Sugar Research Australia

Variety Guide **2014/15**

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:

1 Which new varieties are available and how they performed in SRA trials

Pages 3-4

2 The disease resistance ratings of each variety

Page 5

3 Which varieties will better suit certain soil types

Page 6

4 When you should harvest a particular variety

Page 7

5 Which varieties are most suited to the environment on your farm

Pages 8-9

6 Which varieties have performed well over the last few seasons

Pages 10-12

7 Planting and managing your tissue-cultured plantlets in the field

Page 13

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

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Contact details

SRA Variety Development Officers: Rod Fletcher on 0459 847 445 and Gae Plunkett on 0477 316 503.

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 autumn planting	Order deadline for spring planting
Grower finalises order. Productivity services group places order with SRA.	**1 July 2014**	**15 November 2014**
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 March 2015.**	Delivery on agreed date between grower, productivity services group and nursery. **Available in August 2015.**

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).

Year 1	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	1 200
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 in 2014

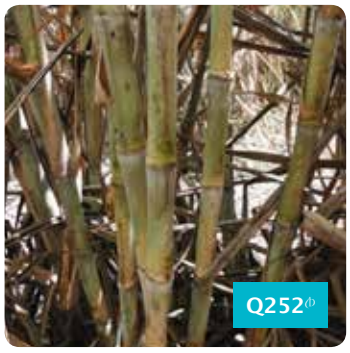
Presented below are the latest results of trials conducted in the Herbert region. Numbers in the tables are the difference between the variety and the average of the standards in the trial.

The Variety Adoption 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 chose to release four new varieties, one with a limited release.

Herbert

For example, where -0.7 is the CCS compared to the mean of standards then the CCS of this variety was, on average, 0.7 CCS less than the mean of the standards used in the trial.

Clone	Q226Φ	Q253Φ	Q250Φ	Q252Φ (limited release)
Results derived from a summary of the Final Assessment Trials (FATs)	Series planted 2011: (P + 1R) x 2 sites Series planted 2012: (P) x 2 sites	Series planted 2010: (P + 1R + 2R) x 2 sites Series planted 2012: (P) x 1 site	Series planted 2011: (P + 1R) x 2 sites Series planted 2012: (P) x 4 sites	Series planted 2010: (P+ 1R + 2R) x 4 sites
TCH (compared to the mean of standards)	**0.0**	**- 1.3**	**- 3.3**	**- 4.0**
CCS (compared to the mean of standards)	**- 0.7**	**- 0.5**	**+ 1.1**	**+ 0.5**
TSH (compared to the mean of standards)	**- 0.1**	**- 0.1**	**+ 0.5**	**- 0.3**
Fibre (compared to the mean of standards)	**- 1.4**	**- 0.9**	**- 1.6**	**- 0.4**
Using these standard varieties	Q183Φ Q190Φ Q200Φ Q208Φ KQ228Φ MQ239Φ	Q183Φ Q190Φ Q200Φ Q208Φ KQ228Φ MQ239Φ	Q183Φ Q190Φ Q200Φ Q208Φ KQ228Φ MQ239Φ	Q183Φ Q190Φ Q200Φ Q208Φ KQ228Φ
Comments	Parents **(Q138 x CP57-614)** Moderate tonnage and low CCS variety that has been observed to handle difficult conditions in both the Herbert and Central region. This variety has also shown to be vigorous and therefore is suggested for the poorer soils in the Herbert region. Q226Φ is resistant to smut and leaf scald but is intermediate to pachymetra root rot and brown rust.	Parents **(QN80-3425 x Q209Φ)** Moderate tonnage and low CCS variety that has been observed to handle difficult conditions in both the Herbert and Burdekin region. This variety has also shown to be vigorous and therefore is suggested for the poorer soils in the Herbert region. Q253Φ is resistant to smut, pachymetra root rot and leaf scald but is intermediate to brown rust.	Parents **(QN79-183 x QN89-1043)** Moderate tonnage and high CCS variety for the mid to late season. Best results obtained on good ground with moisture so will be suited for average to better ground with moisture. It is resistant to leaf scald and smut and has intermediate resistance to pachymetra root rot.	Parents **(Q208Φ x Q96)** Moderate tonnage and high CCS variety for the mid to late season. Best results obtained on good ground with moisture so will be suited for average to better ground in the wet zone. It is resistant to leaf scald and red rot and has intermediate resistance to smut and pachymetra root rot. Plant a variety with smut fungicide to prolong ratoons.



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.

For example, where -0.7 is the CCS compared to the mean of standards then the CCS of this variety was, on average, 0.7 CCS less than the mean of the standards used in the trial.

