

Courses on Offer to all Growers:

- ◆ Six Easy Steps
- ◆ Integrated Weed Management
- ◆ Auschem (formerly Chemcert)
- ◆ Sustainable Farming Systems

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THE CANE STALK

June 2016

A word from the Manager.

At the HCPSL AGM in October 2014, HCPSL launched its **Target 85** program. The purpose of the program is to get our district average to 85 teph annually.

Since the commencement of the **Target 85** program the following activities have occurred:

- The completion of a district wide *Pachymetra* survey. This survey will identify areas where *Pachymetra* is a limiting factor on cane yield in the district.
- Increased uptake of approved seed cane from plots for the last 2 years.
- HCPSL have been working with SRA through a SRA funded project to identify key productivity drivers and better ways to utilise approved varieties.
- Delivery of specific training on nutrients and pesticide management through the Wet Tropics Sugar Industry Partnerships (WTSIP) program. To date a number of growers have completed plans and are implementing change on farm. HCPSL staff are working one on one with growers to better manage nutrients and pesticides.
- The completion of repairs to the Macknade glasshouse to allow for use by researchers to undertake specific research activities. Sugarcane seedlings were germinated mid-March and now reside in the glasshouse. These seedlings are for the SRA funded and managed Introgression project to assess new germplasm for the industry.
- Continue to work with SRA and University of Western Sydney researchers on the issue of YCS.
- Establishment of a YCS farm management trial to investigate farm management options that may assist growers manage YCS. This is a collaborative project with SRA.
- Investigating opportunities to recover more cane and sugar through improved harvesting practices. HCPSL, SRA and Wilmar have worked together to measure cane and sugar losses during the 2015 season. In early 2016 results were extended to industry.
- HCPSL and UNSW are working together to map soils to allow industry to better manage nutrient inputs.
- Developing knowledge to improve nitrogen use efficiencies through R&D activities assessing new fertiliser products. HCPSL has partnered with SRA, CSIRO, Queensland government agencies (DNRM, DSIT, DEH) and private companies (ICL and Incitec Pivot).

The HCPSL business has grown over the past few years to meet industry needs like the increase in the Approved Seed program and taking on the local extension effort when BSES withdrew its services. HCPSL now also undertakes strategic research with partner organisations in an attempt to increase industry profitability and sustainability.

The industry should be proud of what services it has invested in. HCPSL is the envy of many growers outside of the Herbert cane industry and agriculture in general.

If you have any concerns or suggestions on how we can service our members better please contact me on 47761808 (office), 0448084252 (mobile) or ldibella@hcpsl.com.au (email).

Soil testing and laser services:

It is soil testing time again. Growers are urged to get soil tests in the office ASAP, so that we can get your soil test results back to you prior to planting. Soil augers can be collected from the HCPSL office.

Soil tests for nutrients cost- \$125 inclusive GST

Soil tests for *Pachymetra* cost- \$55 inclusive GST

Soil test for nematodes cost- \$55 inclusive GST



TARGET 85



Seed Plots by Graeme Holzberger

There are 5 plots operating this year in the following areas – Pace's at Bambaroo, Morris's at Toobanna, Sartor's at Macknade, Russo's at Abergowrie and HCPSL Farm at Stone River. The list below highlights the varieties included in each of the plots. All plots but Stone River are now open.

Currently, only the Bambaroo plot has a billet harvester available. The Abergowrie plot may have a harvester available once the plot has opened. Stone River is the only plot available with a whole stalk cutter, however, this plot has been delayed opening to allow the material to hopefully grow some more. Both Toobanna and Macknade plots are hand cutting only, however billet harvesters will be permitted by arrangement.

To attend the plot, please contact the allocated staff member a couple of days in advance. Opening times are as follows :

Monday : Bambaroo (Sam Lamari : 0427 608 663) and Macknade (Tony Mc Clintock : 0447 304 963)

Tuesday : Abergowrie (Sam Sellick : 0417 622 129)

Wednesday : Stone River (Graeme Holzberger : 0428 76 1808)

Thursday : Toobanna (Alex Peachey : 0447 317 102)

If one of the above contacts can't be reached, the office can be contacted on 4776 1808.

2016 HCPSL Approved Seed Plots

Macknade Plot (Sartor)	Monday	Tony Mc Clintock	0447 304 963
Q186 ^A , Q226 ^A , Q240 ^A , Q242 ^A , Q253 ^A , SRA3 ^A , QN04-668			

Ingham Line Plot (Pace)	Monday	Sam Lamari	0427 608 663
Q208 ^A , Q226 ^A , Q240 ^A , Q242 ^A , Q252 ^A , Q253 ^A , SRA3 ^A , QN04-668			

Abergowrie Plot (Russo)	Tuesday	Sam Sellick	0417 622 129
Q138, Q183 ^A , Q200 ^A , Q208 ^A , Q226 ^A , Q240 ^A , Q242 ^A , Q250 ^A , Q252 ^A , Q253 ^A , SRA3 ^A , QN04-668			

Stone River Plot (Wilmar)	Wednesday	Graeme Holzberger	0428 76 1808
Q138, Q183 ^A , Q186 ^A , Q200 ^A , Q208 ^A , Q215 ^A , Q226 ^A , Q232 ^A , Q237 ^A , Q238 ^A , MQ239 ^A , Q240 ^A , Q242 ^A , Q247 ^A , Q250 ^A , Q252 ^A , Q253 ^A , SRA3 ^A , QN04-668			

Central / Contractor Plot (Morris)	Friday	Alex Peachey	0447 317 102
Q183 ^A , Q208 ^A , Q226 ^A , Q231 ^A , Q232 ^A , Q250 ^A , Q253 ^A , SRA3 ^A , QN04-668			

Do you have Smut in your planting material? By Sam Sellick

A question everyone is asking is “What can we do if our planting material has smut or I want to grow an intermediate - susceptible variety (like SRA3 or Q252)? How do I prevent the variety from getting smut?”

Sinker is a fungicide used for control of smut & pineapple disease in sugarcane planting material. Sinker will replace the use of Shirtan & Bumper when planting.

It is recommended to use Sinker on any planting material showing Smut symptoms, any varieties which are rated intermediate – susceptible for smut or after cane has been hot water treated

Below is the recommended application method rates for Sinker in plant crops



DIRECTIONS FOR USE: Crop	Rate	Application
Sugarcane smut <i>(Sporisorium scitamineum)</i> Pineapple disease <i>(Ceratocystis paradoxa)</i>	500mL/ha* or 7.5mL/100m row	Spray Application For the prevention of primary infection of sugarcane smut and pineapple disease in sugarcane, apply as a spray onto setts in the planting chute. The spray should be applied with a minimum of 4 nozzles arranged in the planting chute to give thorough coverage of all surfaces of the setts before they are planted in the furrow. Apply in a minimum water volume of 350L/ha and calibrate the planter prior to application and planting to give the correct rate of fungicide (500mL/ha or 7.5mL/100m row). The use of a non-ionic wetting agent at recommended rates will enhance coverage of the fungicide on the planting material. * The rate is based on single row cane with a 1.5m row spacing. If row spacing varies from 1.5m then apply at the use rate according to mL/100m of row.

