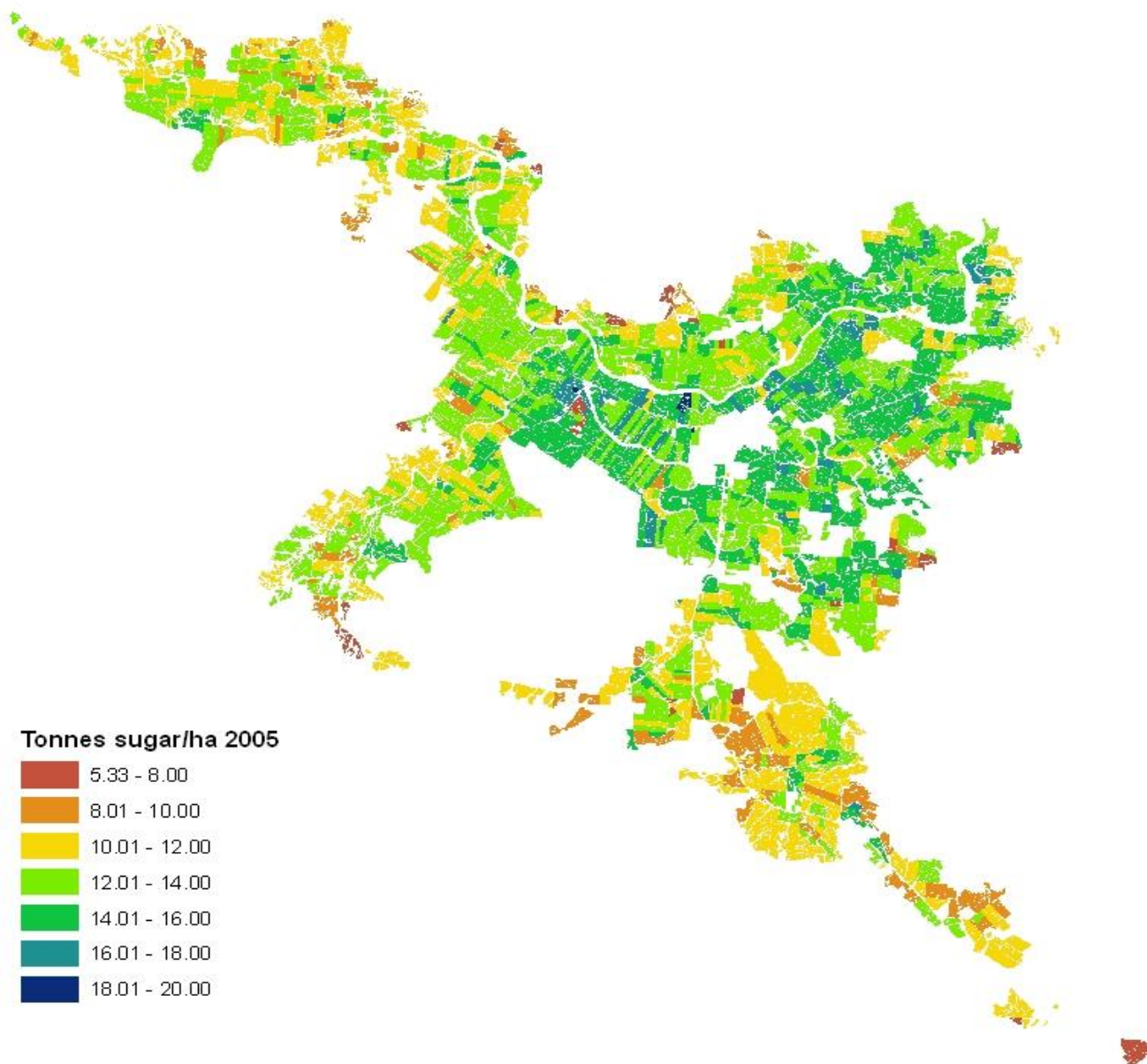




HERBERT PRODUCTIVITY REPORT 2005

Herbert River District 2005 Tonnes Sugar / Ha



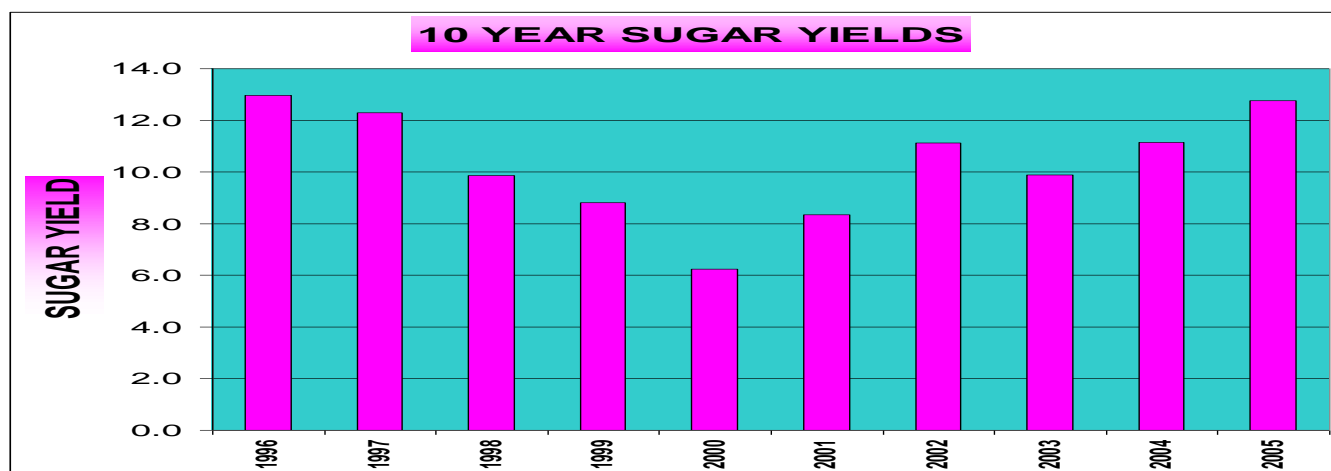
Record crop for the Herbert

This report provides details of the record crop of 5,553,359 tonnes produced in the Herbert in 2005. We hope that its contents will provide you with information that will assist you with decisions on variety selection and farm and crop management.