Northern

Clone	Q231Φ	Q240Φ	Q250Φ
Results derived from a summary of the Final Assessment Trials (FATs)	Series planted 2009: (P + 1R) x 2 sites Series planted 2010: (P + 1R + 2R) x 3 sites Series planted 2011: (P + 1R) x 4 sites Series planted 2012: (P) x 4 sites	Series planted 2010: (P + 1R + 2R) x 3 sites Series planted 2012: (P) x 4 sites	Series planted 2010: (P + 1R + 2R) x 3 sites Series planted 2011: (P + 1R) x 4 sites Series planted 2012: (P) x 3 sites
TCH (difference from mean of standards)	**- 3.0**	**- 6.0**	**- 2.0**
CCS (difference from mean of standards)	**- 0.2**	**- 0.4**	**+ 0.7**
TSH (difference from mean of standards)	**- 0.7**	**- 1.2**	**+ 0.2**
Fibre (difference from mean of standards)	**- 0.5**	**- 1.0**	**- 1.1**
Using these standard varieties	Q200Φ Q208Φ Q237Φ	Q200Φ Q208Φ Q231Φ	Q200Φ Q208Φ Q231Φ
Comments	Parents **(QN85-1647 x QS80-7441)** Northern mill and trial data over the past two years has shown that Q231Φ has performed well both in terms of cane yield and CCS, similar to the two major varieties Q208Φ and Q200Φ. It also maintains good performance in later ratoons. Indications for maturity are that it has good early CCS. It is a fairly robust and stable variety and has been included as a standard in the northern SRA Final Assessment Trials. It has resistance to orange rust, pachymetra root rot and red rot. Its disease rating for both leaf scald and smut diseases is intermediate to resistant. Hot water treatment of seed material has in some situations had an adverse effect on germination. It will make a useful rotation variety for Q200Φ and Q208Φ as it is resistant to pachymetra root rot and is recommended for poor to good soils.	Parents **(QN81-289 x SP78-3137)** This variety is still new in the northern region and has not yet been harvested in large commercial areas to further assess its suitability. Currently it is being tested by SRA, productivity boards and growers in a range of soils and rainfall areas to look for niche regions it may suit. This variety performed very well in SRA trials and commercially in Southern regions such as Bundaberg. It is resistant to leaf scald, orange rust, red rot and smut.	Parents **(QN79-183 x QN89-1043)** This variety is suited to average to better soil types with water holding properties. High CCS and moderate tonnage variety having good sugar all season. Early commercial results so far show that this variety yields good TSH. It is resistant to leaf scald and smut and has intermediate resistance to pachymetra root rot. Caution has been advised by productivity service groups in northern areas where grubs, rats and pigs are a problem.

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

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
Q96	Ta											
Q135	Ta											
Q172Φ	Ta											
Q183Φ	H, N & Ta											
Q190Φ	H											
Q200Φ	H, N & Ta											
Q208Φ	H, N & Ta											
Q215Φ	H											
Q219Φ	H, N											
Q226Φ	H											
KQ228Φ	H, N & Ta											
Q230Φ	N											
Q231Φ	H, N & Ta											
Q232Φ	H, N & Ta											
Q237Φ	H, N & Ta											
Q238Φ	H, N											
MQ239Φ	H											
Q240Φ	H, N & Ta											
Q241Φ	N & Ta											
Q242Φ	H											
Q247Φ	H											
Q250Φ	H, N & Ta											
Q251Φ	N											
Q252Φ	H											
Q253Φ	H											
Q256Φ	N (SJ & Ta only)											

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

Good land	(Q208$^{\phi}$ Q200$^{\phi}$) Q250$^{\phi}$ Q183$^{\phi}$ (Q231$^{\phi}$ Q237$^{\phi}$)
Average land	Q208$^{\phi}$ (Q200$^{\phi}$ Q250$^{\phi}$ Q231$^{\phi}$ Q183$^{\phi}$ Q241$^{\phi}$)
Poor land	Q208$^{\phi}$ (Q231$^{\phi}$ Q241$^{\phi}$) Q183$^{\phi}$

Tableland

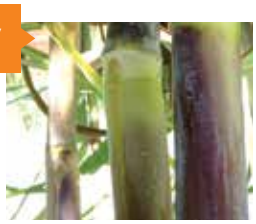
Good land	KQ228$^{\phi}$ (Q250$^{\phi}$ Q208$^{\phi}$ Q183$^{\phi}$) Q200$^{\phi}$ Q241$^{\phi}$ (Q231$^{\phi}$ Q96)
Poor land	Q208$^{\phi}$ Q241$^{\phi}$ (Q250$^{\phi}$ KQ228$^{\phi}$) Q183$^{\phi}$ (Q231$^{\phi}$ Q200$^{\phi}$)