For more information please contact a HCPSL Extension Agronomist—47761808

On farm Pesticide Storage Guide lines for Sugar Cane

by Ash Benson & Richard Hobbs

Keep on farm storage to a minimum preferably below 1000 kg/L combined and rotate stock regularly

This guide is made with information from **Work Health and Safety Act 2012**. Most farms will have quantities that will not exceed this classification (less than 1000kg and or litres combined). When quantities exceed 1000kg or litres combined, there are additional specifications which must be met and complied with, such as the Dangerous Goods Act 1985 and Dangerous Goods (Storage and Handling) Regulation 2012.

Farmers have the legal obligation to assess and manage risks associated with agricultural chemicals storage on farms. Refer to the label and SDS /MSDS of each product for specific instructions on usage, storage and handling. The regulations relating to the management of hazardous chemicals comes under the Work Health and Safety Act 2011 and Work Health and Safety Regulations 2011

Additional information can be found at **Work Health and Safety Queensland (WHS).**

Queensland Department of Agriculture and Fisheries (QDAF)

<https://www.daf.qld.gov.au/plants/agvet-chemicals-and-residues/chemical-use/guidelines-for-safe-and-effective-use-of-agricultural-and-veterinary-chemicals>

Location

15m from the property boundary

10m from buildings occupied by people or livestock

20m minimum from watercourses, dams, drainage or sewage lines

3m from stored flammable materials

The lowest point of a package store shall be located above the highest recorded flood level

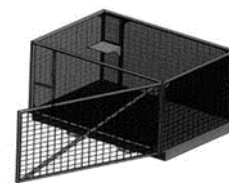
Construction

- Chemical storage shall be constructed from non-combustible materials that are compatible with the toxic substances to be stored.
- Package stores shall be enclosed by a wall, fence or equivalent barrier to restrict unauthorised access to the storage area. The barrier may enclose the entire site or only the storage area. Eg: - Such a barrier includes a lockable 1.8m chain wire fence, building or storage cabinet.
- Packaged stores with a bunded area greater than 25m² shall have a minimum of 2 access points. (Doors)
- Package stores, other than indoor cabinets, inside a building shall be located on a floor that has immediate access from outside the building also clear access to avoid hazards whilst carrying chemicals
- Be protected from extreme heat and to sunlight
- Floors are to be constructed of impervious material and or lined with material that is compatible with Agricultural Pesticides
- Capable of holding liquid when full
- Sloped to a lower point or sump area. Provide a mean of being emptied ie:- tap / ball valve
- Be able to open the door **independently** from inside the storage as an emergency exit
- The bund has a minimum internal volume of 100% of the largest container **OR** 25% of the aggregated storage capacity **whichever is larger**
- Internal shelving cannot be made from timber
- Be securely lockable



Ventilation

- Packaged stores shall be provided with ventilation to allow for chemical vapours to escape. Ventilation shall be in the form of an open wall or vent
- All vents that pass through a cavity wall must be lined to prevent vapours from escaping into the cavity.
- Ventilation for packaged stores shall be in accordance with at least one of the following
 - Two or more open walls or
 - A minimum of one open wall, provided it is longer than it is wide, or
 - A minimum of one open wall with vents in the opposite or adjacent wall at a minimum of every 3m, or
 - A minimum of two opposite walls < 10m apart provided with vents a minimum of every 3m, or
 - For packaged stores longer than 6m but no wider than 5m, vents in the longest wall a minimum of every 3.0m of length (1.3m long and 0.4m high. Both sides lower (just above bund heights) as well as both sides upper (top of wall or roof)
 - An open wall means any external wall that is completely open above the top of the bund wall or a wall of fixed louvers or wire mesh having a minimum of 50% of its area is open.
 - A vent means 2 openings in an external wall that are completely open each with a minimum surface area of 0.5m² (130mm long and 400 mm high) with one set located directly above the top of a bund wall and another set above the highest package or in the roof. (Whirly birds type OK in roof) A mesh enclosure inside a shed has adequate ventilation.



Ventilation Systems for different storage types

Spillage Containment

- Spills can be contained by constructing a bunded wall or sloping floor that drains into a containment pit or tank.
- The bund has a minimum internal volume of 100% of the largest container **OR** 25% of the aggregated storage capacity **whichever is larger.**
- A spill kit containing the following materials must be readily accessible and kept close to the storage area.
 - Hydrated lime 2 x 25kg bags – (For neutralizing of chemical spill)
 - Vermiculite 1 x 10kg bag – to absorb spilt liquid chemical
 - Shovel and Broom
 - Containers for storage of contaminated substances used to treat a spill – eg Drums, Buckets or bags

Spill Kit & Signage



E Hazardous Chemical Register (Regulation 346)

- A person conducting a business or undertaking at a workplace must ensure that-
 - a register of hazardous chemicals used, handled or stored at the workplace is prepared and kept at the workplace; and
 - The register is maintained to ensure the information in the register is up to date
- The register must include –
 - a list of hazardous chemicals used, handled or stored; and
 - the current safety data sheet for each hazardous chemical listed.
- The person must ensure that the register is readily accessible to
 - A worker involved in using, handling or storing a hazardous chemical; and
 - Anyone else who is likely to be affected by a hazardous chemical at the workplace

F. PPE – Personal Protective Equipment

- Should be located near but **NOT INSIDE** the chemical store, as this may lead to contamination of PPE
- PPE needs to be appropriate to the chemical being used/stored.
 - Chemical mask (**Activated carbon / Charcoal filtered – MUST be stored in an air tight container**)
 - Face shield or Goggles
 - Elbow length rubber gloves – Nitrile type
 - Protective clothing – cover all
 - Rubber gum boots
 - PVC apron

Personal Protective Equipment



G Safety shower and Eye wash facilities

- A safety shower and eye wash facility should be installed in an area that is quickly and easy to access in case of an emergency
- Such facilities should **NOT** be located inside the storage area
- The water supply will need to be adequate for a **minimum of 15 minutes of full flow**



Safety Shower & Eye Wash Bottle



H Signage (Regulation 353)

- At the entry point there should be a sign stating –
 - “Chemical Store Keep Out” – “Authorised Staff Only”
 - “NO Smoking” – “No Naked Flames”
 - Signage show where “PPE”, “Spill Kit” & “SDS / MSDS” are located



I SDS / MSDS

- SDS /MSDS must be obtained and held for **ALL** products found in the chemical store
- They **MUST** be easy to access in case of an emergency and **not kept in the chemical store**
- SDS / MSDS contain additional information about the chemical and details of the first aid requirements of a chemical



J First Aid

An appropriate first aid kit should be kept in a clean, easy accessible area.

