Message from the Manager:

Target 85
HCPSL announced its new initiative- Target 85 at its AGM held in October, 2014. The initiative will attempt to achieve an annual productivity of 85tcpf for the district.

The past 24 months has seen HCPSL and SRA staff working on numerous fronts to investigate what is driving productivity in the district and ways to increase productivity over time.

Let’s firstly discuss current productivity trends for the region. We regularly hear industry say- “We want the industry to have a district average of 90-100 tcpf consistently” or “Our current productivity levels are inadequate.” I believe that we all want higher productivity than we are experiencing at present, so the later comment is justified.

In relation to sustaining a district average of 90-100 tcpf overtime maybe unrealistic, however no doubt that everyone would be pleased if we could achieve this. The district average between 1950-2014 is 83tcpf. The 2014 average was just 75tcpf, therefore we can achieve a lot more. Our district has only exceeded 85tcpf, 11 times in 64 years; with most of those years occurring in the past 20 years. Between 1990 and 2014 the picture is no so good in relation to productivity with tcpf declining over this time, hence the concern.

I regularly hear growers say- “Varieties are the only reason why we have the productivity issues we have”. This is not actually the case and that productivity is linked to a number of issues and reasons; with varieties only being a part of a bigger picture.

HCPSL has developed an ambitious work program under the Target 85 initiative with the HCPSL Board committing specific funds to achieve its goals. HCPSL has also partnered with SRA, universities, government and other groups to assist with meeting the target.

Office hours over the Christmas/New Year break.
Our office will remain open throughout the Christmas and New Year break to ensure we service your requirements. Some staff will be taking a well-earned break between early December and February, on their return they will attend to your enquiries.

Thanks.
I would like to thank my Board and staff for the huge effort they put in this year. HCPSL has now become the principle sugarcane technical services group for the Herbert cane industry, providing multiple services to the local industry. You should be proud of the services you have available.

HCPSL would also like to thank the industry for its continued support in 2014 and look forward to servicing the industry once again in 2015.

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).

MERRY CHRISTMAS AND A HAPPY NEW YEAR
from the Board and staff of HCPSL!

Lawrence Di Bella
HCPSL Manager.
Yellow Canopy Syndrome (YCS) update.

Lawrence Di Bella HCPSL Manager.

Still no answer to the cause of YCS.

However every effort is going into finding the causal agent of YCS, leading to a methodology to manage the syndrome (if possible). SRA announced $4 million dollars to research YCS over the next 3 years, in May 2014.

SRA has funded 3 specific projects to work on YCS, 2 projects will be led by SRA and 1 project to lead by the University of Western Sydney. Both Burdekin and Herbert Productivity Services Groups are also partners in these projects.

Trying to find the cause of YCS is probably one of the most challenging issues facing the industries researchers.

Getting on with the research

In late November 2014, 30 researchers and technical staff from SRA, University of Western Sydney (UWS), Burdekin Productivity Services and HCPSL met in Townsville to discuss the research finding to date, review on-going research and investigate future research activities.

Within the projects numerous samples of soil, leaf, roots, leaf and stalk have been collected and analysed- the mind boggles what has been tested to date. Tests to assess plant hormones, plant starches, other plant chemicals, rNA, DNA, plant toxins, the presence of pests and diseases have been undertaken. These samples have be sent to labs in Brisbane, Sydney, Melbourne, North America and Europe. The cost of samples can be as high as $2000 per sample, so the dollars can add up very quickly when undertaking multiple samples.

In the past few months, SRA and HCPSL staff have established field trials in the Herbert to assess various chemicals (like soil fumigants, fungicides, insecticides, miticides, sunscreens and plant hormones) and crop stresses. SRA and UWS researchers have also collected more samples for testing and analysis.

This research will hopefully assist us to identify the causal agent and develop possible tools to assist in the management of the syndrome. There will also considerable research into crop monitoring through field experimentation, crop surveys, remote sensing, attempting to quantify yield loss and CCS impacts caused by the syndrome.

What have we learnt to date?

- YCS symptom expression is most evident when the crop is stressed.
- YCS symptoms can now be simulated in a glasshouse situation when the crop is water stressed.
- No varieties are immune to the syndrome, but some are more impacted than others (like Q200 and KQ228).
- YCS is not any known pest or disease.
- Cane yields can be affected by YCS, while the impact on CCS can be variable.
- YCS samples in some varieties have a significant build-up of starch around the phloem tissue (a bit like cholesterol in humans).
- UWS research indicates that there are significant differences in microbial populations between YCS impacted and non-impacted blocks in the Herbert, however this research is still evolving.
- YCS has no significant link to a nutritional deficiency, however further research will be undertaken in relation to the crops availability to access potassium and some other micro nutrients at certain growth stages- don’t rush out and apply more potassium based fertilisers, unless you have not followed 6 Easy Steps guidelines.
- There does not appear to be any abnormalities with plant hormones, however plant bio-chemicals do indicate that there is some issues with plant health.
- YCS impacted crops have compromised photosynthesis processes - the leaves are just not working properly.
- YCS impacted leaves occur early than we can visually see by the naked eye, higher in the crop canopy.
- In Q208, the application of Confidor did not lead to an increase in cane yield when compared to untreated cane; even though there was a noticeable differences in the leaves symptoms (with non-treated plots showing significant YCS leaf symptoms).
Occurrence and field observation

The first significant YCS wave since July 2014 was on queue occurring in early November, similar to the previous 2 years. Both plant and ratoon cane being affected.

