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# Variety Guide 2015/16

Herbert and Northern regions

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## 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:

- 1 Which new varieties are available and how they performed in SRA trials  
Pages 4-6
- 2 The disease resistance ratings of each variety  
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- 3 Which varieties will better suit certain soil types  
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- 4 When you should harvest a particular variety  
Pages 9-10
- 5 Which varieties are most suited to the environment on your farm  
Pages 11-13
- 6 Planting and managing your tissue-cultured plantlets in the field  
Pages 14-15

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](http://www.sugarresearch.com.au)

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**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.

## Propagating new varieties

### 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 sells 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.

### 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.	<b>15 November 2015</b>	<b>1 July 2016</b>
Productivity services group receives established plantlets from nursery and distributes to growers.	Delivery on agreed date between grower, productivity services group and nursery. <b>Available in August 2016.</b>	Delivery on agreed date between grower, productivity services group and nursery. <b>Available in March 2017.</b>

### 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](http://sugarresearch.com.au)).

<b>Year 1</b>	Number of seedlings 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
<b>Year 2</b>	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 in 2015

Presented below are the latest results of trials conducted in the Herbert 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).

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 and the Northern VAC approved seven current varieties.

### SRA3

Parentage: QN86-2214 x Q200<sup>®</sup> | High TCH, good CCS

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2009	Plant	113 (102)	16.9 (17.6)	3
2010	1 <sup>st</sup> Ratoon	103 (95)	15.0 (15.0)	3
2011	2 <sup>nd</sup> Ratoon	77 (73)	17.0 (17.1)	3
2013	Plant	98 (110)	14.2 (15.0)	3
2014	1 <sup>st</sup> Ratoon	81 (87)	14.8 (15.3)	3
2014	Plant	86 (80)	15.8 (15.9)	4
<b>Average of all harvests</b>		<b>93 (91)</b>	<b>15.6 (16.0)</b>	<b>19</b>

The standard varieties used in these trials were Q172<sup>®</sup> Q183<sup>®</sup> Q190<sup>®</sup> Q200<sup>®</sup> Q208<sup>®</sup> KQ228<sup>®</sup> Q232<sup>®</sup> MQ239<sup>®</sup> Q240<sup>®</sup>

Poor planting material in 2012 resulted in the poor germination and trial establishment of SRA3; hence it suffered a yield reduction in the 2013 Plant and 2014 1<sup>st</sup> Ratoon trial harvests.



SRA3



MQ239<sup>®</sup>



Q247<sup>®</sup>



Q253<sup>®</sup>



## Recently released varieties available in the Northern region

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

### MQ239<sup>Ⓛ</sup>

Parentage: Q96 x MQ77-340 | Good TCH

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2012	Plant	105 (97)	15.8 (16.5)	4
2013	1 <sup>st</sup> Ratoon	119 (111)	16.6 (17.2)	4
2014	2 <sup>nd</sup> Ratoon	106 (96)	15.7 (16.4)	4
2013	Plant	115 (100)	16.4 (17.1)	4
2014	1 <sup>st</sup> Ratoon	113 (95)	15.4 (16.1)	4
2014	Plant	112 (92)	15.3 (16.2)	4
<b>Average of all harvests</b>		<b>112 (99)</b>	<b>15.9 (16.6)</b>	<b>24</b>

The standard varieties used in these trials were Q200<sup>Ⓛ</sup> Q208<sup>Ⓛ</sup> Q231<sup>Ⓛ</sup> Q241<sup>Ⓛ</sup> Q250<sup>Ⓛ</sup>

Limited release in the Northern region, high fibre issues were discussed with millers, it is likely to only be a niche variety and can be managed at a local level through the mill cane supply agreements or by the VAC agreeing to remove it from the approved list for the Northern bio region.