It is the fourth Productivity Report produced under the Herbert Cane Productivity Initiative, which is a cooperative venture involving Herbert Cane Productivity Services Ltd., BSES Ltd., CANEGROWERS Herbert River and CSR Ltd. Herbert River Mills. The report is again based on block productivity data collected using block data supplied by growers and from cane consignment data when blocks are harvested. The excellent level of cooperation from growers and harvesters in supplying these data and maintaining accuracy in cane consignment is greatly appreciated.

WORKING TOGETHER FOR A PRODUCTIVE FUTURE

CROP PERFORMANCE 2005

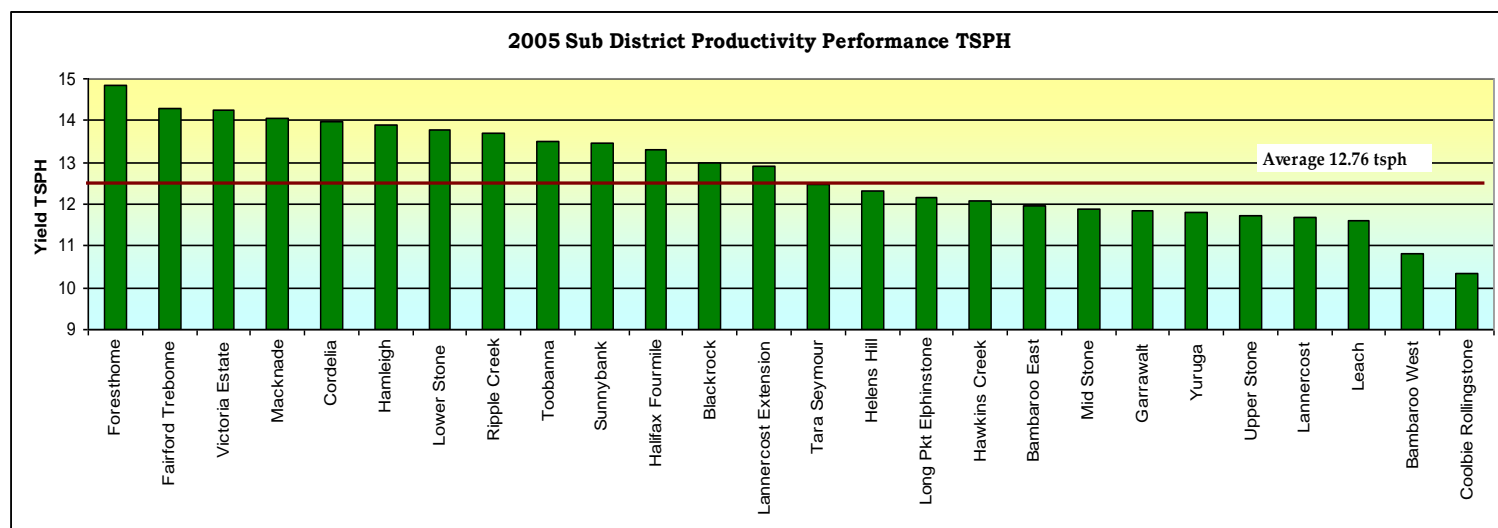


In 2005 the Herbert produced a record crop of 5,553,359 tonnes of cane at 13.1 CCS from a harvested area of 57,081 hectares. The cane yield was 97.3 tonnes cane / hectare, the highest for 9 years but slightly below the record yields of 98.1 tonnes cane / hectare achieved in 1995 and 1996. CCS levels were the lowest since 2000 and reflected the persistent rainfall which fell over most parts of the district from June to August and which encouraged much of the crop to keep on growing. Overall the year was relatively dry with no significant heavy falls. Annual rainfall ranged from less than 900mm at Venables Crossing to over 1500mm in the Seymour, both well below the long term average. The months of February and March were quite dry but the crop recovered well in April and May and continued to grow right through to September with some very high individual block yields and widespread lodging.

Cane yields across productivity zones ranged from over 114 tonnes / hectare in Foresthome to around 77 tonnes /

hectare in the southernmost parts of the district. Although the southern subdistricts again had the lowest yields in the district, some areas showed a remarkable recovery from the previous years of poor stooling resulting from drought and widespread grub damage.

Year	Tonnes	Ha Harv	CCS	Yield Cane	Yield Sugar
1996	5251286	53513	13.21	98.1	12.96
1997	5272422	57328	13.37	92.0	12.29
1998	4191272	48670	11.46	86.1	9.87
1999	4151742	59956	12.73	69.3	8.81
2000	2802049	58379	13.01	48.0	6.24
2001	3311005	56877	14.34	58.2	8.35
2002	4243591	54892	14.4	77.3	11.13
2003	4051558	56976	13.9	71.1	9.89
2004	4641373	56411	13.56	82.3	11.16
2005	5553359	57079	13.11	97.3	12.76



REGIONAL ISSUES

HERBERT REGIONAL PLAN

The Herbert Regional Plan was approved in September 2005 by the Federal Minister of Agriculture, the Hon. Peter McGauran. The plan is the result of extensive collaboration between the Regional Advisory Group (RAG), appointed under the Sugar Industry Reform program 2004, and the Herbert Regional Industry Board (RIB). All stakeholders in the region should have received a copy of a summary of the plan in the mail.

In the current situation of high commodity prices, it is easy to forget about the recent situation, where the Herbert along with other sugar districts, were struggling to be internationally competitive. The plan has the following broad aim:

"Achieving global competitiveness along with social, economic and environmental sustainability to all the stakeholders in the Herbert Region."

The plan identifies the following 'critical success factors' that need to be addressed to ensure the viability and sustainability of the sugar industry in the region:

1. Increasing capacity for change amongst stakeholders in all industry sectors;
2. Increasing productivity through the application of Best Management Practices in all industry sectors;
3. Achieving economies of scale;
4. Value adding.