Not kept in chemical storage area



K Fire Equipment

An appropriate extinguisher should be placed directly outside the chemical store and easily accessible. Refer to SDS/MSDS for correct type eg:- Dry Powder



We wish to acknowledge **Work Health and Safety Queensland (WHS)**

Queensland Department of Agriculture and Fisheries (QDAF) for information supplied to this document.

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MODDUS®- cane increase CCS levels

(Article by Lawrence Di Bella)

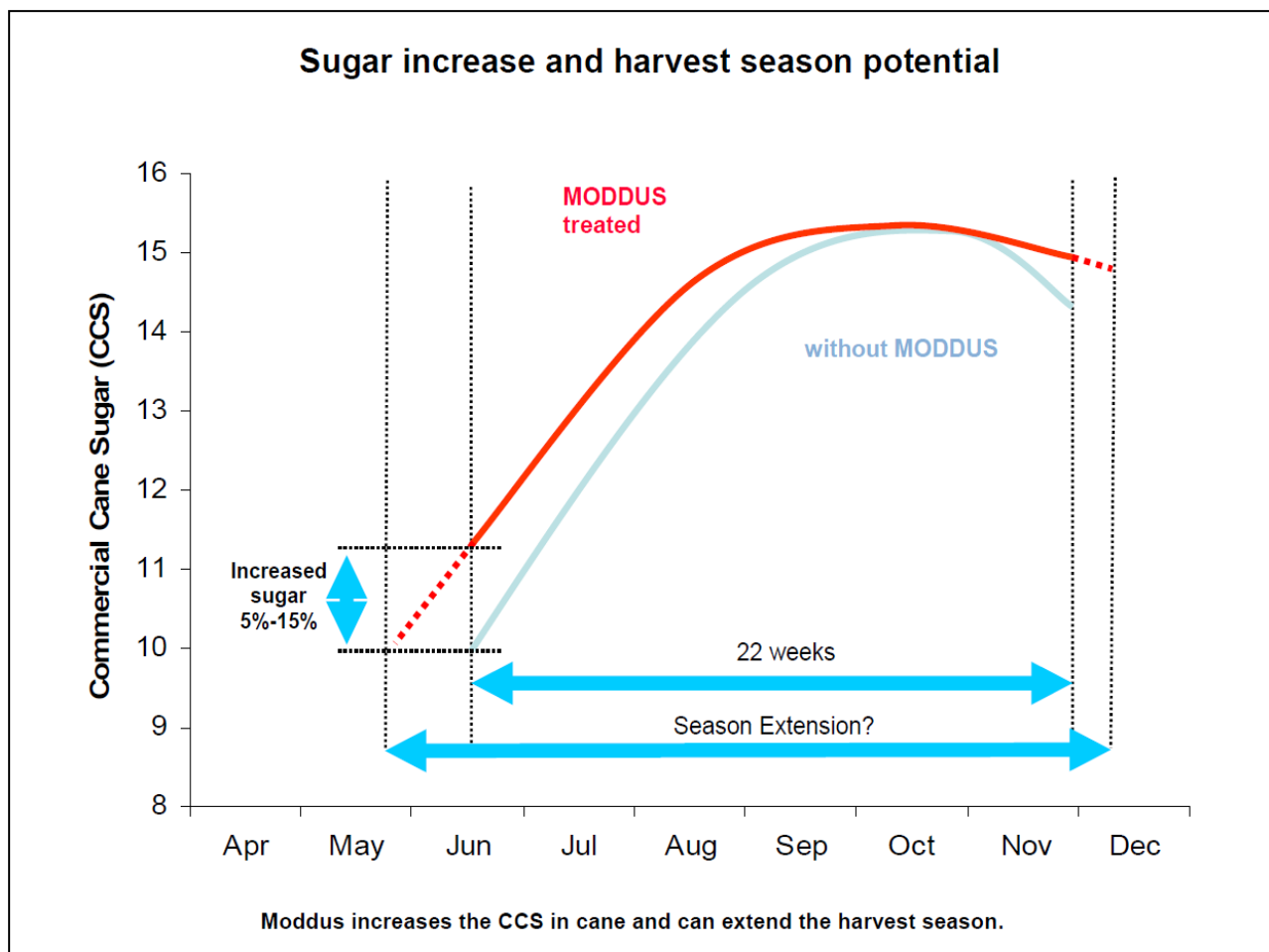


MODDUS® is a sugar enhancer that increases CCS levels early and late in the season by redirecting the plant's energy from vegetative growth into the production and storage of sugar.

MODDUS® has been extensively assessed in the Herbert region in years gone by and continues to be used by growers throughout the Australian and Brazilian sugarcane industries to increase CCS levels.

Due to the heavy rains experienced in early-mid May of 2016, it is expected that many crops will be immature and low in CCS with an early to mid season harvest. Growers should consider the products use to manage CCS levels.

The graph below highlights the differences in CCS that can occur through the use of MODDUS®.



When do I apply MODDUS®?

MODDUS® must be applied at least 5-8 weeks before the harvesting of a crop.

What rate do I apply?

Apply MODDUS® at 800mL/ha, to healthy, actively growing sugarcane crops between 5 and 8 weeks prior to harvest.

MODDUS® Best Practice

Syngenta and HCPSL recommends the following checklist to maximise the response from MODDUS® application:

- Ensure the crop is actively growing and not flowered.
- Ensure the crop is not stressed from disease, YCS, insect damage, poor nutrition, waterlogging or frost.
- To aid uptake via the foliage, ensure at least 8 green leaves are present. Avoid application to recently lodged cane until upright growth has recommenced.
- Avoid applications when conditions have been hot and dry in the week prior to application (greater than 30 degrees Celsius and less than 50% relative humidity).
- Time applications prior to, or right at the commencement of flower initiation. If flowers spears are already visible then the optimal timing has already passed.
- Understand the ripening properties of each variety. MODDUS® gives the greatest percentage CCS increase when applied to varieties that are traditionally low in early sugar content.
- Do not harvest for 5 weeks after application.
- Do not graze or cut for stock food for 5 weeks after application.

What varieties should I target early in the season?