### Q242<sup>Ⓛ</sup>

Parentage: Q170<sup>Ⓛ</sup> x Q150

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2012	Plant	99 (97)	15.5 (16.5)	4
2013	1 <sup>st</sup> Ratoon	98 (111)	16.3 (17.2)	4
2014	2 <sup>nd</sup> Ratoon	89 (96)	15.1 (16.4)	4
2013	Plant	111 (100)	16.6 (17.1)	4
2014	1 <sup>st</sup> Ratoon	106 (95)	15.7 (16.1)	4
2014	Plant	98 (92)	15.7 (16.2)	4
<b>Average of all harvests</b>		<b>100 (99)</b>	<b>15.8 (16.6)</b>	<b>24</b>

The standard varieties used in these trials were Q200<sup>Ⓛ</sup> Q208<sup>Ⓛ</sup> Q231<sup>Ⓛ</sup> Q241<sup>Ⓛ</sup> Q250<sup>Ⓛ</sup>

Blanket approved, may flower and sprawl heavily

### Q245<sup>Ⓛ</sup>

Parentage: QN80-3425 x Q162

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2012	Plant	110 (97)	16.1 (16.5)	4
2013	1 <sup>st</sup> Ratoon	104 (111)	16.9 (17.2)	4
2014	2 <sup>nd</sup> Ratoon	88 (96)	15.9 (16.4)	4
2014	Plant	94 (92)	15.5 (16.2)	4
<b>Average of all harvests</b>		<b>99 (99)</b>	<b>16.1 (16.6)</b>	<b>16</b>

The standard varieties used in these trials were Q200<sup>Ⓛ</sup> Q208<sup>Ⓛ</sup> Q231<sup>Ⓛ</sup> Q241<sup>Ⓛ</sup> Q250<sup>Ⓛ</sup>

Blanket approved, good disease resistance, low fibre



## Recently released varieties available in the Northern region (*continued*)

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

### Q247<sup>db</sup>

Parentage: Q138 x Q155 | Good CCS

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2012	Plant	110 (97)	16.9 (16.5)	4
2013	1 <sup>st</sup> Ratoon	102 (111)	18.0 (17.2)	4
2014	2 <sup>nd</sup> Ratoon	83 (96)	16.6 (16.4)	4
2014	Plant	88 (92)	16.5 (16.2)	4
<b>Average of all harvests</b>		<b>94 (99)</b>	<b>17.0 (16.6)</b>	<b>16</b>

The standard varieties used in these trials were Q200<sup>db</sup> Q208<sup>db</sup> Q231<sup>db</sup> Q241<sup>db</sup> Q250<sup>db</sup>

Blanket approved, resistant to Pachymetra, sparse flowering, good cover, big stool

### Q249<sup>db</sup>

Parentage: QC83-625 x QC90-289

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2013	Plant	103 (100)	17.4 (17.1)	4
2014	1 <sup>st</sup> Ratoon	94 (95)	16.3 (16.1)	4
2014	Plant	88 (92)	16.4 (16.2)	4
<b>Average of all harvests</b>		<b>95 (96)</b>	<b>16.7 (16.5)</b>	<b>12</b>

The standard varieties used in these trials were Q200<sup>db</sup> Q208<sup>db</sup> Q231<sup>db</sup> Q241<sup>db</sup> Q250<sup>db</sup>

Blanket approved, can sprawl heavily, fibre quality possibly an issue (low impact rating)

### Q252<sup>db</sup>

Parentage: Q208<sup>db</sup> x Q96

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2013	Plant	93 (100)	17.3 (17.1)	4
2014	1 <sup>st</sup> Ratoon	83 (95)	16.7 (16.6)	4
<b>Average of all harvests</b>		<b>88 (98)</b>	<b>16.7 (16.6)</b>	<b>8</b>

The standard varieties used in these trials were Q200<sup>db</sup> Q208<sup>db</sup> Q231<sup>db</sup> Q241<sup>db</sup> Q250<sup>db</sup>

Blanket approved

### Q253<sup>db</sup>

Parentage: QN80-3425 x Q209<sup>db</sup> | High TCH

Trial harvest date	Crop class	Yield (tonnes cane/ha)	CCS	Number of trials
2013	Plant	111 (100)	16.6 (17.1)	4
2014	1 <sup>st</sup> Ratoon	100 (95)	15.5 (16.1)	4
<b>Average of all harvests</b>		<b>106 (98)</b>	<b>16.0 (16.6)</b>	<b>8</b>

The standard varieties used in these trials were Q200<sup>db</sup> Q208<sup>db</sup> Q231<sup>db</sup> Q241<sup>db</sup> Q250<sup>db</sup>

Blanket approved, good overall disease resistance including Pachymetra








## 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.

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](http://www.sugarresearch.com.au)

	Susceptible		Intermediate/Susceptible		Intermediate
	Resistant		Intermediate/Resistant		

