Sugar Research Australia™

Variety Guide 2016/17

Herbert and Northern regions

How to use this guide

This guide is designed to help growers in the Herbert and Northern canegrowing regions 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:

Managing the varieties on your farm is vital. By making informed choices this season 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 QCANESelect™ – our online variety decision-support tool. This tool is available on the SRA website www.sugarresearch.com.au

ISSN 2203-6199 (Print) ISSN 2203-6202 (Online)

Propagating new varieties

Contact SRA Variety Development Officer **Rod Fletcher** on **0459 847 445**

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

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 hot water treatment.

Need to calculate how much tissue culture to order?

We've made it easier with our new 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).

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 minimum 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 in harvesting when planting new varieties to limit the spread of disease and weeds.

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. 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 2016**	**1 July 2017**
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 2017.**	Delivery on agreed date between grower, productivity services group and nursery. **Available in March 2018.**

Year 1	Number of plantlets ordered Year 1	100	250	500	1 000
	Approximate cost Year 1	$150	$375	$750	$1 500
	Metres of row planted in Year 1 at 0.8m plant spacing	80	200	400	800
Year 2	Metres of row able to be planted in Year 2	2 400	6 000	12 000	24 000
	Hectares able to be planted in Year 2 at 1.8m row spacing	0.4	1.1	2.2	4.3

New varieties available in the **Herbert** region

Presented below are the latest results of trials conducted in the Herbert region. Numbers in the tables are the difference between the new variety and the average of the standards in the trial.

Variety: SRA5

Parentage: H72-8597 x QN89-109 | High/average TCH, low CCS

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2010	Plant	3	-1.5	3
2011	1st Ratoon	9	-2.0	3
2012	2nd Ratoon	-9	-2.1	3
2013	3rd Ratoon	7	–	1
2014	Plant	10	-2.4	4
2015	1st Ratoon	4	-2.0	4
2015	Plant	1	-2.5	4
Average of all harvests		**3.6**	**-2.1**	**22**

Standard varieties used in these trials: Q200Φ, Q208Φ. In 2009 series comparison variety included MQ239Φ which is one of the varieties that would be replaced by SRA5.

Comments: SRA5 is a variety with intermediate resistance to smut, pachymetra and leaf scald. It has above-average TCH against current commercials when exposed to extreme wet and dry environments which can be found at Croytons Rd, Lannercost Extension, Halifax Rd, The Orient, Blackrock and Coolbie in the Herbert region. This is due to it being highly vigorous with good ratooning potential under harsh environments. It does also however have below-average CCS (-2 units) and % fibre equivalent to MQ239Φ. Therefore it is recommended that SRA5 to only ever be a **niche variety** to be grown in areas with known poor ratoonability that is not due high pachymetra spore numbers. Further trials are being run by HCPSL concentrating on management strategies when it comes to nitrogen application and ripeners which also could improve sugar.

The Variety Approval Committees (VAC) play an integral role in deciding which new varieties will be released each year to the productivity service groups for distribution to growers. The VAC includes invited representatives, both directors and field staff, from the regional productivity services groups, milling companies, regional CANEGROWER groups and ACFA. This year the Herbert VAC approved one new variety (SRA5) and the Northern VAC approved two new varieties (SRA6 and SRA7) and two current varieties (SRA1Φ and SRA3Φ).


SRA5


SRA6


SRA7

New varieties available in the **Northern** region

Presented below are the latest results of trials conducted in the Northern region. The mean yield and CCS of each variety is compared to the average yield and CCS of the standard varieties in the trials (shown in the brackets).

Variety: SRA1ϕ

Parentage: QN86-2139 x QC90-289 | Above-average tonnes cane, high CCS

Trial harvest year	Crop class	Yield (tonnes cane/ha)	CCS	Number of Northern trials
(2014 series FATs): 2015	Plant	92 (88)	15.8 (15.0)	2
Average of all harvests		**92 (88)**	**15.8 (15.0)**	**2**
Standard varieties used in these trials: Q200ϕ, Q208ϕ, Q231ϕ, Q241ϕ, Q250ϕ				
Available: 2016				
Comments: SRA1ϕ is a Southern variety. Current northern results for SRA1ϕ are limited to only two plant crops in the Northern 2014 FAT series. SRA1ϕ is included in the full 2015 FAT series to be harvested this year. Productivity in terms of both tonnes cane and CCS are positive. SRA1ϕ may lodge in heavy crops. Intermediate resistance to pachymetra root rot and leaf scald, and resistant to smut. Low fibre content. Low impact resistance and shear strength.				