Herbert Wet Zone

Alluvial	(Q208$^{\phi}$ Q200$^{\phi}$) (Q250$^{\phi}$ Q240$^{\phi}$ Q237$^{\phi}$) (Q247$^{\phi}$ KQ228$^{\phi}$ Q183$^{\phi}$) (Q252$^{\phi}$ Q238$^{\phi}$) (MQ239$^{\phi}$ Q231$^{\phi}$)
Clay	Q232$^{\phi}$ (Q231$^{\phi}$ Q226$^{\phi}$ Q242$^{\phi}$) (Q200$^{\phi}$ MQ239$^{\phi}$ Q253$^{\phi}$) (Q208$^{\phi}$ Q250$^{\phi}$ Q240$^{\phi}$ Q183$^{\phi}$ Q252$^{\phi}$ Q215$^{\phi}$)
Seymour	MQ239$^{\phi}$ (Q226$^{\phi}$ Q253$^{\phi}$) (Q232$^{\phi}$ Q242$^{\phi}$) (Q200$^{\phi}$ Q250$^{\phi}$ Q240$^{\phi}$) (Q231$^{\phi}$ Q208$^{\phi}$ Q215$^{\phi}$ Q219$^{\phi}$)
Terrace loamy	(Q208$^{\phi}$ Q200$^{\phi}$) (Q250$^{\phi}$ Q240$^{\phi}$ Q237$^{\phi}$) (Q247$^{\phi}$ KQ228$^{\phi}$ Q183$^{\phi}$) (Q252$^{\phi}$ Q238$^{\phi}$) (MQ239$^{\phi}$ Q231$^{\phi}$)

Herbert Dry Zone

Clay	Q208$^{\phi}$ Q226$^{\phi}$ (Q253$^{\phi}$ Q232$^{\phi}$) (Q238$^{\phi}$ Q215$^{\phi}$ Q200$^{\phi}$) (MQ239$^{\phi}$ Q183$^{\phi}$)
Hill slope	Q208$^{\phi}$ Q253$^{\phi}$ (Q226$^{\phi}$ Q232$^{\phi}$ Q238$^{\phi}$) (Q215$^{\phi}$ Q242$^{\phi}$)
Sandy	Q208$^{\phi}$ Q253$^{\phi}$ (Q226$^{\phi}$ Q242$^{\phi}$) Q238$^{\phi}$ Q215$^{\phi}$
Terrace loamy	Q208$^{\phi}$ Q237$^{\phi}$ (Q250$^{\phi}$ Q240$^{\phi}$ Q247$^{\phi}$) (Q238$^{\phi}$ Q232$^{\phi}$ Q231$^{\phi}$) (Q226$^{\phi}$ Q200$^{\phi}$ Q183$^{\phi}$ KQ228$^{\phi}$)



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
Q251Φ	Poor	Average	Good
Q250Φ	Good	Good	Good
Q241Φ	Poor	Poor	Average
Q240Φ	Average	Average	Average
Q238Φ	Average	Average	Poor
Q237Φ	Good	Good	Good
Q232Φ	Average	Average	Poor
Q231Φ	Good	Average	Average
Q230Φ	Good	Good	Average
Q219Φ	Poor	Average	Average
Q208Φ	Average	Average	Average
Q200Φ	Average	Good	Good
Q183Φ	Average	Poor	Poor
KQ228Φ	Good	Average	Poor

Tableland

Variety	Early sugar	Mid sugar	Late sugar
Q250Φ	Good	Good	Good
Q241Φ	Poor	Poor	Poor
Q240Φ	Average	Average	Average
Q237Φ	Good	Average	Average
Q232Φ	Average	Average	Poor
Q231Φ	Good	Good	Poor
KQ228Φ	Good	Good	Poor
Q208Φ	Good	Good	Good
Q200Φ	Poor	Average	Good
Q183Φ	Poor	Poor	Good
Q172Φ	Poor	Poor	Poor
Q135	Poor	Poor	Poor
Q96	Poor	Poor	Poor

Herbert Wet Zone

Variety	Early sugar	Mid sugar	Late sugar
Q253Φ	Poor	Average	Average
Q252Φ	Average	Good	Good
Q250Φ	Good	Good	Good
Q247Φ	Good	Good	Good
Q242Φ	Average	Average	Poor
Q240Φ	Average	Good	Good
Q238Φ	Average	Average	Average
Q237Φ	Good	Good	Average
Q232Φ	Poor	Average	Average
Q231Φ	Good	Average	Average
Q226Φ	Average	Average	Poor
Q219Φ	Poor	Average	Average
Q215Φ	Poor	Average	Average
Q208Φ	Good	Good	Good
Q200Φ	Good	Good	Good
Q190Φ	Average	Average	Poor
Q183Φ	Average	Good	Average
MQ239Φ	Average	Average	Average
KQ228Φ	Good	Good	Poor

Herbert Dry Zone

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

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	Canegrub tolerance	Tolerance to waterlogging	Flowering	Ratooning under wet conditions	Speed of germination	Reliability of germination
Q251Φ	Unknown	Poor	Sparse	Poor	Average	Average
Q250Φ	Unknown	Average	Sparse	Average	Average	Average
Q241Φ	Unknown	Poor	Sparse	Poor	Average	Good
Q240Φ	Unknown	Average	Moderate	Unknown	Average	Average
Q238Φ	Unknown	Poor	Heavy	Poor	Rapid	Average
Q237Φ	Unknown	Average	Moderate	Average	Average	Good
Q232Φ	Poor	Average	Heavy	Unknown	Poor	Average
Q231Φ	Unknown	Good	Heavy	Average	Average	Average
Q230Φ	Unknown	Poor	Heavy	Average	Average	Average
Q219Φ	Poor	Good	Sparse	Average	Average	Average
Q208Φ	Poor	Average	Heavy	Average	Slow	Good
Q200Φ	Poor	Poor	Moderate	Average	Rapid	Good
Q183Φ	Unknown	Poor	Sparse	Average	Rapid	Good
KQ228Φ	Poor	Average	Heavy	Average	Rapid	Good