Within each of these critical success factors, a series of regional priorities have been developed which the RAG believes will deliver the sustainability outcomes required for the Herbert Region.

Those of you who have not received a copy of the Herbert Regional Plan are urged to contact Herbert River CANEGROWERS.

HMS – HARVEST MANAGEMENT SYSTEM

The Herbert sugar industry agreed to a new harvest monitoring system for 2006. The system will use GPS technology to monitor harvester movement. The decision was taken, following consultation with growers, millers and harvesting contractors, at a special general meeting on Thursday 17th. February 2006. All agreeable harvesting contractors will have a GPS unit wired to their machines at no cost, for the 2006 season.

The GPS units will also have ignition on/off and elevator on/off switches which will allow the determination of time spent cutting cane, and total running time. Initial data transfer will be achieved by using data cards. There will be two cards per machine and cards will be downloaded weekly. Accurate paper consignment notes are still of vital importance.

Associated with the GPS project, is the establishment of five communication towers, one fixed repeater tower and

one roving repeater, to ensure complete radio and satellite coverage over the Herbert district. Ultimately, this will lead to precision farming, and, auto-steer technology.

The project is initially funded by growers and millers through HCPSL levies. It is intended however to apply for funding, in year two of the project. The application will, if successful, offset some of the costs involved.

SIDING RATIONALISATION PROJECT

In the first round of funding for Regional and Community projects as part of the Sugar Industry Package, the Herbert region was successful in securing \$3.5 million of RCP funding for the rationalisation and upgrading of cane railway sidings.

About 100 sidings are being phased out whilst 72 will be upgraded in terms of volume, ease of access and centralisation. So far agreement has been reached between CSR, cane growers and harvest crews on 20 sidings, with a minimum of 12 to be revamped by the start of the 2006 harvest season.

2005 HERBERT SUGAR INDUSTRY AWARDS

The 2005 awards were held recently at the Shire Hall. This was the second such acknowledgement night for the Herbert Industry. Good attendances and a well planned program ensured a successful evening and feedback indicated a good time was enjoyed by all who attended.

A feature this year was several new categories, from the Mill. These new categories ensured full coverage of the industry, namely the grower sector, the milling sector, harvesting and service providers. The success on the night is a credit to all award night organisers, the sponsors and the service clubs involved. The catering was also great.

Due to the generosity of all sponsors, the occasion realised around \$8,000 worth of prizes, cash or vouchers. All sponsors were acknowledged on the night via a constant powerpoint presentation.

There were too many award recipients to mention them all, however, some of the major ones included:

Grower of the Year – Norm Reid
Mangrove Jack Award – Mario Porta
Most Improved Farm Layout – Peter Morellini
Farm Presentation for Harvesting – Russo Family Trust
Accurate Cane Consignment – Bambaroo Harvesting Coy

These names, along with others, will be added to the perpetual plaques, on display at the BSES Building. Amazingly, there were three growers who estimated their crop to the tonne, no mean feat. These were Victoria Mill Angelo Girgenti, John Mahony from Abergowrie and Doc Kaurila from Abergowrie. We look forward to another successful event next year, and thank all whom attended.

VARIETY PERFORMANCE 2005

Q157 continues to remain the major variety of the district consisting of 18% of cane supplied in 2005. Q174 has increased significantly compared to 2004 and is believed it will continue to increase in area in 2006.

Older varieties like Q115, Q124, Q162, Q164 and Q179 have decreased in area harvested between 2004 and 2005. Newer varieties like: Q186, Q194 and Q204 are increasing in area harvested.

The record harvest of 2005 was achieved with not one variety over 18% of cane harvested, which was a significant achievement when considering that Q124 was at 75% of cane harvested in 1996. Having a diversity of varieties has particular advantages in relation to managing disease risk and to address geographical variations that occur throughout the district.

The issue of sugarcane smut is of particular concern in the district because currently less than 7% of varieties have intermediate to resistant levels for smut resistance. This current position poses a serious threat to the local industry in the event of smut incursion. The only BSES recommended variety that is resistant to smut is Q200, while Q120, Q135, Q183 (to be released in 2006) and Mida have intermediate smut resistance. Growers should consider increasing the area planted of suited smut tolerant varieties to decrease the potential risk posed by smut. There is limited mill data on Q200 performance, however variety strip trial data throughout the district indicates that the variety has significant potential and has very high CCS.

RSD continues to be a problem in Q158, Q162 and Q204 throughout the district. Q158 and Q204 have good potential, however strict hygiene practices are essential to ensure that the maximum potential can be achieved from each variety.

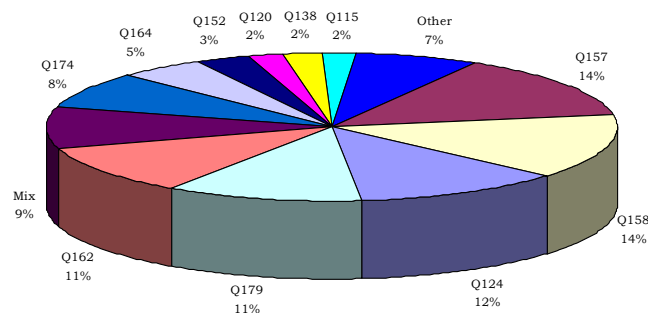
Q174 continues to perform well across the area where soil moisture is adequate. The variety has good early CCS and tends to decline in CCS and cane yield in the late season.

Both Q186 and Q204 are performing well on the clay, clay-loam soils of the district throughout the season. The CCS levels of Q204 has acceded all expectations. It has been identified last season that Q204 has a high requirement for potassium and growers should consider applications at 100 kgK/ha to ensure the variety reaches its maximum yield potential.