H=Herbert    Ta=Tableland    N=Northern Coastal    SJ=South Johnstone

Variety	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
SRA3	H	Resistant		Susceptible	Intermediate	Resistant		Intermediate/Susceptible	Resistant		Intermediate	
Q256	SJ, Ta			Resistant		Intermediate	Resistant	Susceptible	Intermediate	Susceptible	Susceptible	Resistant
Q253 <sup>Ⓛ</sup>	H, N & Ta	Intermediate/Susceptible		Susceptible		Resistant		Resistant	Resistant	Susceptible	Resistant	Susceptible
Q252 <sup>Ⓛ</sup>	H, N & Ta			Intermediate	H, N & Ta	Resistant		Intermediate	Resistant	Resistant	Intermediate	Intermediate
Q251 <sup>Ⓛ</sup>	N, Ta			Resistant	Intermediate/Susceptible	Intermediate/Resistant		Resistant	Intermediate/Susceptible	Intermediate	Susceptible	Intermediate/Resistant
Q250 <sup>Ⓛ</sup>	H, N & Ta			Intermediate/Susceptible	H, N & Ta	Intermediate/Resistant	Intermediate	Intermediate	Intermediate/Susceptible	Resistant	Resistant	Intermediate/Resistant
Q247 <sup>Ⓛ</sup>	H			Resistant	Resistant	Resistant		Resistant	Resistant	Susceptible	Intermediate	Susceptible
Q242 <sup>Ⓛ</sup>	H		Intermediate	Resistant		Resistant		Resistant	Intermediate/Resistant	Susceptible	Intermediate	Resistant
Q241 <sup>Ⓛ</sup>	N, Ta	Resistant		Intermediate/Resistant	N, Ta	Intermediate/Resistant		Resistant	Resistant	Intermediate	Resistant	Resistant
Q240 <sup>Ⓛ</sup>	H, N & Ta		Intermediate/Resistant	Intermediate/Susceptible		Resistant		Intermediate	Resistant	Resistant	Resistant	Intermediate
Q238 <sup>Ⓛ</sup>	H, N & Ta	Resistant	Susceptible	Intermediate/Resistant	H, N & Ta	Resistant		Resistant	Intermediate/Resistant	Intermediate	Resistant	Susceptible
Q237 <sup>Ⓛ</sup>	H, N & Ta	Resistant		Intermediate	Intermediate	Resistant		Intermediate/Susceptible	Intermediate	Intermediate	Intermediate	
Q232 <sup>Ⓛ</sup>	H, N & Ta		Resistant	Intermediate		Resistant		Intermediate	Intermediate/Resistant	Intermediate	Resistant	Resistant
Q231 <sup>Ⓛ</sup>	H, N & Ta			Susceptible	Intermediate/Resistant	Intermediate/Resistant		Resistant	Resistant	Resistant	Intermediate/Resistant	Intermediate
Q230 <sup>Ⓛ</sup>	H, N & Ta			Resistant	H, N & Ta	Resistant	Intermediate/Susceptible	Intermediate/Resistant	Intermediate	Resistant	Susceptible	Resistant
Q226 <sup>Ⓛ</sup>	H	Intermediate/Susceptible		Resistant		Resistant		Intermediate/Resistant	Resistant	Intermediate	Resistant	Resistant
Q219 <sup>Ⓛ</sup>	H, N & Ta			Susceptible	H, N & Ta	Susceptible		Resistant	Resistant	Resistant	Resistant	
Q208 <sup>Ⓛ</sup>	H, N & Ta	Resistant	Resistant	Intermediate/Susceptible		Resistant		Intermediate	Resistant	Resistant	Intermediate/Resistant	Resistant
Q200 <sup>Ⓛ</sup>	H, N & Ta	Resistant	Resistant	Intermediate		Resistant		Intermediate	Resistant	Resistant	Resistant	Intermediate/Resistant
Q190 <sup>Ⓛ</sup>	H	Intermediate/Resistant		Resistant		Resistant		Resistant	Resistant	Resistant	Intermediate	Intermediate/Susceptible
Q183 <sup>Ⓛ</sup>	H, N & Ta	Resistant		Resistant	Intermediate	Resistant		Resistant	Intermediate	Intermediate	Intermediate/Resistant	Intermediate/Susceptible
MQ239 <sup>Ⓛ</sup>	H			Susceptible	Resistant			Intermediate	Intermediate/Resistant	Resistant	Resistant	Intermediate
KQ228 <sup>Ⓛ</sup>	H, N & Ta	Resistant		Intermediate		Resistant		Intermediate	Resistant	Susceptible	Resistant	Intermediate