Tableland

Variety	Canegrub tolerance	Tolerance to waterlogging	Speed of germination	Reliability of germination
Q250Φ	Unknown	Average	Rapid	Good
Q241Φ	Unknown	Poor	Average	Good
Q240Φ	Unknown	Average	Average	Average
Q237Φ	Unknown	Average	Average	Good
Q232Φ	Poor	Average	Average	Average
Q231Φ	Unknown	Good	Average	Average
KQ228Φ	Unknown	Average	Rapid	Good
Q208Φ	Unknown	Average	Slow	Average
Q200Φ	Poor	Poor	Average	Good
Q183Φ	Average	Poor	Rapid	Good
Q172Φ	Poor	Poor	Average	Average
Q135	Poor	Poor	Average	Average
Q96	Poor	Poor	Average	Average

Variety management (continued)

Herbert Wet Zone

Variety	Canegrub tolerance	Drought tolerance	Tolerance to waterlogging	Ratooning under wet conditions	Ratooning under dry conditions	Speed of germination
Q253Φ	Unknown	Good	Good	Good	Good	Average
Q252Φ	Unknown	Poor	Average	Average	Average	Average
Q250Φ	Unknown	Poor	Average	Good	Poor	Average
Q247Φ	Unknown	Poor	Average	Average	Average	Slow
Q242Φ	Poor	Average	Good	Average	Good	Rapid
Q240Φ	Average	Poor	Good	Average	Average	Average
Q238Φ	Unknown	Average	Poor	Average	Average	Average
Q237Φ	Unknown	Poor	Average	Average	Average	Average
Q232Φ	Unknown	Average	Average	Average	Average	Average
Q231Φ	Unknown	Poor	Good	Average	Average	Average
Q226Φ	Unknown	Average	Good	Good	Good	Rapid
Q219Φ	Average	Poor	Good	Average	Average	Average
Q215Φ	Average	Average	Good	Average	Average	Average
Q208Φ	Average	Good	Good	Average	Average	Slow
Q200Φ	Poor	Average	Good	Good	Average	Average
Q190Φ	Average	Poor	Average	Poor	Poor	Rapid
Q183Φ	Average	Poor	Good	Poor	Poor	Rapid
MQ239Φ	Poor	Poor	Good	Average	Poor	Average
KQ228Φ	Average	Poor	Poor	Poor	Average	Rapid

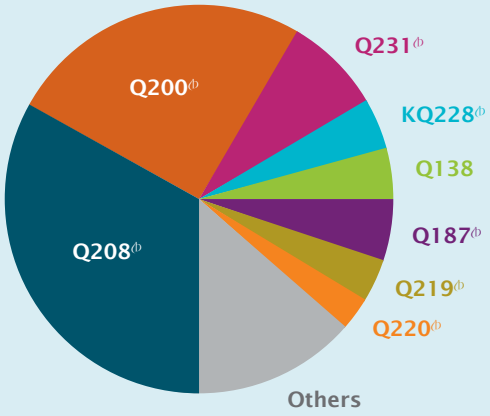
Herbert Dry Zone

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

Variety performance in each mill area

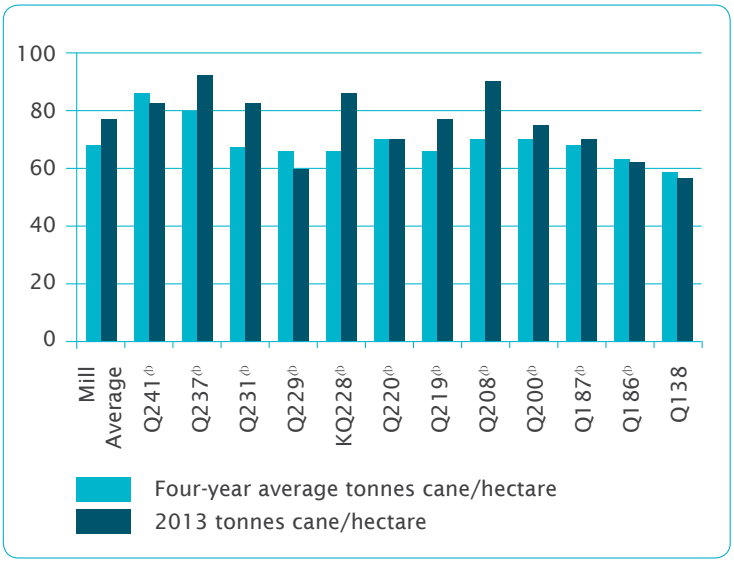
Information collected from each mill area is presented. If using QCANESelect™ choose the Regional Reporting tab which provides variety performance information from each mill area since 1980. Use this information to assess the yield performance of varieties over a number of years. The new variety data should be viewed with care as the yields are from young ratoons only, which will perform better than older ratoons.