Responsive varieties: MQ239, Q183, Q215, Q219, Q231, MQ238, Q240, Q247, Q253, SRA3

Less responsive varieties: Q190, Q200, Q208, Q237, Q242, Q250, Q252

Non responsive varieties: KQ228, Q226, Q232

Note: Responsiveness of a variety may differ between blocks and locations. Do not treat varieties that have flowered because response is usually low. The above rating is only an indicator based upon very limited data. Both HCPSL and Syngenta will take no responsibility concerning the chemicals performance on different varieties.

Is it economically viable for me to apply the product to my crop?

HCPSL Extension staff have a spreadsheet model that can be used to assist growers who are considering their options. Please contact the HCPSL office to make an appointment.

For further information please contact: a HCPSL Extension Agronomist or a Syngenta representative.

Source: www.syngenta.com.au



New version of *Herbert Weed and Pest Management Guide* out now!

(Article by Alex Peachey)

The 2016 edition of the *Herbert Weed and Pest Management Guide* is now available.

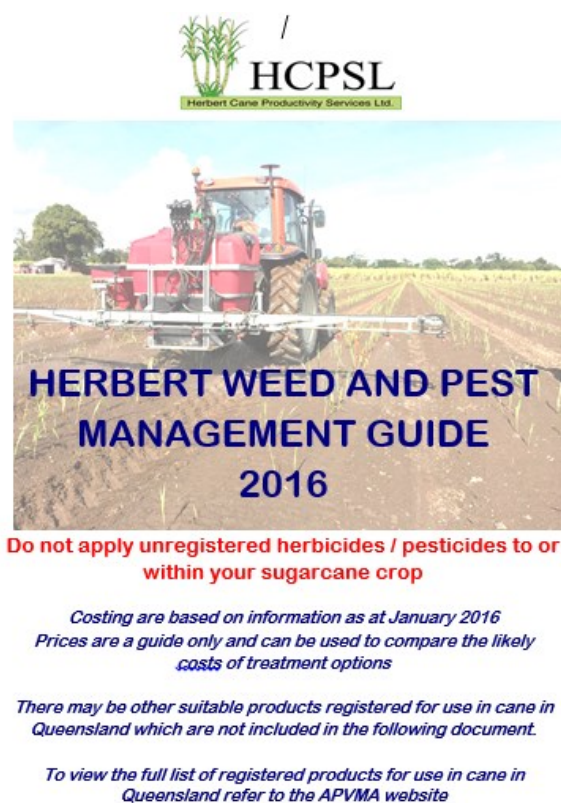


Figure 1. The Herbert Weed and Pest Management Guide 2016

Over the years Herbert growers have come to rely on the advice provided in the guide. The guide covers broadleaf, pre-emergent and inter-row weed control. It also provides information on spot spraying, fallow management and pesticides.

For each section, growers are able to see a range of herbicide and pesticide options. Each option has the maximum and minimum label rates and advised water rates as well as the Herbert-based cost/ha. This allows growers to help compare spraying costs and determine the most cost-effective weed control solution.

There is also an expanded section on how to use the main herbicides applied in the Herbert. These include Flame, Balance, Soccer, Ametryn, Gramoxone, Treflan, Dalapon, Basta, Bobcat – iMAXX and the various glyphosate formulations. The *Guide* also has a handy application and chemical mixing order checklist.

A separate guide has been produced on plantback and withholding periods for alternative fallow rotational crops. If you are coming out of another crop and going in to soybeans, cowpeas, mungbeans or rice, then the *Plantback Guide* will show you plantback periods and label rates for a range of commonly used herbicides in the Herbert. Both guides are available on the HCPSL website or contact the office for a copy.

Fallow Management Options—by Jodie Tubb QDAF

There is not one particular fallow management option that suits all areas. The underlying principles for fallow management will be the same though, regardless of whether you have a managed bare fallow, legume fallows (cover crops) or break crops.

Legume fallows or break crops may not suit everyone's production system. A well managed bare fallow is still beneficial to the coming cane crop.

There are a few factors to consider when determining if a legume or break crop is suitable for your production system. Some of these include;

- Soil type – Soybeans suited to heavier soils prone to waterlogging while Meringa Cowpeas and Dolichos are suited to lighter soils.
- Seed availability
- Desired length of fallow – extended fallows give opportunity for break crops to be harvested eg, Mungbeans or Rice
- Weed pressure – species and distribution eg, high vine pressure is not suited for legumes as they can't be controlled.
- Other soil issues – nematodes etc.
- The ability to manage the crop – Legume cover crops and break crops must be managed properly to get the full benefit from the crop.

If a legume or break crop doesn't suit your situation, it is still essential to manage your bare fallow. Block preparation should still be carried out as if you were planting a legume cover crop.

Soil testing should be conducted post harvest to allow for soil ameliorants to be applied early. Weeds and volunteer cane should be controlled to reduce the amount of weed seed set being carried through into plant cane. Control of volunteer cane will provide a break in diseases that live on the root systems of the sugar cane. Weeds that germinate during the fallow period should be controlled early while plants are small and susceptible. This may mean spraying several times during the fallow period.

A clean bare fallow will provide a favourable start for your plant cane as it will have more available stored soil moisture and a reduced weed pressure to compete with when establishing.

SELECTING A LEGUME

There are a few options available depending on your particular situation.

- **Soybeans**
 - ⇒ Varieties available include Leichhardt, Stuart and Bunya
 - ⇒ High waterlogging tolerance and are better suited to heavier clay soils or areas prone to waterlogging.
 - ⇒ Always plant into full soil moisture profile, do not plant dry and wait for rain.
 - ⇒ Ensure good quality seed with <80% germination which has been inoculated correctly with fresh Group H inoculant.
- **Cowpeas**
 - ⇒ Varieties include Meringa and Ebony
 - ⇒ Ebony Cowpeas are early maturing and have a high tolerance to waterlogging. Like Soybeans, this variety is suited to heavier soils and areas prone to water logging.
 - ⇒ Planting on beds gives a superior result especially in wet years.
 - ⇒ Meringa Cowpeas have a low waterlogging tolerance and are better suited to lighter soils.
 - ⇒ Ensure you use a good quality seed that has been inoculated with Group I inoculant

- **Lablab (Dolichos)**

- ⇒ Varieties include Rongai and Highworth
- ⇒ Dolichos has a poor waterlogging tolerance and is suited to lighter soil types. Planting on beds will give a superior result, especially in wet years.
- ⇒ Make sure a good quality seed is used and has been inoculated with Group J inoculant.

The correct inoculant is essential when planting legumes as can be seen in the below photo.



The legume on the right has not been inoculated compared to those on the left.