## 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](http://sugarresearch.com.au)

### Northern Coastal

Good land	Q208 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q256 Q250 <sup>Ⓟ</sup> KQ228 <sup>Ⓟ</sup> Q231 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup>
Average land	Q208 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q256 Q250 <sup>Ⓟ</sup> Q231 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup> Q232 <sup>Ⓟ</sup> Q251 <sup>Ⓟ</sup>
Poor land	Q208 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q256 Q250 <sup>Ⓟ</sup> Q241 <sup>Ⓟ</sup> Q231 <sup>Ⓟ</sup> Q232 <sup>Ⓟ</sup> Q251 <sup>Ⓟ</sup>

### Tableland

Good land	Q208 <sup>Ⓟ</sup> KQ228 <sup>Ⓟ</sup> Q256 Q250 <sup>Ⓟ</sup> Q241 <sup>Ⓟ</sup> Q231 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> Q237 <sup>Ⓟ</sup>
Poor land	Q241 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> KQ228 <sup>Ⓟ</sup> Q256 Q250 <sup>Ⓟ</sup> Q231 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup>

### Herbert Wet Zone

Alluvial	Q240 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> Q250 <sup>Ⓟ</sup> SRA3 Q247 <sup>Ⓟ</sup> Q238 <sup>Ⓟ</sup> Q237 <sup>Ⓟ</sup>
Clay	Q232 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q237 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> SRA3 Q247 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup>
Seymour	Q208 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup> MQ239 <sup>Ⓟ</sup> Q250 <sup>Ⓟ</sup> Q226 <sup>Ⓟ</sup>
Terrace loamy	Q240 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q237 <sup>Ⓟ</sup> Q250 <sup>Ⓟ</sup> SRA3 Q247 <sup>Ⓟ</sup>

### Herbert Dry Zone

Clay	Q232 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup> SRA3 Q242 <sup>Ⓟ</sup> Q238 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q226 <sup>Ⓟ</sup>
Hill slope	Q232 <sup>Ⓟ</sup> Q208 <sup>Ⓟ</sup> Q238 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q226 <sup>Ⓟ</sup> SRA3 Q247 <sup>Ⓟ</sup>
Sandy	Q208 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q238 <sup>Ⓟ</sup> Q253 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup> Q226 <sup>Ⓟ</sup> Q232 <sup>Ⓟ</sup> Q183 <sup>Ⓟ</sup>
Terrace loamy	Q208 <sup>Ⓟ</sup> Q242 <sup>Ⓟ</sup> Q247 <sup>Ⓟ</sup> Q240 <sup>Ⓟ</sup> Q238 <sup>Ⓟ</sup> SRA3 Q237 <sup>Ⓟ</sup> Q200 <sup>Ⓟ</sup>





## 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
Q256	Average	Average	Average
Q253 <sup>Ⓛ</sup>	Poor	Average	Average
Q252 <sup>Ⓛ</sup>	Average	Good	Good
Q251 <sup>Ⓛ</sup>	Poor	Good	Average
Q250 <sup>Ⓛ</sup>	Good	Good	Good
Q249 <sup>Ⓛ</sup>	Average	Average	Average
Q247 <sup>Ⓛ</sup>	Average	Good	Average
Q245 <sup>Ⓛ</sup>	Poor	Poor	Poor
Q242 <sup>Ⓛ</sup>	Poor	Poor	Poor
Q241 <sup>Ⓛ</sup>	Poor	Poor	Average
Q240 <sup>Ⓛ</sup>	Average	Good	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Poor
Q237 <sup>Ⓛ</sup>	Average	Good	Poor
Q232 <sup>Ⓛ</sup>	Poor	Good	Poor
Q231 <sup>Ⓛ</sup>	Average	Average	Poor
Q230 <sup>Ⓛ</sup>	Good	Good	Average
KQ228 <sup>Ⓛ</sup>	Good	Average	Poor
Q219 <sup>Ⓛ</sup>	Poor	Average	Good
Q208 <sup>Ⓛ</sup>	Average	Average	Average
Q200 <sup>Ⓛ</sup>	Average	Good	Good
Q183 <sup>Ⓛ</sup>	Poor	Poor	Average