Mossman % hectares harvested 2013

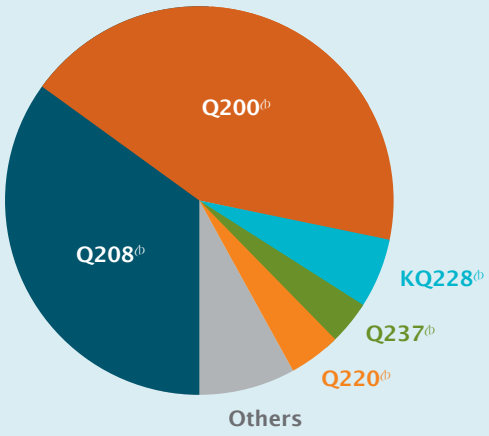


	Q208Φ	32.1%		Q237Φ	2.8%
	Q200Φ	22.4%		Q241Φ	2.6%
	Q231Φ	8.3%		Q186Φ	2.2%
	KQ228Φ	4.4%		Q229Φ	2.0%
	Q138	4.0%		Q166Φ	1.7%
	Q187Φ	3.8%		Q199Φ	1.1%
	Q219Φ	3.8%		Q172Φ	1.0%
	Q220Φ	3.3%			

The Mossman region harvested 0.587 million tonnes from 7,497 hectares in 2013 with an average CCS of 12.8. The mill average yield was 78 tonnes cane/hectare in 2013 which is above the four-year average yields in 2009 to 2012. The two major varieties are Q208Φ and Q200Φ. Q241Φ and Q237Φ have performed very well in terms of TCH against the mill average over the past four years.

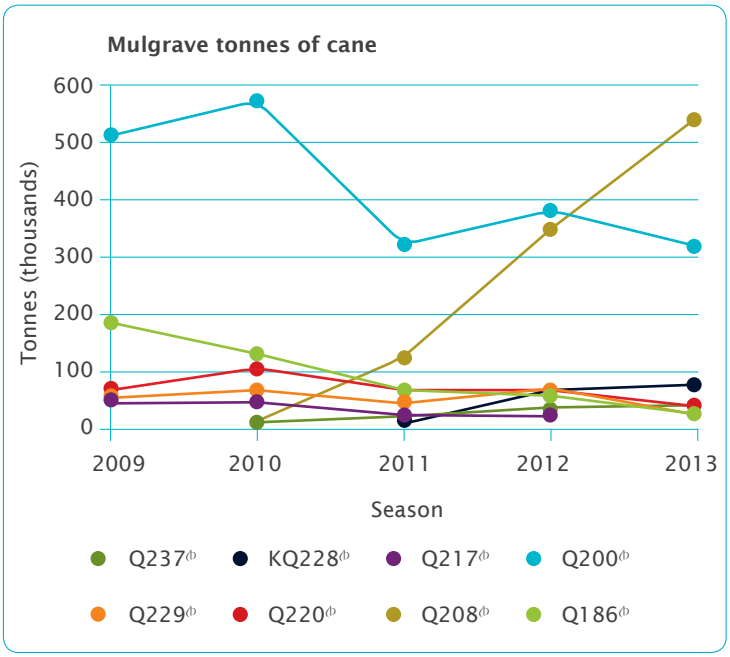


Mulgrave % hectares harvested 2013



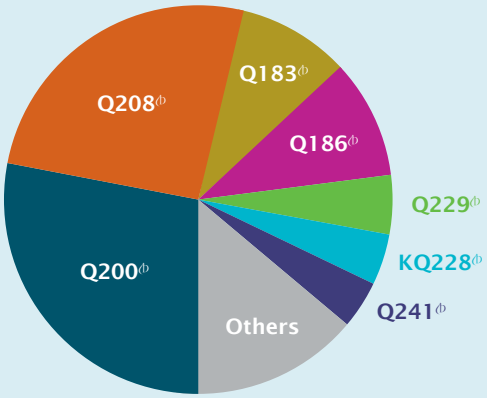
	Q208Φ	49.1%		Q220Φ	3.4%
	Q200Φ	28.4%		Q229Φ	2.4%
	KQ228Φ	7.0%		Q186Φ	2.3%
	Q237Φ	3.6%		Q135	0.8%

The Mulgrave region harvested 1.103 million tonnes of cane at an average CCS of 12.8. Other mill data from Mulgrave is unavailable. Q208Φ is now the most popular variety making up almost 50 per cent of the total tonnes harvested which is a rapid rise from 34 per cent in 2012.