Block Preparation & Management

This will be the same initially regardless of whether you will be using a legume fallow or managed bare fallow.

- Soil test immediately post harvest to determine requirements for the coming season.
- Carry out any required earthworks
- Apply lime / mill mud / ash if needed
- Form beds
- Spray out any germinated weeds with Glyphosate and Starane Advance. Repeat this if necessary. If you are managing a bare fallow, continue to control the weeds that are present. Early control of weeds gives the best results. Multiple applications may be required to control any subsequent germinations.
- For legume fallows – inoculate seed and plant using a precision planter to a depth of approximately 30mm. Sowing seed directly into the old stool is ideal as there is minimal disturbance to the soil profile. This helps to retain soil moisture present.
- Apply pre-emergent herbicides. Speak with your agronomist to determine the best product for your particular situation.
- Post emergent weed control should be applied, eg, Verdict could be used to control grass weeds and volunteer cane. Spray out the legume crop and leave standing prior to planting cane. Plant cane directly into the legume trash.

Nematodes

Nematodes can cause significant growth suppression of cane in both plant and ratoon crops. A well managed legume crop is the best way to control nematode problems. A grassy fallow provides a bridge for nematodes to survive on until the following plant cane crop.

- Root Knot Nematode – generally found on light sandy soils, it survives on grasses and broadleaf species
- Lesion, Spiral, Stubby and Stunt Nematodes – only survive on grasses. Lesion Nematodes are found in all soils.

Do not plant susceptible legume varieties on blocks with known nematode problems. Legume species have different tolerances to Root Knot nematode.

- Cowpeas – Highly Resistant
- Soybeans – Moderately Resistant
- Dolichos – Highly Susceptible

FALLOW MANAGEMENT OPTIONS CONT.

BREAK CROPS

Many growers are now looking at the opportunities available in using break crops during their fallow period and the possibility of extended fallows using multiple crops.

Crops being considered in the Herbert include Mungbeans and Rice. Both of these provide an excellent opportunity for additional income.

If you are considering adding a break crop to your cropping system, it is essential that management practices, (eg pest and weed control) are carried out in a timely manner to maintain the quality of the end product.

There could be a need to irrigate both crops if adequate rainfall is not received during the growing period.

- **Mungbeans**

- ⇒ Varieties include Crystal and Jade
- ⇒ Use good quality clean seed (preferably Australian Mungbean Association approved seed) that has been correctly inoculated using Group I inoculant.
- ⇒ Avoid blocks with major variations in soil type or unevenness.
- ⇒ Assess the weed status of the block as broadleaf weed control options are very limited. Weed control should be carried out prior to planting. It is important to maintain a good level of weed control as weeds present at harvest will downgrade the quality of your end product.
- ⇒ Fertilise according to the paddock history and soil test analysis.
- ⇒ Ensure a good, even plant establishment.
- ⇒ Monitor the crop for diseases like powdery mildew and control if necessary.
- ⇒ Timely insect control is essential to produce a good quality seed free of insect damage. Monitor crops at least every week during the vegetative stage and twice weekly from budding through to pod fill (depending on pest pressure). Mungbeans are at greatest risk from pod sucking bugs from early pod fill. If the crop is not converting buds/flowers to pods there may be damaging pest numbers present, which are aborting or eating these structures before the progress to pods.
- ⇒ Desiccate the crop prior to harvest.

- **Rice**

- ⇒ Sunrice are presently expanding their growing regions in the north. For those looking at extended fallow periods, with either irrigation or in higher rainfall areas, Rice presents an opportunity in rotation with Mungbeans for an alternative source of income.

If you are interested in growing rice in the Herbert area, it is recommended that you contact Antony Vagg at Sunrice for further information and to determine whether this will suit your farming system.

SST Pilot Underway

(Article by Rod Nielson)

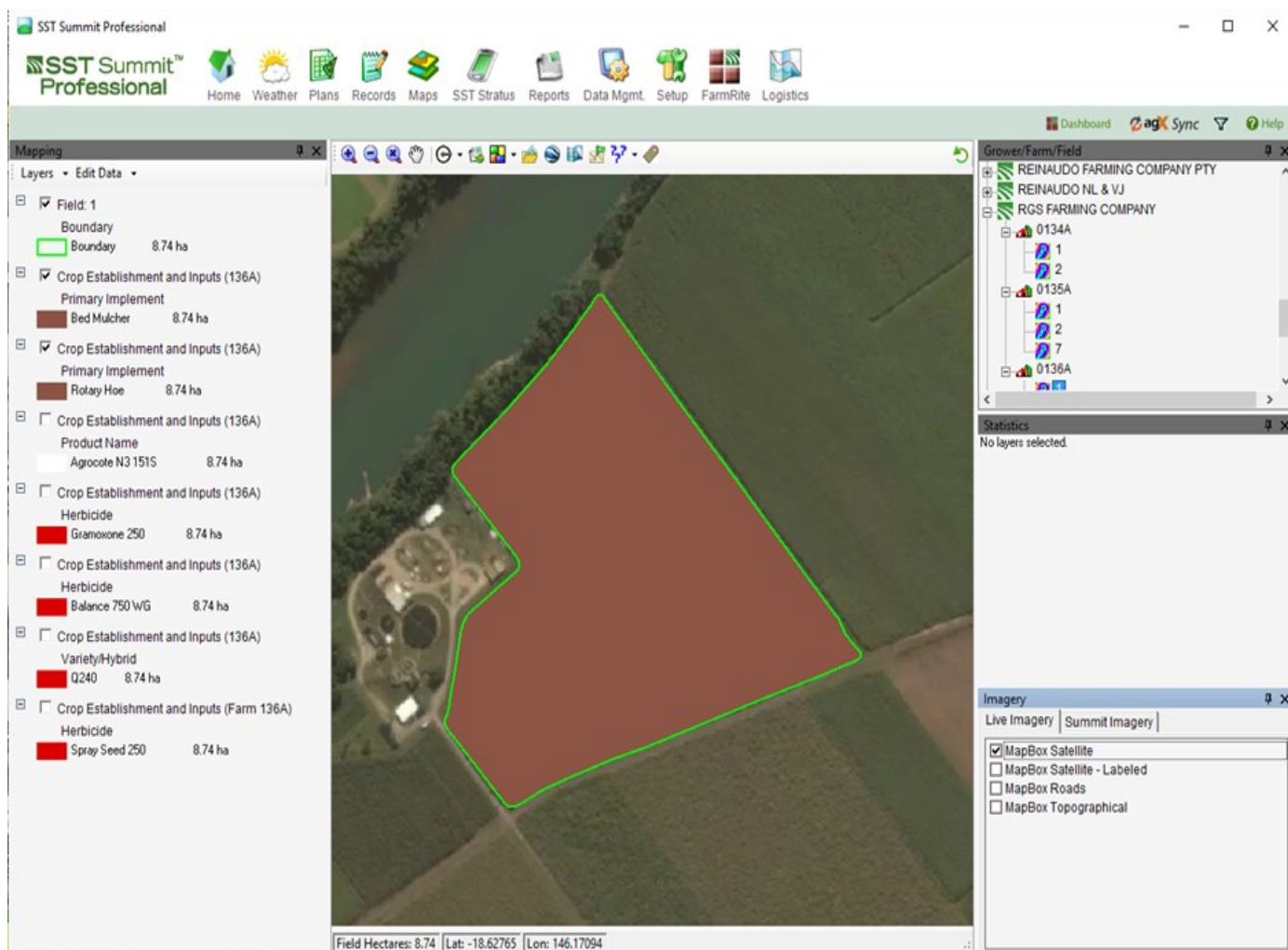
After the slow start the SST pilot project is under way. SST Australia GM and trainer Mark Pawsey, with HCPSL, has conducted two training sessions and one follow up session for growers and one training session with HCPSL staff. Currently we have ten growers actively involved in the project, totalling nearly 3,400 hectares, or 5% of the area under cane in the region.