Variety: SRA3ϕ

Parentage: QN86-2214 x Q200 | Marginally below-average tonnes cane, average CCS

Trial harvest year	Crop class	Yield (tonnes cane/ha)	CCS	Number of Northern trials
(2014 series FATs): 2015	Plant	98 (101)	15.3 (15.4)	4
Average of all harvests		**98 (101)**	**15.3 (15.4)**	**4**
Standard varieties used in these trials: Q200ϕ, Q208ϕ, Q231ϕ, Q241ϕ, Q250ϕ				
Available: 2016				
Comments: SRA3ϕ is a Herbert variety. Current northern results for SRA3ϕ are limited to four plant crop results in the 2014 Northern FAT series. SRA3ϕ is included in the full 2015 Northern FAT to be harvested this year. Results from the Herbert region show equal cane yield and CCS which is better mid to late season. It has shown some promise in harsh conditions. Intermediate resistance to pachymetra root rot, smut and leaf scald.				


SRA1ϕ


SRA3ϕ

New varieties available in the **Northern** region *(cont.)*

Presented below are the latest results of trials conducted in the Northern region. The mean yield and CCS of each variety is compared to the average yield and CCS of the standard varieties in the trials (shown in the brackets).

Variety: SRA6

Parentage: QN80-3425 x QH93-1197 | Above-average tonnes cane, below-average CCS

Trial harvest year	Crop class	Yield (tonnes cane/ha)	CCS	Number of Northern trials
(2011 series FATs): 2012	Plant	102 (97)	16.1 (16.5)	4
2013	1st Ratoon	118 (111)	16.9 (17.2)	4
2014	2nd Ratoon	106 (96)	15.9 (16.4)	4
(2014 series FATs): 2015	Plant	98 (101)	14.7 (15.4)	4
Average of all harvests		**106 (101)**	**15.9 (16.4)**	**16**

Standard varieties used in these trials (2011 series): Q200$^{\phi}$, Q208$^{\phi}$, Q231$^{\phi}$, Q241$^{\phi}$
Standard varieties used in these trials (2014 series): Q200$^{\phi}$, Q208$^{\phi}$, Q231$^{\phi}$, Q241$^{\phi}$, Q250$^{\phi}$

Available: 2016

Comments: Compared with the mean of the commercial standard varieties, SRA6 cane yield was +5 TCH higher and -0.5 units CCS lower on average across all crop classes. Productivity in terms of tonnes sugar per hectare was +0.4 TSH higher, and improved in ratoon crops. Performance over the range of soil types where tested was equally good, but indications are that SRA6 may be less suitable to poor/dry conditions. Resistant to smut, pachymetra root rot and leaf scald.

Variety: SRA7

Parentage: QS87-8032 x QN86-139 | High tonnes cane, below-average CCS

Trial harvest year	Crop class	Yield (tonnes cane/ha)	CCS	Number of Northern trials
(2011 series FATs): 2012	Plant	116 (97)	15.6 (16.5)	4
2013	1st Ratoon	121 (111)	16.2 (17.2)	4
2014	2nd Ratoon	105 (96)	15.3 (16.4)	4
(2014 series FATs): 2015	Plant	112 (101)	14.2 (15.4)	4
Average of all harvests		**113 (101)**	**15.3 (16.4)**	**16**

Standard varieties used in these trials (2011 series): Q200$^{\phi}$, Q208$^{\phi}$, Q231$^{\phi}$, Q241$^{\phi}$
Standard varieties used in these trials (2014 series): Q200$^{\phi}$, Q208$^{\phi}$, Q231$^{\phi}$, Q241$^{\phi}$, Q250$^{\phi}$

Available: 2016

Comments: Compared with the mean of the commercial varieties, SRA7 cane yield was +12 TCH higher and -1.1 units CCS lower on average across all crop classes. Productivity in terms of tonnes sugar per hectare was + 0.7 TSH higher. Cane yield was maintained above the standards in ratoon crops across the range of soil types where tested. Resistant to leaf scald and intermediate resistance to smut and pachymetra root rot.

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.