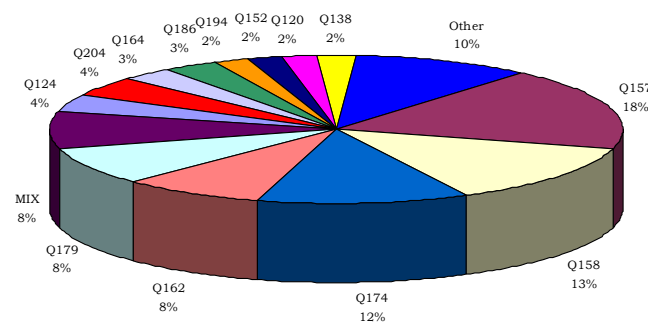
Argos has performed well on the loam soils (especially in the Abergowrie area). The variety has good yield and good mid-late CCS in these areas. The variety appears to be a strong ratooner and rapid germinator in plant.

Q135 and Q195 are performing well on the alluvial soils of the district for yield and CCS. Q195 has given growers on the Abergowrie flats good yields and very good CCS throughout the season. Q195 appears short, however this

Varietal Composition of the Area Under Cane in 2004



Varietal Composition of the Area Under Cane in 2005



the stool support high stalk numbers.

Q135 continues to perform well on the alluvial and loam soils with higher levels of clay content where soil moisture is adequate. Very large yields were recorded with very good mid to late CCS. The variety appears to be a very strong and consistent ratooner.

There is now a very large number of varieties available to growers in the Herbert and the selection of the correct variety for the situation is critical. The following points should be considered when selecting what variety to plant:

- Variety suitability;
- Rotation of varieties;
- Time of harvest of varieties;
- Environmental factors (like drought and flooding);
- Pest incidence;
- Herbicide susceptibility;
- Is the block fallow plant or plough out replant;
- Time of planting;
- Disease resistance;
- Ratooning.

If you require further information concerning variety selection on your farm please contact the BSES Extension Officers.

VARIETY RECOMMENDATIONS

NEW VARIETIES FOR THE HERBERT

Q183^Φ will be released in 2006 to Herbert growers. The variety has been propagated and final assessments were undertaken in 2005. The variety is best suited to average – good clays with reasonable moisture holding capacity.

Q183^Φ has several positives such as:

- ✓ Rapid Germination & Ratooning
- ✓ Good CCS & promising early CCS rating
- ✓ Shows promise for harvesting all season(early, mid and late)
- ✓ Tolerance to water logging
- ✓ Resistance to Brown & Orange Rust, and
- ✓ Resistance to Pachymetra Root Rot

It is expected that Q183^Φ will predominantly suit growers in the Lower Herbert, Fairford and Lannercost to Longpocket areas on good clay soils that are not prone to drought conditions. With poor drought resistance and an elevated Red Rot rating it is not expected that Q183^Φ will be suited to lighter textured soils especially in areas prone to regular or severe droughts.

For further information on varieties or any other topic please contact Adam Royle (BSES Variety Officer) or Greg Shannon, Lawrence Di Bella and Graeme Holzberger (BSES Extension Officers).

VARIETY STRIP TRIALS

Once again in 2005 growers undertook variety strip trials throughout the district to assess variety performance on their own farms, with some assistance from BSES Extension staff.

Q174^Φ, Q186^Φ, Q200^Φ, and Q204^Φ have performed well in the trials.

Q174^Φ continues to perform well early to mid season on most soils with good moisture holding capacity. Q186^Φ and Q204^Φ both are performing well on the clay soils of the district. Q200^Φ is performing exceptionally well on a wide range of soils throughout the district and has very high CCS.

If you require assistance in setting up a variety strip trial on your farm, please contact the BSES Extension Officers.

Perkins Trial - Braemeadows

Variety	TCPH	CCS	\$/ha
Q99 - P	123	13.90	1968
- 1R	130	13.60	2223
Q174 ^Φ - P	126	14.35	2155
- 1R	139	13.28	2261
Q200 ^Φ - P	123	16.00	2555
- 1R	131	14.10	2393
Q216 ^Φ - P	146	12.90	2012
- 1R	168	11.40	1974

Morley Trial - Lannercost

Variety	TCPH	CCS	\$/ha
Q200 ^Φ - P	95	15.00	1759
- 1R	92	15.80	2060
Q194 ^Φ - P	104	13.65	1600
- 1R	108	14.60	2107
Q190 ^Φ - P	92	14.00	1491
- 1R	105	14.05	1907
Q216 ^Φ - P	102	13.10	1460
- 1R	110	13.80	1937
Q215 ^Φ - P	95	13.00	1329
- 1R	80	14.30	1503
92H1151 - P	79	11.90	913
- 1R	96	13.00	1501

Robino Trial - Braemeadows

Variety	TCPH	CCS	\$/ha
Q174 ^Φ	142	14.70	2547
	124	13.70	2143
Q200 ^Φ	121	16.03	2400
	106	12.88	1616
Q186 ^Φ	141	14.15	2349
	119	13.00	1867

Cardillo Trial - Braemeadows

Variety	TCPH	CCS	Net \$/ha
Q200 ^Φ - P	140	15.2	2657
- 1R	144	14.4	2674
Q186 ^Φ - P	138	13.7	2153
- 1R	138	14.0	2501
Q216 ^Φ - P	148	12.7	1976
- 1R	150	11.8	1911
Q162 - P	130	12.7	1735
- 1R	130	12.1	1746

Quabba Trial - Lilyponds

Variety	TCPH	CCS	\$/ha
Q186 ^Φ - P	115	14.1	1889
- 1R	148	13.2	2388
Q204 ^Φ - P	116	13.9	1870
- 1R	141	13.6	2398
Q216 ^Φ - P	140	12.1	1675
- 1R	159	11.6	1945
Q194 ^Φ - P	111	13.8	1758
- 1R	136	13.2	2199