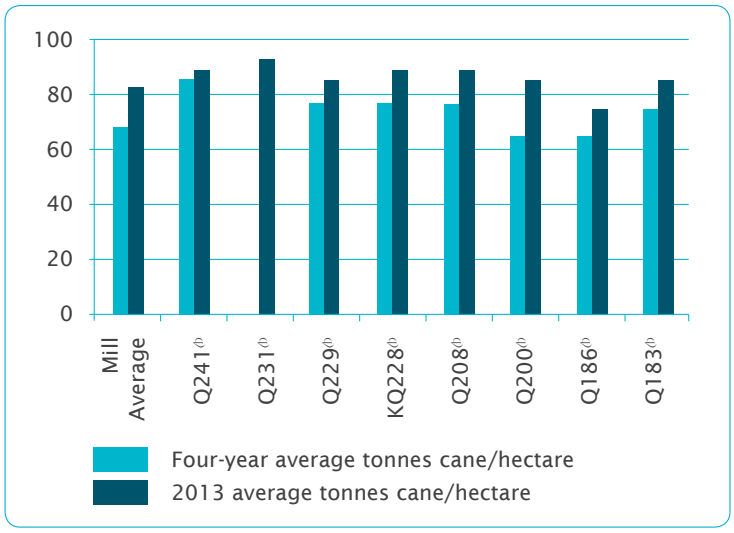
Variety performance in each mill area (continued)

South Johnstone % hectares harvested 2013

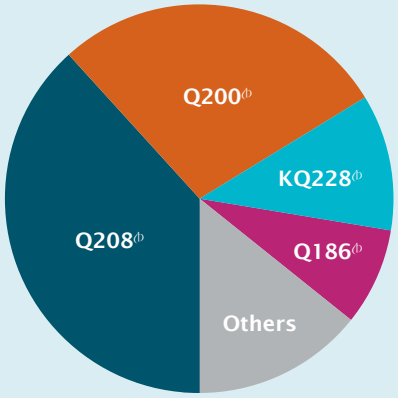


	Q200Φ	27.0%		Q231Φ	2.1%
	Q208Φ	26.2%		Q219Φ	1.9%
	Q183Φ	10.1%		Q217Φ	1.5%
	Q186Φ	9.2%		Q218Φ	1.4%
	Q229Φ	4.3%		Q220Φ	1.2%
	KQ228Φ	4.1%		Q230Φ	0.7%
	Q241Φ	4.1%		Q237Φ	0.5%
	Q166Φ	2.9%		Q138	0.4%
	Q187Φ	2.2%			

The South Johnstone region harvested 20,144 hectares and produced 1.684 million tonnes in 2013, at an average yield of 84 tonnes cane/hectare. The average CCS was 12.4 in 2013. The two major varieties are Q200Φ and Q208Φ. Q241Φ and Q229Φ have performed very well in terms of TCH against the mill average over the past four years.

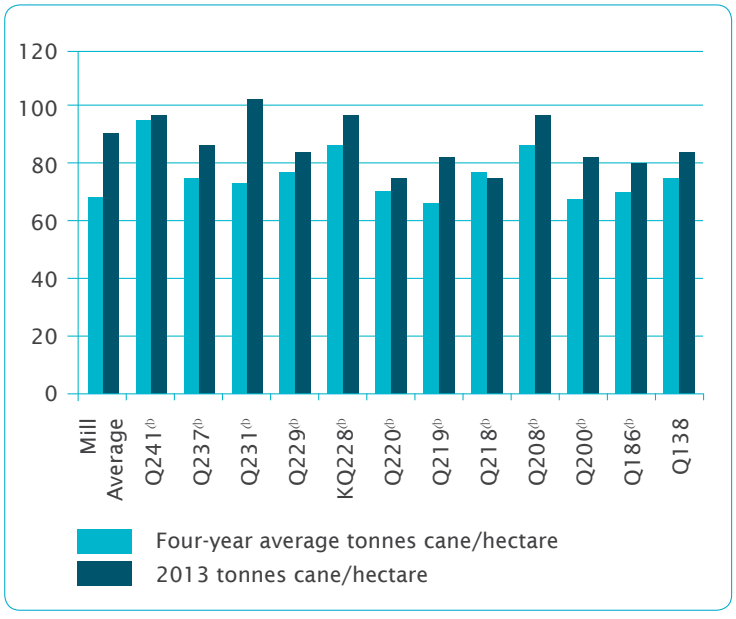


Tully % hectares harvested 2013



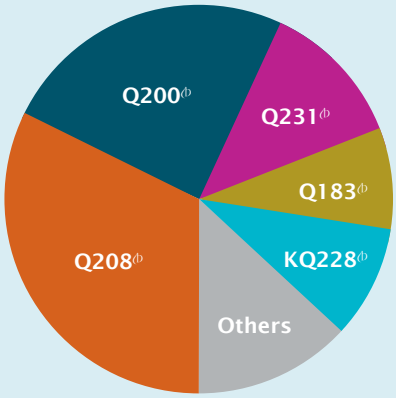
	Q208Φ	35.9%		Q183Φ	1.2%
	Q200Φ	31.5%		Q220Φ	1.2%
	KQ228Φ	9.3%		Q229Φ	0.9%
	Q186Φ	6.8%		Q219Φ	0.8%
	Q241Φ	3.0%		Q187Φ	0.6%
	Q237Φ	2.6%		Q230Φ	0.6%
	Q231Φ	2.3%		Q174Φ	0.5%
	Q218Φ	1.4%		Q166Φ	0.4%