Susceptible · Resistant · Intermediate/Susceptible · Intermediate/Resistant · Intermediate

HW Herbert Wet · HD Herbert Dry · SJ South Johnstone · N Northern Coastal · Ta Tableland

Clone	Region recommended	Brown rust	Chlorotic streak	Fiji leaf gall	Leaf scald	Mosaic	Orange rust	Pachymetra root rot	Red rot	Ratoon stunting disease	Smut	Yellow spot
SRA7	N, Ta											
SRA6	N, Ta											
SRA5	HW, HD											
SRA3[Φ]	N, Ta, HW, HD											
SRA1[Φ]	N, Ta											
Q256[Φ]	SJ, Ta											
Q253[Φ]	N, Ta, HW, HD											
Q252[Φ]	N, Ta, HW, HD											
Q251[Φ]	N, Ta											
Q250[Φ]	N, Ta, HW, HD											
Q247[Φ]	HW, HD											
Q245[Φ]	N											
Q242[Φ]	N, HW, HD											
Q241[Φ]	N, Ta											
Q240[Φ]	N, Ta, HW, HD											
MQ239[Φ]	HW, HD											
Q238[Φ]	N, Ta, HW, HD											
Q237[Φ]	N, Ta, HW, HD											
Q232[Φ]	N, Ta, HW, HD											
Q231[Φ]	N, Ta, HW, HD											
Q230[Φ]	N, Ta											
KQ228[Φ]	N, Ta, HW, HD											
Q226[Φ]	HW, HD											
Q219[Φ]	N, Ta											
Q215[Φ]	HD											
Q208[Φ]	N, Ta, HW, HD											
Q200[Φ]	N, Ta, HW, HD											
Q190[Φ]	HW, HD											
Q183[Φ]	N, Ta, HW, HD											

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

Soil recommendations

The varieties are listed in order of recommendation for each soil type. The first variety listed is the highest recommendation. Please refer to your farm soil map, available from your local productivity services group. A soil-specific nutrient management guideline booklet is available for the South Johnstone district on the SRA website sugarresearch.com.au

Northern Coastal

Soil class	Recommended varieties
Good land	Q208Φ, Q253Φ, SRA7, SRA6, Q252Φ, Q251Φ, Q250Φ, Q200Φ
Average land	Q208Φ, Q253Φ, SRA7, SRA6, Q250Φ, Q252Φ, Q231Φ, Q200Φ
Poor land	Q208Φ, Q253Φ, SRA7, SRA6, Q232Φ, Q241Φ, Q231Φ, Q252Φ

Northern Tableland

Soil class	Recommended varieties
Good land	KQ228Φ, Q208Φ, Q250Φ, Q200Φ, Q256Φ, Q240Φ, Q237Φ, Q253Φ
Poor land	Q241Φ, Q208Φ, KQ228Φ, Q256Φ, Q183Φ, Q250Φ, Q200Φ

Herbert Dry Zone

Soil class	Recommended varieties
Clay	Q232Φ, Q208Φ, Q200Φ, SRA5, SRA3Φ, Q242Φ, Q253Φ, Q226Φ
Hill slope	Q232Φ, Q208Φ, Q238Φ, SRA5, Q242Φ, Q247Φ, Q253Φ, SRA3Φ
Sandy	Q208Φ, Q238Φ, SRA5, SRA3Φ, Q200Φ, Q253Φ, Q226Φ, Q242Φ
Terrace loamy	Q208Φ, Q200Φ, Q242Φ, Q240Φ, Q238Φ, SRA5, SRA3Φ, Q247Φ

Herbert Wet Zone

Soil class	Recommended varieties
Alluvial	Q240Φ, Q200Φ, Q238Φ, Q208Φ, Q250Φ, SRA3Φ, Q247Φ, Q237Φ
Clay	Q232Φ, Q208Φ, Q200Φ, Q237Φ, SRA5, SRA3Φ, Q242Φ, Q240Φ
Seymour	Q200Φ, Q240Φ, Q208Φ, SRA5, SRA3Φ, Q242Φ, Q183Φ, Q253Φ
Terrace loamy	Q208Φ, Q200Φ, Q242Φ, Q240Φ, Q250Φ, SRA3Φ, Q238Φ, Q237Φ

Harvest management

Select varieties for a harvest plan that can be followed to maintain maximum CCS throughout the year.

The charts below indicate early, mid or late sugar varieties.