After training, growers have started entering data into the SST system. Training centred on SST's iPad app 'Sirrus'. The news though is that SST are about to release a version of the Sirrus app for iPhone. This has the same functionality as the iPad version, albeit set up differently to be compatible with the smaller screen.

SST's Sirrus app comes in 2 versions: a free version and a premium version with different reporting functionality. The pilot project is using the free version, however, several growers have already expressed interest in the premium version of the app.

The pilot project is also being used as an opportunity for SST to 'sugarise' their software for the sugar industry world-wide. Due to differences between annual crops and sugar, several formatting and descriptive changes have been submitted to SST in the US to accommodate on-farm activities for growing sugar cane. These changes will begin to filter through as part of updates in the near future.

If you are interested in becoming a part of the HCPSL SST pilot project please contact Rod Nielson at HCPSL—47 761808.



Younger Grower Group Meeting

(Article by Alex Peachey)

A number of younger Herbert growers met recently to discuss challenges that they will face over the next 10 years.

10 growers, HCPSL and AgProfit staff met in Townsville at Seagulls resort to discuss and clarify key issues that will impact the profitability of their operations in the future. The afternoon-long session was a chance for growers, under 45 years of age, to openly discuss barriers to success such as yellow canopy syndrome, financial stress and over-regulation.



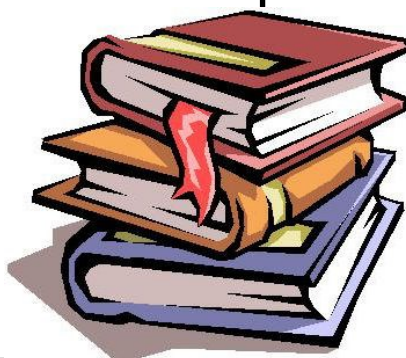
Growers were able to rate issues, with financial concerns for the future being the most important. Growers also learnt powerful tools to rank issues in order to develop a plan of action to deal with them. The event was supported by SRA.

Another meeting for growers unable to attend will be held in the Herbert shortly.

Please contact Alex Peachey, HCPSL, on 0447317 102 for more information.

Courses on offer soon at HCPSL , please call the office to register for one of the following courses:

- ♦ AusChem/IWM (Integrated Weed Management)
- ♦ 6 Easy Steps



Harvesting R,D & E and where to from here?

(by Peter Larsen Wilmar & Phil-Anthony Patane SRA)

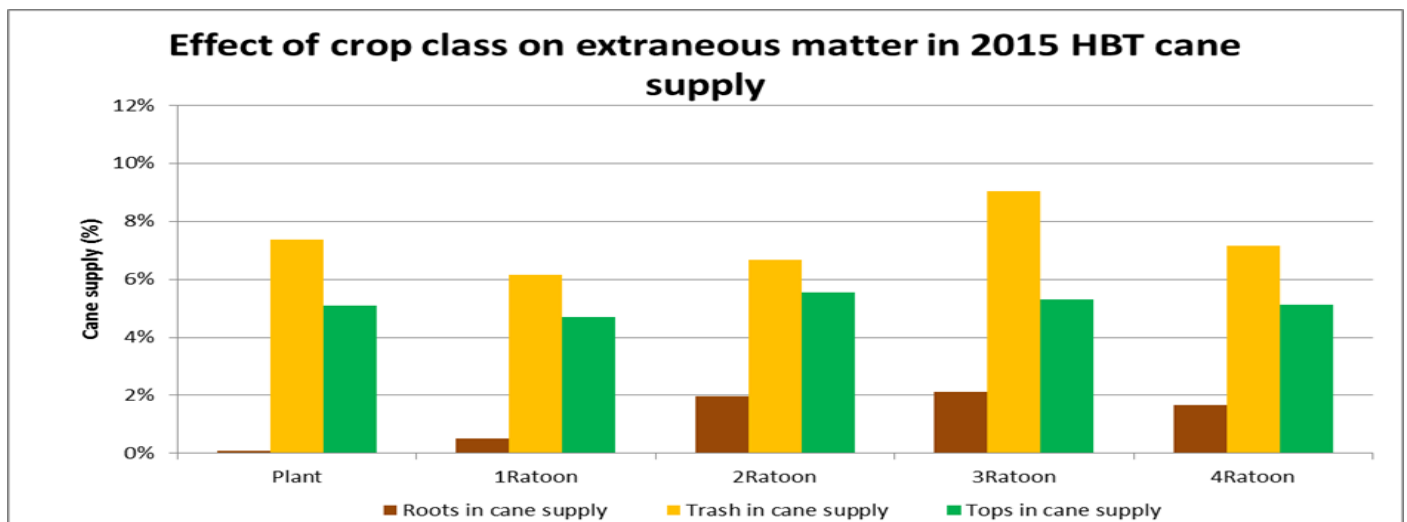
Background

In 2015 the first comprehensive snap shot of the quality of cane supplied to the Herbert Mills was completed. The survey highlighted that there are a number of potential issues with the quality of the cane being supplied to the Herbert Mills, as well as potential changes that could be made to the harvesting process to improve outcomes for grower, harvesting contractors and mills. A lot of this data from this survey has been previously presented in newsletters and at forums held in the Herbert for contractors and growers.