The Tully region harvested 26,118 hectares and produced 2.336 million tonnes in 2013 the highest since 2005, at an average yield of 89 tonnes cane/hectare. The average CCS was 12.9 in 2013. The two major varieties are Q208Φ and Q200Φ. Q241Φ, Q208Φ and KQ228Φ have performed very well in terms of TCH against the mill average over the past four years.



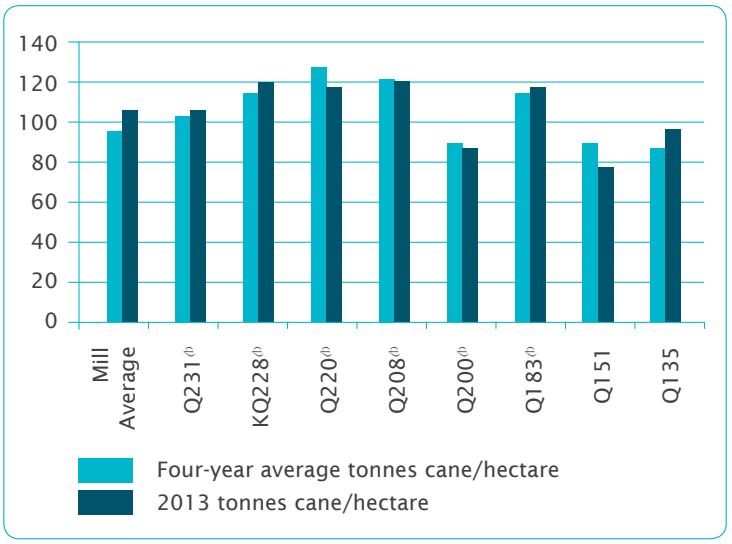
Variety performance in each mill area (continued)

Tableland % hectares harvested 2013

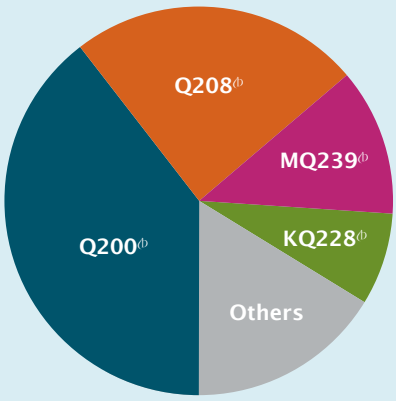


	Q208Φ	31.2%		Q151	2.6%
	Q200Φ	29.5%		Q172Φ	2.3%
	Q231Φ	8.5%		Q191Φ	2.2%
	Q183Φ	6.6%		Q138	2.2%
	KQ228Φ	3.2%		Q237Φ	1.7%
	Q135	3.2%		Q96	0.8%
	Q220Φ	3.2%			

The Tableland region produced 0.850 million tonnes of cane from 7,865 hectares in 2013. The average CCS was 14.0 and the average yield was a five-year high at 108 tonnes cane/hectare. The two major varieties are Q208Φ and Q200Φ. Q220Φ, Q208Φ, KQ228Φ, Q183Φ and Q231Φ have performed very well in terms of TCH against the mill average over the past four years.