Aili Trial - Hamleigh

Variety	TCPH	CCS	\$/HA
Q204 ^Φ - P	138	15.1	2524
- 1R	137	13.45	2059
- 2R	108	13.74	1888
			6471 (total)
Q158 - P	128	14.3	2106
- 1R	121	14.83	2202
- 2R	116	13.42	1931
			6239 (total)
Q186 ^Φ - P	116	15.1	2124
- 1R	117	14.3	1991
- 2R	135	13.75	2357
			6472 (total)
Q194 ^Φ - P	129	14.5	2185
- 1R	113	13.74	1778
- 2R	108	13.86	1914
			5877 (total)
Q157 - P	132	13.1	1827
- 1R	133	13.53	2019
- 2R	127	13.54	2147
			5993 (total)
Q162 - P	132	13.1	1832
- 1R	123	13.46	1845
- 2R	111	13.92	1984
			5661 (total)
Q216 ^Φ - P	133	13.1	1838
- 1R	132	12.66	1749
- 2R	138	12.33	1935
			4522 (total)

CANE PRODUCTIVITY INITIATIVE

PRODUCTIVITY FORUMS

Groups met on 3 or 4 occasions during the year for productivity forums. The first round of forums in March / April focused on sustainable farming systems with visits to some of the trials in the district. At the second round of forums in June, discussions were held on the sub district productivity reports, new varieties and variety recommendations for different soil types. In September, growers attended forums on research findings from the Corradini two-in-one harvesting unit and visited the unit operating in the Seymour and Abergowrie areas. The final round of forums was held in November with presentations on the study tour to Southern Africa, legumes and sustainable farming systems, interpreting laser landforming designs for improved drainage, and possible improvements to harvesting and cane transport operations.

This year, 3 rounds of productivity forums are planned for February / March, April / May and October / November with the possibility of additional forums to cater for guest speakers, bus tours and training sessions.

AIMS AND CSIRO TOUR

In November Rural Water Use Efficiency 2 funded a bus tour that took 10 Herbert River growers to the Australian Institute of Marine Science (AIMS). The group sat in on an overview of AIMS research in regard to water quality, mangrove capabilities as well as research being undertaken in the medical field. A great interest was expressed from growers to have another trip or a visit to the Herbert by scientists working on a new environmentally friendly herbicide derived from coral algae.

The second part of this tour took the group to the CSIRO Davies Lab where Geoff Bamber and Mike Spillman informed the group of their new project that will try to increase CCS and decrease lodging by monitoring and adjusting photosynthesis and water supply of cane plant. There was much discussion and questions on this topic with a visit to the glasshouses and viewing the cane that has been attached to leaf growth monitoring equipment.



SARINA- EMERALD STUDY TOUR

The "Enhanced Farming Systems Tour" to Sarina and Emerald was aimed at building the capacity for change,

learning and innovation through the investigation of several enhanced farming systems in the Sarina and Emerald districts. The study tour participants investigated minimal tillage equipment, controlled traffic, crop rotation and harvesting. The enhanced farming system has potential to improve environmental, economic and social benefits for the Herbert sugarcane industry. The study tour was an industry-wide approach with participants from CSR, QMCHA, CANEGROWERS, HCPSSL, BSES and growers.



Sarina and Emerald currently use minimum-tillage practices, controlled traffic and crop rotations on a commercial basis in a dry-land situation and has particular relevance to the Herbert sugar industry. The study tour was conducted over a six-day period from the 4th to the 9th April, 2005.

The use of disc-opener planters, controlled traffic and legume crops as an integrated system is a viable option for the Herbert sugarcane industry. The growers visited during the study tour reported a reduction in farming costs (fuel, labour, capital) whilst still maintaining yield and CCS. The initial cost of changing to controlled traffic (dual row) and disc-opener planters is small/moderate and will depend on the growers existing machinery set-up, whether modifications are outsourced or completed on-farm using existing materials and labour.

GPS technology was also investigated by the study tour group. GPS can provide several benefits to the sugarcane industry however the capital cost is quite expensive and may slow immediate adoption under the conventional farming business structure.

Alternative crops Kenaf and Hemp may have potential as a cash crop in rotation with sugarcane. Barriers to commercialization on a large scale include the establishment of secure market, localised processing plants and the need for further research, development and extension.

The study tour has challenged growers to investigate alternative systems and the majority of growers who attended are currently trialling different activities on their own farms.

RESEARCH AND DEVELOPMENT TEAMS

Four research and development teams have operated in the Herbert for the last four years. Their principal focus is to improve awareness of the latest R&D findings and promote the adoption of best management practices. Each team is made up of growers, harvester operators, extension and research staff. New members are welcome so if you are interested in participating in any of these teams, please contact BSES or HCPSL.

HARVESTING BEST PRACTICE TEAM

The Harvesting team met five times during the year to discuss the adoption of harvesting best practice and to find ways of improving the viability of the harvesting sector. The team undertook the following activities during 2005:

- A Harvest Best Practice Workshop held in April on "Maintaining a Viable Harvest" which attracted more than 50 participants.
- A paper evaluating the performance of the Corradini Two in One, presented at the ASSCT conference in Bundaberg.
- A display at the Herbert River Field Day promoting Harvesting Best Practice and multi-row harvesting.
- A research project proposal submitted to SRDC on "Increasing industry awareness of in-field cane and juice losses during harvesting"
- Training courses for 6 harvester operators and 28 haulout drivers.
- Discussion on the development of the Harvester Efficiency and Land Productivity (HELP) program of Anthony Girelli.



VARIETY ADOPTION TEAM

This team met twice during 2005 to discuss ways of improving the adoption of the most productive and profitable varieties for different soils and areas in the Herbert. Its activities included:

- Discussion of a possible RSD screening procedure for varieties.
- Discussion of productivity improvements attributable to new varieties.



- Coordination of results from variety strip trials around the district.
- Variety recommendations for different soil groups, climates and harvest times.

DRAINAGE AND WATER MANAGEMENT TEAM

The team met three times during 2005 to discuss ways of accelerating the adoption of improved drainage practices in the Herbert and to promote ways of reducing sediment and nutrient outflows. Its activities included:

- The development of a Drainage Manual to promote efficient and environmentally sound drainage of sugarcane.
- A training course for growers on interpreting laser land-forming survey designs and the most efficient ways of draining cane blocks. This was delivered at Productivity Forums in November 2005.
- The development of presentations for delivery at Productivity Forums on minimising the losses of sediment, nutrients and herbicides/pesticides.