How much extraneous matter was in the cane supply

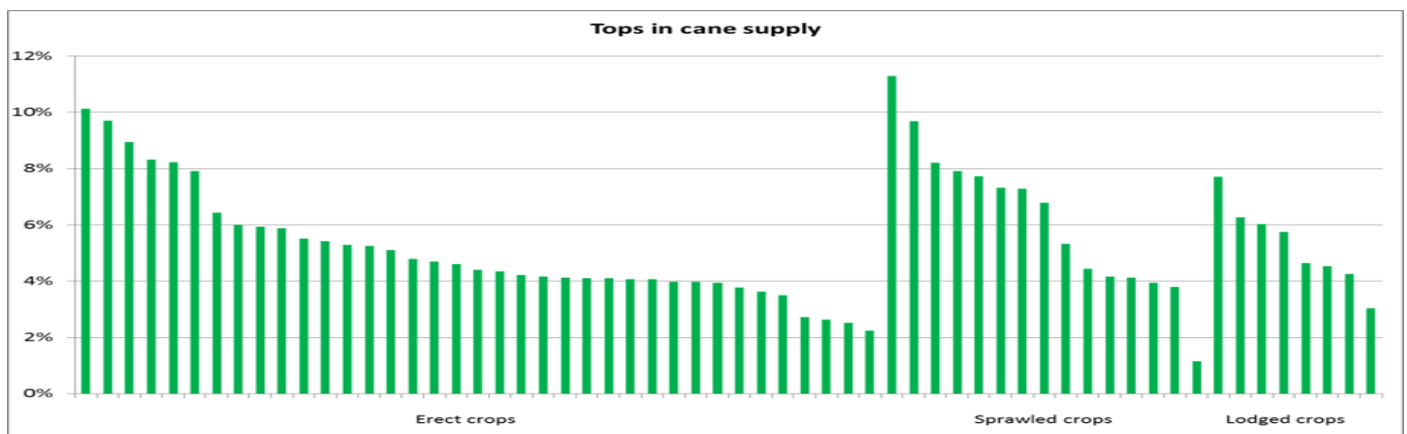
The level of extraneous matter, tops, trash and dirt + roots, being delivered to the Herbert Mills was on average 13.4% of the cane supply. To put this in perspective this suggests that approximately 598 thousand tonnes of the 4.46 million tonnes of material crushed by the mills in 2015 was extraneous matter.

Dirt + roots in the cane supply increased with ratoon age, suggesting that grub control measures are starting to fail by second ratoon or that root pathogens, such as *Pachymetra*, maybe impacting on the ability of older ratoons root systems making them more susceptible to being pulled out of the ground during the harvesting operation.



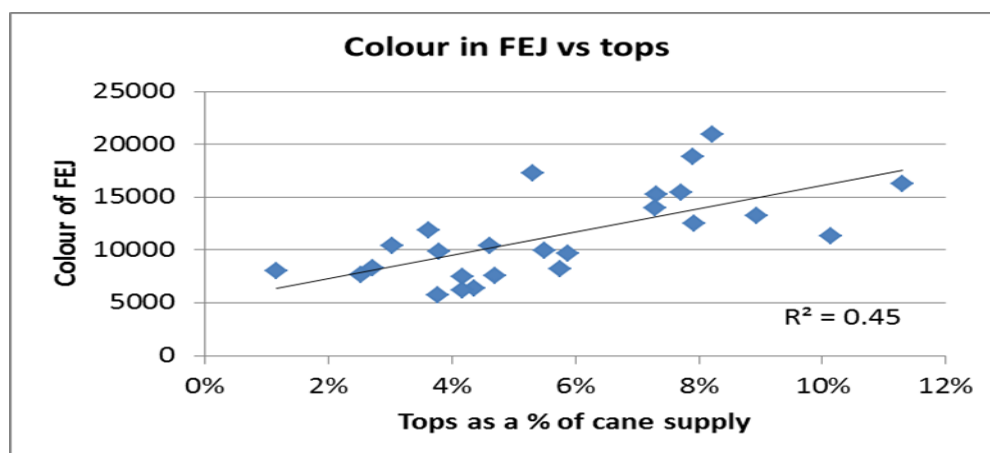
Cane tops are affecting everyone in the cane supply chain

Tops were more than 5% of the cane supply with high levels of tops being found in cane that was harvested when erect as well as sprawled or lodged. Tops were found to be as high as 10% of the cane supply and as low as 1.2% of the cane supply. There are many reasons for why harvesting contractors are not topping however, if the crop is erect and able to be topped there should be no reason for the contractor not to attempt to top the crop.



Tops in the cane supply are known to have the following impacts:

- Increase colour in sugar as demonstrated in the results from the 2015. High colour in sugar will result in reduced sugar premiums being paid to growers and millers in the Herbert.



- Decrease the density of cane supply and hence reduce bin weight

SRA analysis of the variables known to impact on cane bin density identified that tops had the greatest impact on the density of cane bins in the Herbert. The quantity of tops on a weight basis in the cane supply explained more than 44% of the variability in a multi-variable model. Billet length was also related to cane bin density, however, when it was included into the model it increased the accuracy of explaining the key driver to bin weight by only 11%.

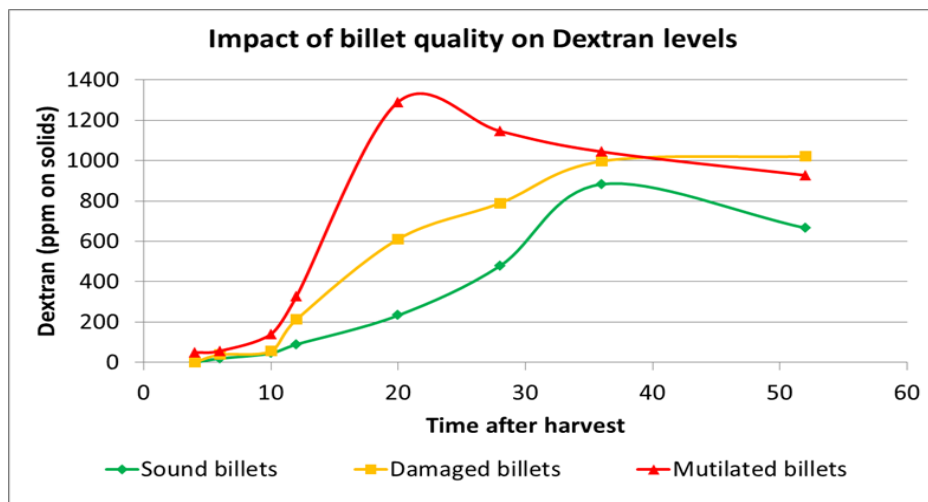
Model no.	Variables in Model	% Variation explained by model
0	Variety + Crop Class	6%
1	Variety + Crop Class + Tops	50%
2	Variety + Crop Class + Tops + Billet Length	61%

Billet quality what might it mean to you

The quantity of damaged and mutilated billets that is expected to be found in cane supplied to the mills is an unknown quantity. During 2015 9% of the billets supplied to the mills were damaged and 10% of the billets were mutilated.