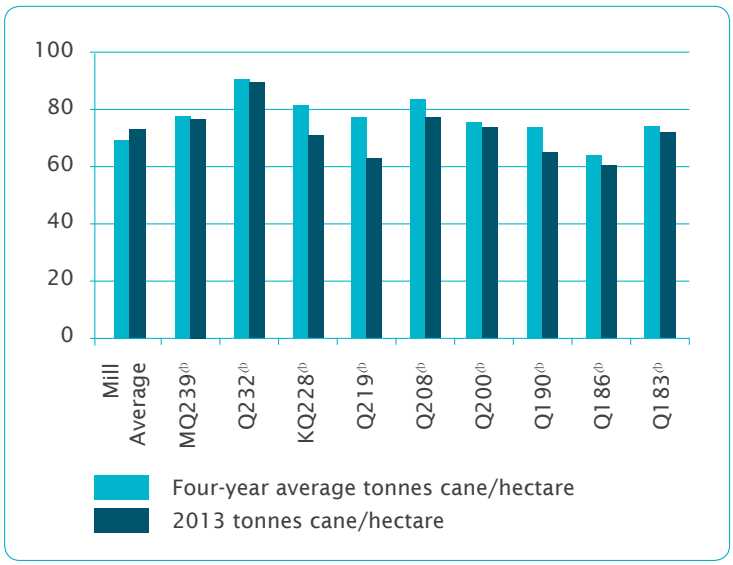


Herbert % hectares harvested 2013



	Q200Φ	34.8%		Q135	0.4%
	Q208Φ	28.4%		Q238Φ	0.4%
	MQ239Φ	12.5%		Q174Φ	0.4%
	KQ228Φ	9.8%		KQ236Φ	0.4%
	Q183Φ	2.8%		Q172Φ	0.3%
	Q219Φ	1.6%		Q237Φ	0.3%
	Q186Φ	1.4%		Q216Φ	0.3%
	Q190Φ	1.3%		CASSIUS	0.2%
	Q232Φ	1.2%		ARGOSΦ	0.2%
	Q204Φ	1.0%		Q157	0.2%
	Q215Φ	0.8%			

The Herbert region harvested 4.001 million tonnes of cane from 54,018 hectares. The average CCS was 13.9, and mill average tonnes cane/hectare was 72. The two major varieties are Q208Φ and Q200Φ. Q232Φ, Q208Φ and KQ228Φ have performed very well in terms of TCH against the mill average over the past four years.



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 a 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.

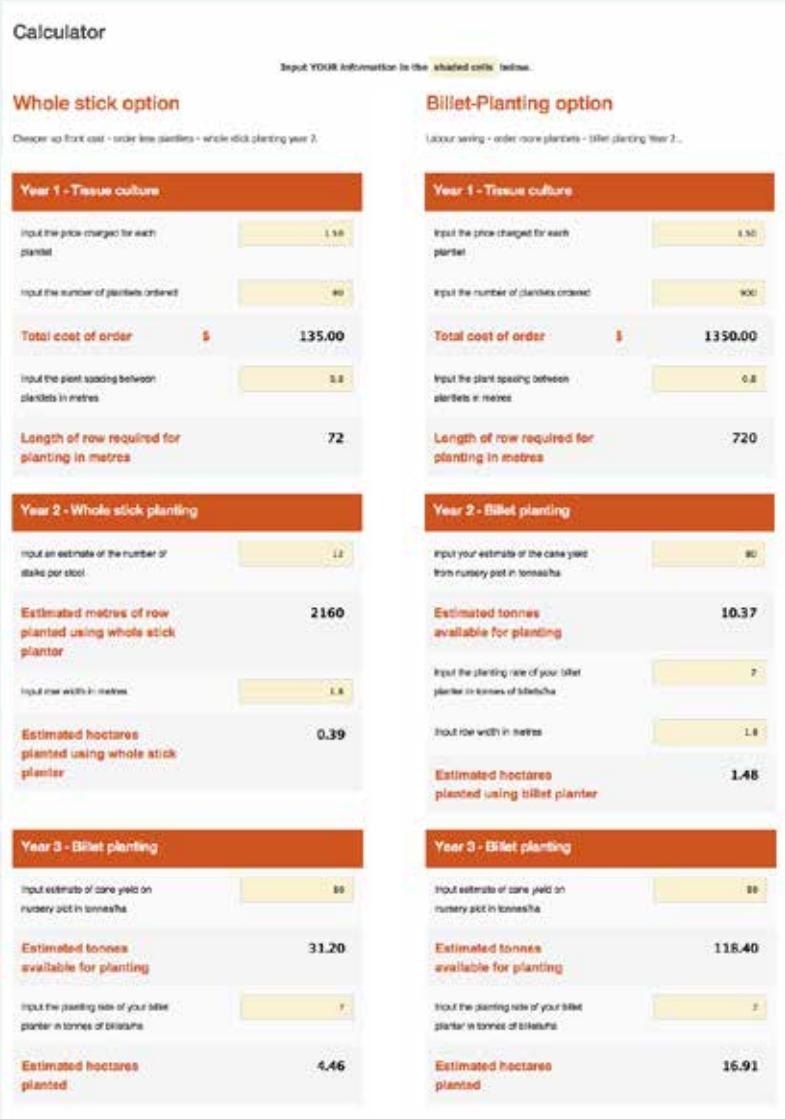
QCANESelect™ is an online tool that allows you to review, compare and select varieties for use on each block on your farm.

QCANESelect™
variety selection made easy

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**



Calculator

Whole stick option

Year 1 - Tissue culture	
Total cost of order	$ 135.00
Length of row required for planting in metres	72

Year 2 - Whole stick planting	
Estimated metres of row planted using whole stick planter	2160
Estimated hectares planted using whole stick planter	0.39

Year 3 - Billet planting	
Estimated tonnes available for planting	31.20
Estimated hectares planted	4.46

Billet-Planting option

Year 1 - Tissue culture	
Total cost of order	$ 1350.00
Length of row required for planting in metres	720

Year 2 - Billet planting	
Estimated tonnes available for planting	10.37
Estimated hectares planted using billet planter	1.48

Year 3 - Billet planting	
Estimated tonnes available for planting	118.40
Estimated hectares planted	16.91

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