Northern Coastal

Variety	Early sugar	Mid sugar	Late sugar
SRA7	Poor	Average	Poor
SRA6	Average	Average	Average
SRA3Φ	Poor	Average	Good
SRA1Φ	Good	Good	Good
Q256Φ	Average	Average	Average
Q253Φ	Poor	Average	Average
Q252Φ	Average	Good	Average
Q251Φ	Average	Good	Average
Q250Φ	Good	Good	Good
Q245Φ	Poor	Average	Average
Q242Φ	Poor	Average	Average
Q241Φ	Poor	Poor	Average
Q240Φ	Average	Good	Good
Q238Φ	Average	Average	Average
Q237Φ	Average	Good	Poor
Q232Φ	Poor	Good	Poor
Q231Φ	Average	Average	Poor
Q230Φ	Good	Good	Average
KQ228Φ	Good	Average	Poor
Q219Φ	Poor	Average	Good
Q208Φ	Average	Good	Good
Q200Φ	Average	Good	Good
Q183Φ	Poor	Poor	Average

Northern Tableland

Variety	Early sugar	Mid sugar	Late sugar
SRA7	Poor	Poor	Poor
SRA6	Poor	Poor	Poor
SRA3Φ	Poor	Average	Good
SRA1Φ	Good	Good	Good
Q256Φ	Poor	Poor	Poor
Q253Φ	Poor	Average	Average
Q252Φ	Average	Good	Average
Q251Φ	Poor	Good	Average
Q250Φ	Good	Good	Good
Q241Φ	Poor	Poor	Average
Q240Φ	Poor	Average	Average
Q238Φ	Average	Average	Poor
Q237Φ	Average	Good	Poor
Q232Φ	Poor	Good	Poor
Q231Φ	Average	Poor	Poor
Q230Φ	Good	Good	Average
KQ228Φ	Good	Good	Poor
Q219Φ	Poor	Average	Good
Q208Φ	Average	Average	Average
Q200Φ	Poor	Average	Average
Q183Φ	Poor	Poor	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.*

Harvest management *(cont.)*

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.

Herbert Dry Zone

Variety	Early sugar	Mid sugar	Late sugar
SRA5	Poor	Poor	Poor
SRA3Φ	Poor	Average	Good
Q253Φ	Poor	Average	Average
Q250Φ	Good	Good	Good
Q247Φ	Good	Good	Good
Q242Φ	Average	Poor	Poor
Q240Φ	Average	Good	Good
MQ239Φ	Average	Average	Average
Q238Φ	Average	Average	Average
Q237Φ	Good	Good	Poor
Q232Φ	Poor	Average	Average
Q231Φ	Good	Average	Average
KQ228Φ	Good	Good	Poor
Q226Φ	Average	Average	Poor
Q215Φ	Poor	Average	Average
Q208Φ	Good	Good	Good
Q200Φ	Good	Good	Good
Q190Φ	Average	Average	Poor
Q183Φ	Average	Good	Average

Herbert Wet Zone

Variety	Early sugar	Mid sugar	Late sugar
SRA5	Poor	Poor	Poor
SRA3Φ	Poor	Average	Good
Q253Φ	Poor	Average	Average
Q252Φ	Average	Good	Good
Q250Φ	Good	Good	Good
Q247Φ	Good	Good	Good
Q242Φ	Average	Average	Poor
Q240Φ	Average	Good	Good
MQ239Φ	Average	Average	Average
Q238Φ	Average	Average	Average
Q237Φ	Good	Good	Average
Q232Φ	Poor	Average	Average
Q231Φ	Good	Average	Average
KQ228Φ	Good	Good	Poor
Q226Φ	Average	Average	Poor
Q208Φ	Good	Good	Good
Q200Φ	Good	Good	Good
Q190Φ	Average	Average	Poor
Q183Φ	Average	Good	Average

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.

Northern Coastal

Variety	Tolerance to waterlogging	Flowering	Ratooning under wet conditions	Speed of germination	Reliability of germination
SRA7	Unknown	Sparse	Average	Average	Good
SRA6	Unknown	Sparse	Average	Average	Good
SRA3[Φ]	Average	Moderate	Average	Average	Average
SRA1[Φ]	Unknown	Moderate	Unknown	Rapid	Good
Q256[Φ]	Good	Moderate	Good	Slow	Good
Q253[Φ]	Good	Moderate	Good	Average	Average
Q252[Φ]	Average	Moderate	Average	Average	Average
Q251[Φ]	Poor	Sparse	Poor	Average	Average
Q250[Φ]	Average	Moderate	Average	Average	Average
Q245[Φ]	Average	Moderate	Unknown	Average	Average
Q242[Φ]	Good	Heavy	Good	Rapid	Good
Q241[Φ]	Poor	Sparse	Poor	Average	Good
Q240[Φ]	Average	Moderate	Average	Rapid	Good
Q238[Φ]	Poor	Heavy	Poor	Rapid	Average
Q237[Φ]	Average	Moderate	Average	Average	Good
Q232[Φ]	Average	Heavy	Average	Slow	Good
Q231[Φ]	Good	Moderate	Average	Average	Average
Q230[Φ]	Poor	Heavy	Average	Average	Average
KQ228[Φ]	Average	Heavy	Average	Rapid	Good
Q219[Φ]	Good	Sparse	Average	Average	Average
Q208[Φ]	Good	Heavy	Average	Slow	Average
Q200[Φ]	Average	Moderate	Average	Rapid	Good
Q183[Φ]	Poor	Sparse	Average	Rapid	Good

Variety management *(cont.)*

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.