### Tableland

Variety	Early sugar	Mid sugar	Late sugar
Q256	Average	Average	Average
Q253 <sup>Ⓛ</sup>	Poor	Average	Average
Q252 <sup>Ⓛ</sup>	Average	Good	Good
Q251 <sup>Ⓛ</sup>	Poor	Good	Average
Q250 <sup>Ⓛ</sup>	Good	Good	Good
Q249 <sup>Ⓛ</sup>	Average	Average	Average
Q247 <sup>Ⓛ</sup>	Average	Good	Average
Q245 <sup>Ⓛ</sup>	Poor	Poor	Poor
Q242 <sup>Ⓛ</sup>	Poor	Poor	Poor
Q241 <sup>Ⓛ</sup>	Poor	Poor	Average
Q240 <sup>Ⓛ</sup>	Average	Good	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Poor
Q237 <sup>Ⓛ</sup>	Average	Good	Poor
Q232 <sup>Ⓛ</sup>	Poor	Good	Poor
Q231 <sup>Ⓛ</sup>	Average	Average	Poor
Q230 <sup>Ⓛ</sup>	Good	Good	Average
KQ228 <sup>Ⓛ</sup>	Good	Average	Poor
Q219 <sup>Ⓛ</sup>	Poor	Average	Good
Q208 <sup>Ⓛ</sup>	Average	Average	Average
Q200 <sup>Ⓛ</sup>	Average	Good	Good
Q183 <sup>Ⓛ</sup>	Poor	Poor	Average



## Harvest management (continued)

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 Wet Zone

Variety	Early sugar	Mid sugar	Late sugar
SRA3	Poor	Average	Good
Q253 <sup>Ⓛ</sup>	Poor	Average	Average
Q252 <sup>Ⓛ</sup>	Average	Good	Good
Q250 <sup>Ⓛ</sup>	Good	Good	Good
Q247 <sup>Ⓛ</sup>	Good	Good	Good
Q242 <sup>Ⓛ</sup>	Average	Average	Poor
Q240 <sup>Ⓛ</sup>	Average	Good	Good
MQ239 <sup>Ⓛ</sup>	Average	Average	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Average
Q237 <sup>Ⓛ</sup>	Good	Good	Average
Q232 <sup>Ⓛ</sup>	Poor	Average	Average
Q231 <sup>Ⓛ</sup>	Good	Average	Average
KQ228 <sup>Ⓛ</sup>	Good	Good	Poor
Q226 <sup>Ⓛ</sup>	Average	Average	Poor
Q208 <sup>Ⓛ</sup>	Good	Good	Good
Q200 <sup>Ⓛ</sup>	Good	Good	Good
Q190 <sup>Ⓛ</sup>	Average	Average	Poor
Q183 <sup>Ⓛ</sup>	Average	Good	Average

### Herbert Dry Zone

Variety	Early sugar	Mid sugar	Late sugar
SRA3	Poor	Average	Good
Q253 <sup>Ⓛ</sup>	Poor	Average	Average
Q250 <sup>Ⓛ</sup>	Good	Good	Good
Q247 <sup>Ⓛ</sup>	Good	Good	Good
Q242 <sup>Ⓛ</sup>	Average	Poor	Poor
Q240 <sup>Ⓛ</sup>	Average	Good	Good
MQ239 <sup>Ⓛ</sup>	Average	Average	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Average
Q237 <sup>Ⓛ</sup>	Good	Good	Poor
Q232 <sup>Ⓛ</sup>	Poor	Average	Average
Q231 <sup>Ⓛ</sup>	Good	Average	Average
KQ228 <sup>Ⓛ</sup>	Good	Good	Poor
Q226 <sup>Ⓛ</sup>	Average	Average	Poor
Q208 <sup>Ⓛ</sup>	Good	Good	Good
Q200 <sup>Ⓛ</sup>	Good	Good	Good
Q190 <sup>Ⓛ</sup>	Average	Average	Poor
Q183 <sup>Ⓛ</sup>	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
Q256	Good	Moderate	Good	Slow	Good
Q253 <sup>Ⓛ</sup>	Good	Moderate	Good	Average	Average
Q252 <sup>Ⓛ</sup>	Average	Moderate	Average	Average	Average
Q251 <sup>Ⓛ</sup>	Poor	Sparse	Poor	Average	Average
Q250 <sup>Ⓛ</sup>	Average	Moderate	Average	Average	Average
Q249 <sup>Ⓛ</sup>	NA	Moderate	NA	Average	Good
Q247 <sup>Ⓛ</sup>	NA	Moderate	NA	Average	Good
Q245 <sup>Ⓛ</sup>	NA	Moderate	NA	Average	Average
Q242 <sup>Ⓛ</sup>	NA	Heavy	NA	Average	Good
Q241 <sup>Ⓛ</sup>	Poor	Sparse	Poor	Average	Good
Q240 <sup>Ⓛ</sup>	Average	Moderate	Unknown	Rapid	Good
Q238 <sup>Ⓛ</sup>	Poor	Heavy	Poor	Rapid	Average
Q237 <sup>Ⓛ</sup>	Average	Moderate	Average	Average	Good
Q232 <sup>Ⓛ</sup>	Average	Heavy	Unknown	Slow	Good
Q231 <sup>Ⓛ</sup>	Good	Heavy	Average	Average	Average
Q230 <sup>Ⓛ</sup>	Poor	Heavy	Average	Average	Average
KQ228 <sup>Ⓛ</sup>	Average	Heavy	Average	Rapid	Good
Q219 <sup>Ⓛ</sup>	Good	Sparse	Average	Average	Average
Q208 <sup>Ⓛ</sup>	Good	Heavy	Average	Slow	Average
Q200 <sup>Ⓛ</sup>	Poor	Moderate	Average	Rapid	Good
Q183 <sup>Ⓛ</sup>	Poor	Sparse	Average	Rapid	Good