SOIL HEALTH AND CROP ESTABLISHMENT TEAM

The team met four times to discuss ways of accelerating the adoption of more sustainable farming systems, farming practices that improve soil health and ways of improving crop establishment. Its activities included:

- Coordination of a bus tour for growers to the Sarina and Emerald areas.
- An information day for growers on the research findings from the Sugar Yield Decline Joint Venture program.
- Development of a Future Cane plan for the Herbert region.
- Funding received for BSES to acquire machinery for sustainable farming systems including single and dual row double disc opener stick planters and a four row soybean planter.
- Surveys conducted to assess rates of adoption of soil health best practice



PESTS AND DISEASES

PESTS

One of the features of the record 2005 crop was the low level of losses due to pests.

Rat activity was low all year. Damage levels were so slight that we did not apply for a baiting permit. The bait would have cost more than the value of the damage. The probable reason for low rat numbers was most likely good weed control within cane fields. Rodents require protein and nitrogen to successfully breed. There is always a plentiful supply of nitrogen, but protein can only come from weed seeds or insects.

Greyback canegrubs posed no real problems during 2005, although isolated areas, for example Helens Hill, had pockets of severe damage. Observations during beetle flights indicated relatively low numbers of beetles. Consequently, the 2006 crop should be reasonably safe. Herbert growers are congratulated for the crop protection measures in place for 2006. Use of suScon is as high as ever and significant levels of Confidor in ratoons should minimise potential grub damage.

Frenchi grubs were almost non-existent in 2005. A few traditional areas suffered damage, but only in small areas. Strange to think that frenchi grubs, a two year life cycle insect, is the major pest in Mackay.

Feral pigs continue to pose a problem over the fringe areas of the district. In some instances, blocks have had every drill half eaten. Apart from the loss of cane, these animals also dig up the wet ground in their search for

worms. This often destroys the good effect from laser levelling.

Whilst the federal government has recently released significant funding to control feral pests, including pigs, the problem will remain with the industry until government controlled land is suitably managed or fenced.

The usual, isolated instances of damage occurred from wireworm, wallabies, symphylla and weevil borers.

DISEASES

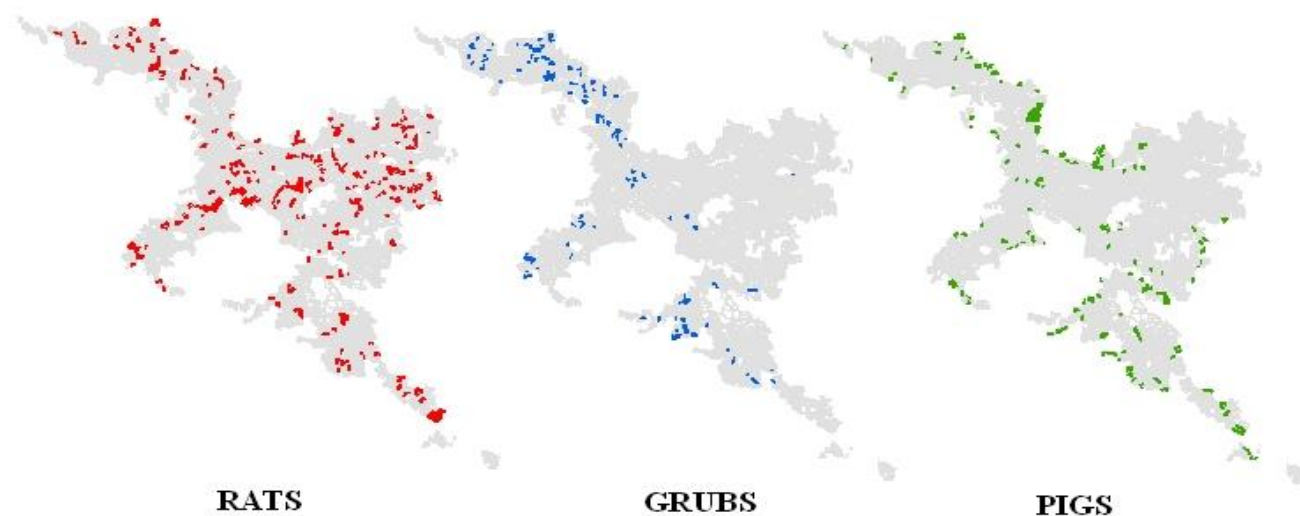
In general, disease incidence was low. RSD or ratoon stunting disease levels declined. Volumes of cane hot water treated, or distributed from the plots for 2005 were about average. Reasonable volumes of plot cane went to Tully and Innisfail.

Disease inspections were conducted. No cases of Smut disease were found. Brown rust was quite severe in some blocks, and restricted growth of young plant cane mainly, until the onset of rain.

Levels of Orange Rust were very low in 2005 and restricted to those few remaining fields of old, Q124 ratoons.

Pachymetra root rot was present in some blocks in the southern district. Resistant varieties and varietal rotation can control this condition. Unfortunately Q157 appears susceptible to Pachymetra, so it becomes important to rotate this variety in the Pachymetra prone areas of Ingham Line.

Distribution of Major Pest Damage 2005



FARMING SYSTEMS

Currently, the Herbert BSES Limited is trialling 5 best management practices in the local district. The 5 practices are:

1. Fallow Spray-out.
2. Fallow legume crops
3. Pre-formed beds
4. Double disc planters
5. Controlled traffic systems.

Trials and commercial demonstration plots have been established throughout the Herbert district on a yearly basis since 2001 with more accurate data collection now possible also. The rates of use of these components of the farming system are being monitored by BSES and HCSL staff in 2006.



The reasons for investigating these farming system components are basically:

- i) To improve soil health and sustainability
- ii) To maintain an economical cost of production.

There is also a lot of work being done on reduced or Zonal tillage, where the area to be planted is the only area cultivated.