Northern Tableland

Variety	Tolerance to waterlogging	Speed of germination	Reliability of germination
SRA7	Unknown	Average	Good
SRA6	Unknown	Average	Good
SRA3[Φ]	Average	Rapid	Average
SRA1[Φ]	Unknown	Rapid	Good
Q256[Φ]	Good	Slow	Average
Q253[Φ]	Good	Average	Average
Q252[Φ]	Average	Average	Average
Q251[Φ]	Poor	Average	Average
Q250[Φ]	Average	Average	Average
Q241[Φ]	Poor	Average	Good
Q240[Φ]	Average	Rapid	Good
Q238[Φ]	Poor	Average	Average
Q237[Φ]	Average	Average	Good
Q232[Φ]	Average	Slow	Good
Q231[Φ]	Good	Average	Average
Q230[Φ]	Poor	Average	Average
KQ228[Φ]	Average	Rapid	Good
Q219[Φ]	Good	Average	Average
Q208[Φ]	Good	Slow	Average
Q200[Φ]	Poor	Average	Good
Q183[Φ]	Good	Average	Good

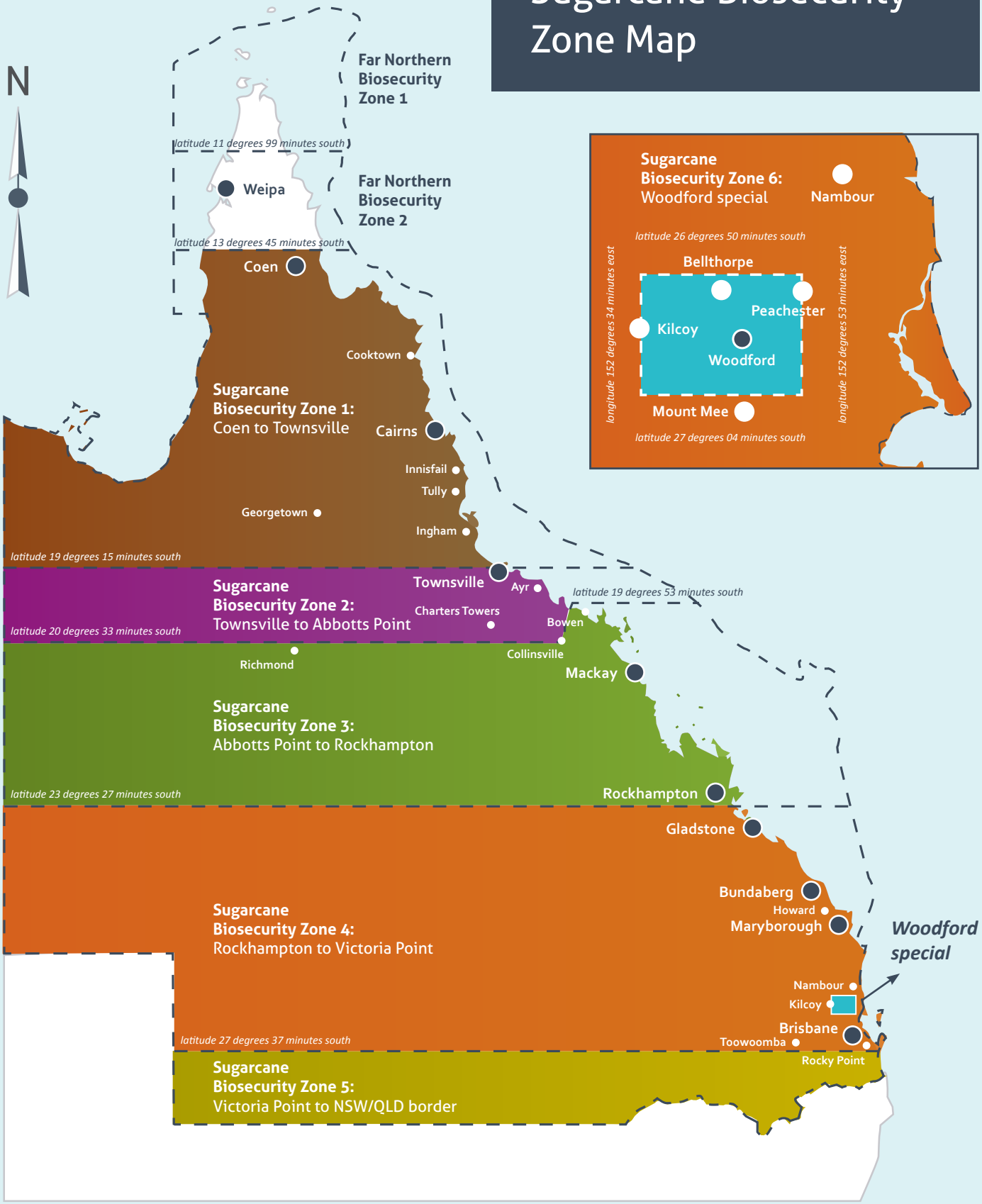
Herbert Dry Zone

Variety	Drought tolerance	Tolerance to waterlogging	Ratooning under wet conditions	Ratooning under dry conditions	Speed of germination
SRA5	Good	Good	Good	Good	Average
SRA3Φ	Average	Good	Good	Average	Average
Q253Φ	Good	Good	Good	Good	Average
Q250Φ	Poor	Average	Good	Poor	Average
Q247Φ	Poor	Average	Average	Average	Slow
Q242Φ	Average	Good	Good	Good	Rapid
Q240Φ	Average	Good	Average	Average	Average
MQ239Φ	Poor	Good	Average	Poor	Average
Q238Φ	Average	Average	Average	Average	Average
Q237Φ	Poor	Average	Average	Average	Average
Q232Φ	Average	Average	Average	Average	Average
Q231Φ	Poor	Good	Average	Average	Average
KQ228Φ	Poor	Poor	Poor	Average	Rapid
Q226Φ	Average	Good	Good	Good	Rapid
Q215Φ	Average	Good	Average	Average	Average
Q208Φ	Good	Good	Average	Average	Slow
Q200Φ	Average	Good	Good	Average	Average
Q190Φ	Poor	Average	Poor	Poor	Rapid
Q183Φ	Poor	Good	Poor	Poor	Rapid

Herbert Wet Zone

Variety	Drought tolerance	Tolerance to waterlogging	Ratooning under wet conditions	Ratooning under dry conditions	Speed of germination
SRA5	Good	Good	Good	Good	Average
