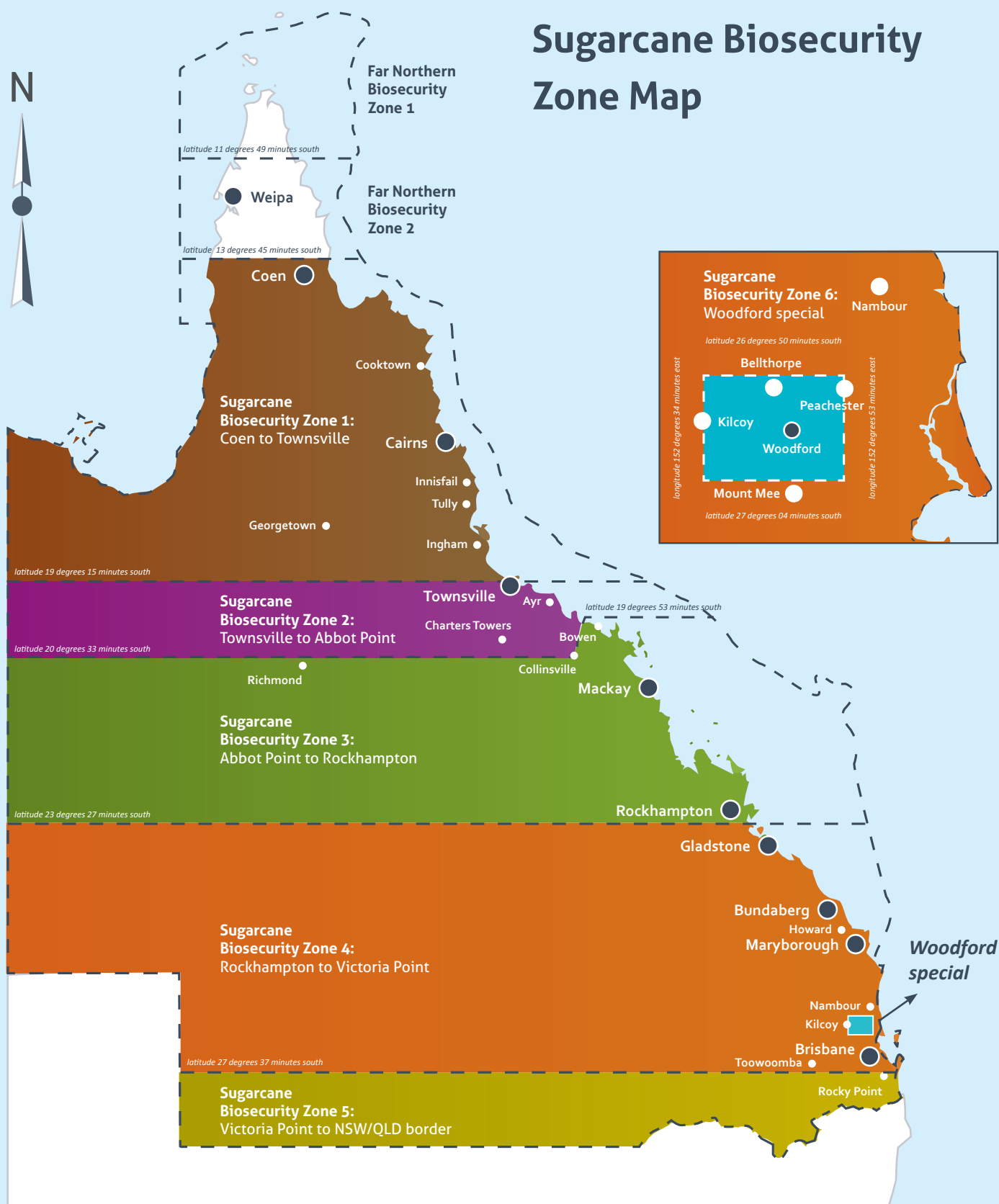
Regional Variety Committees (RVC) have replaced Variety Approval Committees (VAC) in line with changes to Queensland biosecurity legislation. With membership drawn from growers, millers and productivity service groups specific to the region, the RVCs will continue to be responsible for variety release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

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

The Central RVC (Sugarcane Biosecurity Zone 3) voting membership consists of one grower representative from Proserpine, Mackay and Plane Creek. A voting representative from Wilmar and Mackay Sugar also sit on the RVC. The Central RVC requires a majority vote for progression of a variety through the SRA program and a unanimous vote for the release of a variety.

Contact SRA Central Variety Officer Brendan Rae at brae@sugarresearch.com.au or 0409 268 224 for more information.

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 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).
- Need more information? Check the Biosecurity manual for Sugarcane Producers at: https://sugarresearch.com.au/wp-content/uploads/2017/02/Biosecurity-Manual-for-Sugarcane-Producers_WEB.pdf

Propagating new varieties

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

Billet planting

Plant material from an approved seed source

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

Grow sugarcane specifically for planting material

The block selected for growing plant material should be disease-free, weed-free and sugarcane volunteer-free. The cane should be erect with short internodes, so it will have at least two buds per sett when harvested for billets. This can be achieved through reduced fertiliser rates, withholding irrigation or planting late in the season. The cane should be less than one year old when harvesting for good quality billets and also be no more than three years away from long hot water treatment.

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.

Need more information on varieties?

Contact SRA Adoption Officer Tracy Hay
thay@sugarresearch.com.au or 07 4056 4527

Need more information on tissue culture?

Contact SRA Tissue Culture Manager Clair Bolton
cbolton@sugarresearch.com.au or 07 4783 8619

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 2017	1 July 2018
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 2018.	Delivery on agreed date between grower, productivity services group and nursery. Available in March 2019.

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
	M row available for planting	2400	6000	12000	24000
Yr 2	Ha avail for planting @ 1.8 m	0.4	1.1	2.2	4.3

Planting & 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 its 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.sugarcane.org.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

Tel 07 3331 3333
Fax 07 3871 0383
Email sra@sugarresearch.com.au
Web sugarresearch.com.au