There is no set recipe for any of these farming systems, and obviously decisions of implementation and adoption depend on soil type, and weather conditions.



Another factor is machinery availability and again BSES staff has worked hard to ensure this is not a restraint to adoption.

Several successful grant applications have been put forward by local BSES extension staff, allowing the purchase of specialised legume and cane planting machinery related to the above practices. This machinery can be hired by growers at very minimal cost (to enable maintenance) so that they can try any of the above practices before making a decision to purchase equipment for themselves.



Equipment available includes:

Mound Former: \$ 5 per acre + GST.

Single Row Double Disc Opener Cane Planter: \$ 15 per acre + GST.

Dual Row Double Disc Opener Cane Planter: \$ 15 per acre + GST.

HDP Double Disc Opener Cane Planter: \$ 15 per acre + GST.

Single Disc Opener Legume Planter: \$ 15 per acre + GST.

To book any of these equipment, contact the BSES Limited on 4776 2500.



SEASON LENGTH OPTIMISATION

VARIETY X TIME OF HARVEST TRIALS

Under the Season Optimisation project four variety x time of harvest trials have been established in the district at the following locations:

- Murray-Mutarnee
- Blanco-Blackrock
- Girgenti-Wharps
- Coppo-Helens Hill



Mutarnee Trial

These trials consist of 20-30 varieties which are harvested at different times throughout the harvesting year to assess CCS, cane yield, ratooning and crop growth responses.

The trials at Murray and Blanco were harvested in 2005 and will be re-harvested again in 2006. The Girgenti and Coppo sites were planted in 2005 for harvest in 2006 and 2007.

NITROGEN RATE TRIAL FOR EARLY HARVESTED CANE

As apart of the Season Optimisation Project a number of nitrogen rate trials for early harvest were established throughout the district to investigate whether nitrogen rates could be reduced further on early harvested cane. Current BSES recommended rates were compared to a reduced nitrogen rates.

At all sites the lower nitrogen rates returned the greatest monetary return to the grower. There was no significant difference for cane yield (at the Minato, Morley and Steine sites) and CCS at any site.

Whilst these results are encouraging, it should be remembered that this is only 1 year's data and the performance should be assessed over several years. It has been decided to continue the Minato and Russo sites again in 2006.

Grower	Nitrogen rate (kgN/ha)	CCS	TCPH	Gross \$/ha	\$/ha minus nitrogen fertiliser costs
Minato	116	14	78	1404	1260
	150	13.9	79	1413	1227
Morley	98	11.4	103	1203	1082
	156	11.4	103	1205	1010
Steine	115	12.8	76	1151	1107
	153	12.9	75	1151	961
Russo	122	14.3	112	2107	1815
	163	13.8	121	2110	1751

Assumptions used: Sugar price- \$270/ton
Harvesting and levies- \$6.80
Nitrogen value- \$1.24/kg of nutrient

MODDUS – THE HERBERT PILOT PROGRAM 2006

MODDUS is a sugar enhancer that increases CCS early and late in the season by redirecting the plant's energy from vegetative growth into the production and storage of sugar. The product has been trialled for the past 3 years in the Herbert and has proven to give significant sugar responses in many situations. While not registered for use yet in Australia, an application for registration of MODDUS has been submitted to the APVMA for use on Sugarcane. MODDUS is however is extensively used in the Brazilian sugar industry.

In late 2005, CANEGROWERS Herbert, with the support of Syngenta Crop Protection, was successful in applying for a limited use permit (PER8955) with the APVMA to apply MODDUS to up to 4,000ha in 2006. This has allowed for the development and establishment of the 2006 Herbert MODDUS pilot program.

Under the guidance and direction of the Season Length Optimisation team and Syngenta, plans are underway for the 2006 pilot program. The pilot program will enable growers to evaluate the product on their own farms with minimal risk. Syngenta and CANEGROWERS have developed a novel risk sharing pricing model that allows for fair pricing of the product based on the degree of sugar response the crop gives. Payment for the product is tied to cane payments ensuring extended terms and cash flow benefits for growers.

BSES and HCSPL will support the program through the provision of technical services and field inspection of blocks prior to product application. This is to maximise the response of the crop to MODDUS. BSES will be providing the calculation of the product charge, based on the risk sharing model as agreed by CANEGROWERS and Syngenta. BSES will notify CSR Sugar of these charges who, in turn, will arrange for payment of the product through the cane payment system. Growers and aerial applicators involved in the program will be accredited for the safe handling and use the product.

HARVEST SCHEDULE OPTIMISATION

As part of the Season Length Optimisation Project, scientists from CSIRO Sustainable Ecosystems were asked to apply their computer models to investigate harvest schedules that would exploit geographical differences in CCS, cane yield and sugar yield and would increase industry profitability. Their research has been conducted at four scales:

- Farm level
- Harvester group level
- Productivity Zone level
- Whole of district level.

Work has also commenced in looking at the impact of soil trafficability and rainfall risk on harvesting operations in order to minimise the impact of wet weather disrupting harvesting operations in different parts of the district and causing stool damage and ratooning losses.

DISTRICT PROJECTS

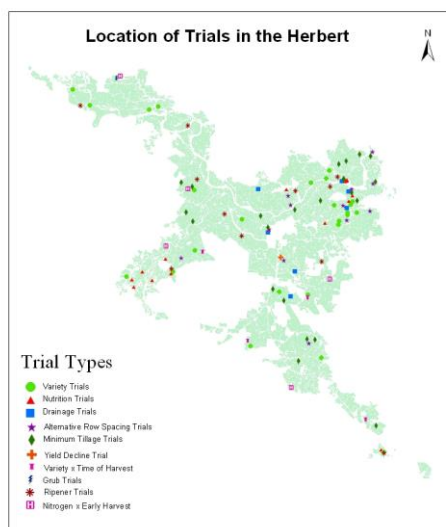
WATER QUALITY PROJECT

The Herbert Water Quality project began in July 2005 when SRDC funded a 3 year project aimed at establishing a network of grower-led water quality monitoring sites in the Herbert. The project was funded because there is a lack of data on water quality coming from catchments consisting entirely of sugarcane, with most of the data currently available coming from large rivers which drain a range of different land uses.