## Variety management (continued)

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.

### Tableland

Variety	Tolerance to waterlogging	Speed of germination	Reliability of germination
Q256	Good	Slow	Good
Q253 <sup>Ⓛ</sup>	Good	Average	Average
Q252 <sup>Ⓛ</sup>	Average	Average	Average
Q251 <sup>Ⓛ</sup>	Poor	Average	Average
Q250 <sup>Ⓛ</sup>	Average	Average	Average
Q249 <sup>Ⓛ</sup>	NA	Average	Good
Q247 <sup>Ⓛ</sup>	NA	Average	Good
Q245 <sup>Ⓛ</sup>	NA	Average	Average
Q242 <sup>Ⓛ</sup>	NA	Average	Good
Q241 <sup>Ⓛ</sup>	Poor	Average	Good
Q240 <sup>Ⓛ</sup>	Average	Rapid	Good
Q238 <sup>Ⓛ</sup>	Poor	Rapid	Average
Q237 <sup>Ⓛ</sup>	Average	Average	Good
Q232 <sup>Ⓛ</sup>	Average	Slow	Good
Q231 <sup>Ⓛ</sup>	Good	Average	Average
Q230 <sup>Ⓛ</sup>	Poor	Average	Average
KQ228 <sup>Ⓛ</sup>	Average	Rapid	Good
Q219 <sup>Ⓛ</sup>	Good	Average	Average
Q208 <sup>Ⓛ</sup>	Good	Slow	Average
Q200 <sup>Ⓛ</sup>	Poor	Rapid	Good
Q183 <sup>Ⓛ</sup>	Poor	Rapid	Good

## Herbert Wet Zone

Variety	Drought tolerance	Tolerance to waterlogging	Ratooning under wet conditions	Ratooning under dry conditions	Speed of germination
SRA3	Good	Average	Average	Good	Average
Q253 <sup>Ⓛ</sup>	Good	Good	Good	Good	Average
Q252 <sup>Ⓛ</sup>	Poor	Average	Average	Average	Average
Q250 <sup>Ⓛ</sup>	Average	Average	Good	Average	Average
Q247 <sup>Ⓛ</sup>	Average	Average	Average	Average	Slow
Q242 <sup>Ⓛ</sup>	Average	Good	Good	Good	Rapid
Q240 <sup>Ⓛ</sup>	Average	Good	Average	Average	Average
MQ239 <sup>Ⓛ</sup>	Poor	Good	Average	Poor	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Average	Average	Average
Q237 <sup>Ⓛ</sup>	Poor	Average	Average	Average	Average
Q232 <sup>Ⓛ</sup>	Average	Average	Average	Average	Average
Q231 <sup>Ⓛ</sup>	Poor	Good	Average	Average	Average
KQ228 <sup>Ⓛ</sup>	Poor	Poor	Poor	Average	Rapid
Q226 <sup>Ⓛ</sup>	Good	Good	Good	Good	Rapid
Q208 <sup>Ⓛ</sup>	Good	Good	Average	Average	Slow
Q200 <sup>Ⓛ</sup>	Average	Good	Good	Average	Average
Q190 <sup>Ⓛ</sup>	Poor	Average	Poor	Poor	Rapid
Q183 <sup>Ⓛ</sup>	Poor	Good	Poor	Poor	Rapid