SRA3Φ	Good	Average	Average	Good	Average
Q253Φ	Good	Good	Good	Good	Average
Q252Φ	Poor	Average	Average	Average	Average
Q250Φ	Average	Average	Good	Average	Average
Q247Φ	Average	Average	Average	Average	Slow
Q242Φ	Average	Good	Good	Good	Rapid
Q240Φ	Average	Good	Average	Average	Average
MQ239Φ	Poor	Good	Average	Poor	Average
Q238Φ	Average	Average	Average	Average	Average
Q237Φ	Poor	Average	Average	Average	Average
Q232Φ	Average	Average	Average	Average	Average
Q231Φ	Poor	Good	Average	Average	Average
KQ228Φ	Poor	Poor	Poor	Average	Rapid
Q226Φ	Good	Good	Good	Good	Rapid
Q208Φ	Good	Good	Average	Average	Slow
Q200Φ	Average	Good	Good	Average	Average
Q190Φ	Poor	Average	Poor	Poor	Rapid
Q183Φ	Poor	Good	Poor	Poor	Rapid

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).

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 stooling out 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.
- Pre-emergent herbicides can be used.
- Do not use diuron as young plantlets are sensitive to this product.
- Do not use paraquat unless you have no other option and only on established plantings.
- Established plantlets can be treated with the same chemicals as the ratoons on your farm. Label rates of S-metolachlor plus atrazine have been applied successfully over the top after planting. For example, in SRA field trials we used Atradex® at 2.5 kg/ha plus Dual Gold® at 1.5 L/ha for grasses and broadleaf weeds and also Sempra® at 100 g/ha plus Activator at 200 mL/100 L for nutgrass. Both applications were sprayed over the top after planting.

QCANESelect™

- **Using sugarcane varieties that are best-suited to your crop 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.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.

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