Eleven sampling sites have been established around the district. At some of the sites, V notch weirs have been fitted for measuring water flow and probes will continuously measure dissolved oxygen. However the key component of the project is that individual growers or groups of growers will take water samples and will use test strips for measuring nitrate and phosphate in the water and turbidity tubes for measuring sediment. The accuracy of these measurements will be checked in a local water analysis laboratory. For further information on this project contact Keith Phillips, who is coordinating the collection of water samples and their analysis in the laboratory.

BEST PRACTICE NUTRIENT MANAGEMENT PROJECT

This project also receives funding from SRDC and aims to promote the adoption of best practice nutrient management across the sugar industry. The Herbert is one of six focus catchments in the project and work in the project has built on the soil-specific nutrient management guidelines already published in the Soil Reference Booklet for the Herbert.



In order to promote the benefits of best practice nutrient management, eleven replicated strip trials have been established on farms in the Herbert to compare recommended fertiliser programs with those that growers would normally use. These trials will be harvested in 2006. An accredited training course on Best Practice Nutrient Management for growers in the Herbert was offered for the first time in late 2005. It uses the approach of the 'six easy steps' to improved nutrient management and shows growers how to produce nutrient management plans for

each block on their farm. This course is being offered in 2006. If you are interested please register with BSES.

One of the 'six easy steps' to improved nutrient management is to take soil tests regularly from cane blocks. Since HCPSL introduced their subsidised soil testing service, there has been a significant increase in the number of soil samples sent away for analysis in the Herbert. This encouraging trend appears to be continuing in 2006. For those of you who have not taken advantage of this service, it is suggested that you contact HCPSL to obtain further details. It is recommended that you soil sample every fallow block or plough out block prior to planting.

MULTIPLE ROW HARVESTING

In May, 2005 the research findings from the Two in One trials conducted in 2003-04 were presented at the ASSCT conference in Bundaberg. A research paper titled:



"Opportunities for reducing harvesting costs in the Herbert-An evaluation of the Corradini Two in One unit". Throughout the crushing season approximately 180 growers from far south

as Mackay and as far north as Mossman inspected the two Corradini Two in One units operating in the Herbert region.

A Regional Community Project (under the Sugar Package) was submitted for harvesting businesses who were interested in the purchasing of the Corradini Two in One unit. The result of the submission is yet to be announced.

CULTURAL IMPRINT PROJECT

The Cultural Imprint project began in July 2004 when SRDC agreed to fund a 2 year project aimed at improving our understanding of how the different industry sectors (growing, harvesting, milling, research, extension) and the broader community work together, and the barriers preventing greater cooperation. It seeks to improve our capacity to work together and solve the difficult problems facing our industry.

The project delivered a major report to the industry in early 2005 documenting the information gathered by the project team. A group of about 40 community facilitators attended a workshop in April and assisted with a much larger community workshop in May, attended by more than 130 participants. The project is continuing with an emphasis on how we can improve on the ways we work together.

REGIONAL INITIATIVES

SUMMARY OF CPI ACHIEVEMENTS

The Cane Productivity Initiative has been extremely active in 2005 in providing a high level of service to the Herbert Sugar Industry. We are always keen to improve that service and encourage you all to raise your ideas and suggestions at Productivity Forums. We wish you all a successful 2006 season and hope that we can all benefit from the current high sugar prices and increased optimism in the industry.



E COMPASS

BSES Limited and CANEGROWERS have converted the COMPASS paper based workbook to an on-line self assessment resource tool (eCompass). This resource tool is only available to CANEGROWER members, and BSES Limited service fee payers. The resource tool provides a series of assessment modules based around each element of the paper based workbook.

eCompass is a powerful resource tool that will help you assess the economic and environmental sustainability of your farming practices. eCompass allows you to compare your farming methods with industry best practice. By identifying areas that need improving, eCompass will help you plan and take practical steps to make your farm a more profitable business, and minimize any off-site environmental impacts. eCompass technology allows you to save your work at any time during your assessment so you don't need to complete the entire assessment at once. When your completed assessment is submitted an email alert will be received by your local extension officer. The extension officer will make contact with you to discuss your assessment and action plan development. The action plan module allows you to assign and prioritise tasks. For further information or to gain access please contact Eve Kain, Communications Coordinator, ph 07 3331 3340 or email ekain@bses.org.au.

GROWER WEBSITE

The grower website contains a great amount of valuable information for those people who have maintained a good consignment system throughout the season. There is a range of excellent reports available showing farm and

variety performance. One of those reports is the productivity summary. It is found under:

Reports → **Farm Prod Reports**
→ **Productivity Summary**

This will give you an analysis for how each variety performed on your farm and also a comparison of your plant, and ratoons. Another report of interest is the benchmark report, and is found at:

Reports → **Farm Prod Reports**
→ **Benchmark Report**

This report shows how your farms plant and ratoons performed against your productivity district average and also against the best result in your prod group.



To log into the site you will need a username and password which can be obtained by phoning Julie Cantoni at the mill. If you are not confident in navigating the site you are quite welcome to come into the HCPSSL office (with your details) and see Leanne who will help you learn your way around the site.

STUDY TOUR OF SOUTHERN AFRICA



In July 2005, a group of 7 people travelled to South Africa and Swaziland on a 2 week sugar industry study tour, which was



partially funded by SRDC. This area was selected because of its much longer season length and because of the high quality of its R&D programs. The group focussed their investigations on the adoption of best management practices, the introduction of new farming systems on large mill-owned farms, regional extension and farmer education programs, the management of a much longer season length and the widespread use of chemical ripeners, farm and financial record keeping systems and industry R&D services.

Copies of the report on the study tour are available from Lawrence DiBella at BSES.

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Thank you to all those who have participated in and contributed to the cane productivity initiative over the past year