## Herbert Dry Zone

Variety	Drought tolerance	Tolerance to waterlogging	Ratooning under wet conditions	Ratooning under dry conditions	Speed of germination
SRA3	Average	Good	Good	Average	Average
Q253 <sup>Ⓛ</sup>	Good	Good	Good	Good	Average
Q250 <sup>Ⓛ</sup>	Poor	Average	Good	Poor	Average
Q247 <sup>Ⓛ</sup>	Poor	Average	Average	Average	Slow
Q242 <sup>Ⓛ</sup>	Average	Good	Good	Good	Rapid
Q240 <sup>Ⓛ</sup>	Average	Good	Average	Average	Average
MQ239 <sup>Ⓛ</sup>	Poor	Good	Average	Poor	Average
Q238 <sup>Ⓛ</sup>	Average	Average	Average	Average	Average
Q237 <sup>Ⓛ</sup>	Poor	Average	Average	Average	Average
Q232 <sup>Ⓛ</sup>	Average	Average	Average	Average	Average
Q231 <sup>Ⓛ</sup>	Poor	Good	Average	Average	Average
KQ228 <sup>Ⓛ</sup>	Poor	Poor	Poor	Average	Rapid
Q226 <sup>Ⓛ</sup>	Average	Good	Good	Good	Rapid
Q208 <sup>Ⓛ</sup>	Good	Good	Average	Average	Slow
Q200 <sup>Ⓛ</sup>	Average	Good	Good	Average	Average
Q190 <sup>Ⓛ</sup>	Poor	Average	Poor	Poor	Rapid
Q183 <sup>Ⓛ</sup>	Poor	Good	Poor	Poor	Rapid



## Planting and managing your 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.

### 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® @ 2.5 kg/ha plus Dual Gold® @ 1.5 L/ha for grasses and broadleaf weeds and also Sempra® @ 100 g/ha plus Activator @ 200 mL/100 L for nutgrass. Both applications were sprayed over the top after planting.

### 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.



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.



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.

To access QCANESelect™ and the tissue culture calculator visit the SRA website [www.sugarresearch.com.au](http://www.sugarresearch.com.au)

**Calculator**

Input YOUR information in the shaded cells below.

**Whole stick option**

Choose up front cost - order less plantlets - whole stick planting year 2.

**Year 1 - Tissue culture**

Input the price charged for each plantlet: 1.50

Input the number of plantlets ordered: 90

**Total cost of order \$ 135.00**

Input the plant spacing between plantlets in metres: 3.8

**Length of row required for planting in metres 72**

**Year 2 - Whole stick planting**

Input an estimate of the number of stalks per stool: 12

**Estimated metres of row planted using whole stick planter 2160**

Input row width in metres: 1.8

**Estimated hectares planted using whole stick planter 0.39**

**Year 3 - Billet planting**

Input estimate of cane yield on nursery plot in tonnes/ha: 88

**Estimated tonnes available for planting 31.20**

Input the planting rate of your billet planter in tonnes of billets/ha: 7

**Estimated hectares planted 4.46**

**Billet-Planting option**

Labour saving - order more plantlets - billet planting year 2.

**Year 1 - Tissue culture**

Input the price charged for each plantlet: 1.50

Input the number of plantlets ordered: 900

**Total cost of order \$ 1350.00**

Input the plant spacing between plantlets in metres: 0.8

**Length of row required for planting in metres 720**

**Year 2 - Billet planting**

Input your estimate of the cane yield from nursery plot in tonnes/ha: 80

**Estimated tonnes available for planting 10.37**

Input the planting rate of your billet planter in tonnes of billets/ha: 7

Input row width in metres: 1.8

**Estimated hectares planted using billet planter 1.48**

**Year 3 - Billet planting**

Input estimate of cane yield on nursery plot in tonnes/ha: 88

**Estimated tonnes available for planting 118.40**

Input the planting rate of your billet planter in tonnes of billets/ha: 7

**Estimated hectares planted 16.91**

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