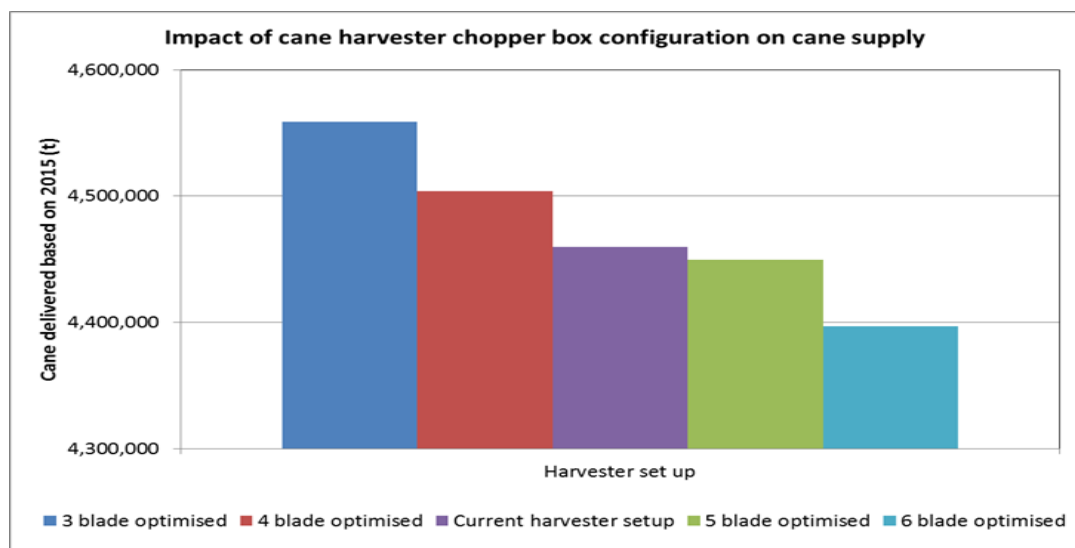
A preliminary non-replicated trial that simulated the outside layer of a cane bin was undertaken in 2015 to look at the deterioration of billets over time. This trial identified that dextran accumulated faster in mutilated billets than damaged or sound billets and has resulted in more work being planned during the 2016 season looking at the impact of billet quality on cane supply parameters such as CCS, dextran and colour. Dextran is produced by bacteria breaking down simple sugars to produce long chain sugar molecules that slow down the processing capacity of the mill and potential impact on the growers CCS results.



Impact of chopper box set up on cane supply

The quantity of cane supplied to the Herbert mills in 2015 was 4,459,594 tonnes. An examination of all the harvesters assessed during the cane supply quality survey indicated that there are a number of chopper box configurations and contractors vary in how the feedtrain is run. The chopper test rig data from the early 2000 demonstrated that there is mass loss from the choppers that vary depending on the tip speed of the feedtrain rollers relative to the chopper tip speed. These losses can be explained by the number of cuts per metre of stalk and the loss each time the stalk is cut. Minimum losses, damage & power consumption occur when the feedtrain is at 55-60% of chopper tip speed.

Using the data from the cane supply quality survey it was possible to assess the likely impact on the total quantity of cane that would have been supplied in 2015 in the Herbert if all the harvesters were either 3 blade, 4 blade, 5 blade or 6 blades per drum compared to the configuration of the harvesters at the time of the survey.



If all harvesters had only 3 blades per chopper drum and the feedtrain were optimised there potentially would have been an additional 100,000 tonnes of cane delivered to the Herbert mills. Conversely if all the harvesters had 6 blades per drum and the feedtrains run at the optimal speed there would have been approximately 66,000 tonnes less tonnes of cane delivered to the mills.

Conclusions

The harvesting operation is the culmination of 12 months of work for the grower, harvesting contractor and miller. This operation is coming under increasing pressure due to a decrease in the number of contractors starting on a year to year basis and the cost pressure squeeze from growers and millers. The industry has focused on the cost of this operation and that is now starting to have impacts on productivity as observed in the cane supply quality survey undertaken in 2015. Key areas where small changes in harvesting behaviour that will have minimal impact on the cost of the operation but potentially a large impact on the productivity of the industry include:

- Attempt to top cane at all times to decrease colour in sugar and maximise cane bin density
- Ensure chopper blades are as sharp as practically possible to reduce damaged and mutilated billets
- Minimum losses, damage & power consumption occur when feedtrain is at 55-60% of chopper tip speed.

Update on the HCPSL GPS Basestation Network

(Article by Mike Sefton)

HCPSL has recently installed a new basestation on Mount Abswold to enhance the GPS signal in Bambaroo area. Specials thanks to Gino Zatta & Tony Catalano for their assistance to get this site up and going.

Over the past few months HCPSL has also undertaken maintenance of the GPS basestations network throughout the district.

If a grower has an issue getting a GPS signal due to difficult terrain, HCPSL has mobile repeaters for a short term loan. Please contact Mike Sefton to obtain a mobile repeater.

GPS Base Config May 2016				
Name	Correction Format CMR+	Location	CH.	FREQ. MHZ
J Irvin	B	Warrens Hill	0	465.2750
V Russo	R	Trebonne	0	465.2750
R & G Zatta	B	Mt Abswold	2	462.8000
A Pace	B	Mutarnee	3	466.7500
R Pace	R	Bambaroo	3	466.7500
V Castellani	B	Abergowrie	4	464.9000
W & J Russo	R1	Herbert Vale	4	464.9000
C Carey	R2	Dalrymple	4	464.9000
G Accornero	B	Foresthorne	5	463.0750
Water Tower	R	Halifax	5	463.0750
C Guy	B	Bogottos Hill	6	463.6750
S Harrigan	R1	Top Stone	6	463.6750
S Patane	R2	Lannercost	6	463.6750
N Reid	B	Pinnacle Hill	8	464.8500
C Lenzo	R	Pappins Rd	8	464.8500
Surveyed Location		Latitude	Elev.	Longitude

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Adam Royle	0417 610 446
Alex Peachey	0447 317 102
Richard Hobbs	0427 771 780

<u>Hot Water Treatment Tanks</u>	0437 017 805
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Reef Water Quality (formerly Reef Rescue) Program

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Feral Pig Management Officer

David Bacchiella (Hinchinbrook Shire Council)	0458 764 660
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