Now that 2014 harvest season is complete, we can now shed some light on the CCS and yield impacts associated with YCS; in the Herbert. We have found that the impact of YCS on yield and sugar can be quite variable, with some growers being relatively unaffected while others are seeing more significant losses on their farms. Below are 3 examples of farms that were significantly impacted by YCS 2014. You will notice that these blocks had abnormally low cane yields when compared to previous years, but CCS was variable.

<table>
<thead>
<tr>
<th>Year</th>
<th>TCPH</th>
<th>CCS</th>
<th>Year</th>
<th>TCPH</th>
<th>CCS</th>
<th>Year</th>
<th>TCPH</th>
<th>CCS</th>
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<td>72</td>
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<td>PO</td>
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<td>2010</td>
<td>125</td>
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<td></td>
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<tr>
<td>2011</td>
<td>78</td>
<td>3</td>
<td>2012</td>
<td>125</td>
<td>14.9</td>
<td>2013</td>
<td>85</td>
<td>12.9</td>
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<td></td>
<td></td>
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</tr>
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<td>2014</td>
<td>50</td>
<td>9</td>
<td>2015</td>
<td>104</td>
<td>14.8</td>
<td>2016</td>
<td>85</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.4</td>
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<td>38</td>
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<td></td>
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<td></td>
<td>39</td>
</tr>
</tbody>
</table>

Below: Satellite image taken on the 9th of July, 2014 of severely YCS impacted blocks in the Victoria Estate area (noted by the dark circle).

Victoria Estate farm example:
Fairford farm example:
Ripple Creek farm example:

Update/ more information on YCS

SRA Professional Extension and Communications (PEC) team will continue to provide regular updates of the project through the SRA website via annual reports, cane clips, media releases, bulletin articles and fact-sheets.

For further information go to the SRA website http://www.sugarresearch.com.au or attend the Herbert industry update on the 10th of December, 2014.
Harvest Management

Glynis Romano
HCPSL Harvest Management Officer

The Harvest Management team would like to thank all of those involved in accurate cane consignment. The data provided is of vital importance as the district transitions into new varieties.

In the past few weeks all growers were sent a letter along with their farm maps requesting information on areas planted or to be fallowed for 2015, farming practices undertaken, pest and disease issues (rats and pigs) etc. It is very important that you take the time to complete the forms and mark all changes on the maps sent out. This information assist us to generate new farm maps for your farm, gain access to funding to support the industry, allows productivity data to be generated and maintains permits in place (like the rat baiting permit) with government agencies etc.

Without this information we cannot provide accurate cane block data to allow for equitable harvesting, cane payment and analysis of farm productivity data to base industry decisions upon. Most importantly, this affects variety performance information. Your assistance would be greatly appreciated. If you need assistance to complete the paperwork please drop into the office. Maps are to be returned to the Office before Friday, 28th November.

ESRI Spatial Conference

Michael Sefton
HCPSL Spatial Systems & PA Officer

Statistics is nothing new but spatial statistics is quite new and well suited to Agriculture where we have the field boundaries mapped. The latest version of the GIS package we use at HCPSL will have this new capability. Michael Sefton recently attended the ESRI Spatial conference in Adelaide to improve his knowledge and skills concerning spatial analysis of data collected by HCPSL.

The new tools can help us summarize and evaluate geographic distributions, identify statistically significant spatial outliers and clusters (eg. hot spots of disease), and assess broad geographic patterns and trends over time. These resources will help us find previously unseen patterns and relationships in data, facilitating discussion, and informing decision making. Regression analysis helps us examine, model, and explore data relationships. Ultimately, regression analysis helps you answer “why?” questions: Why do we see so much disease in particular areas?, “What are the factors that contribute to consistently high or low productivity. How does the speed of the harvester affect subsequent ratoons ?

Some new and interesting stuff is happening in the field of remote sensing. This includes air borne hyperspectral and radar (Lidar) sensors which can provide a 3D image of the crop and improved crop health maps and may even be able to provide improved estimates and new forms of Yield Maps.

For more information concerning precision agriculture and spatial data systems contact Michael Sefton @ HCPSL.
Farmers form their own soil group

Fiona George
Terrain NRM—Regional Landcare Facilitator

Farmers in the Wet Tropics have recently formed their own incorporated group to keep a strong network around soil health and its role in productivity. The recent ‘Digging Deeper’ program is what started their journey, which they found so valuable they want to continue it.

Fiona George, Wet Tropics Landcare Facilitator, has been rolling out ‘Digging Deeper’ with the help of agricultural ecologist, David Hardwick. The soil extension program has engaged around 30 farmers in the Wet Tropics over the last 12 months. The program has proved so popular and has been so well received by landholders that they don’t want it to end!

Fiona said, “The program has empowered farmers to make better and more informed management decisions in their agricultural enterprises. It has included interactive activities to learn about physical, chemical and biological aspects of the soil, including an emphasis on practical investigations into what is below the surface and how that relates to productivity.

“They now have a fantastic network, drawing on each other’s strengths and interests to improve the quality and longevity of their soils – and their farming businesses.”

Amongst others, local Ingham cane farmer Alan Robino hosted a ‘Digging Deeper’ activity day as part of the program which involved shed exercises in the analysis of soil properties and field exercises looking at the role of improved soil biology in reducing compaction.

For more information, contact Fiona at Fiona.george@terrain.org.au or go to www.terrain.org.au/Projects/Land-Management/Regional-Landcare-Facilitator.

- Shed exercises in analysis of soil properties
- Alan Robino using a penetrometer to show soil compaction levels
- Farmers learning in the paddock at Alan Robino’s with agricultural ecologist David Hardwick
Diuron use and replacement Herbicide options

Ash Benson, HCPSL Extension Agronomist

Diuron is not banned in the Herbert, but there are a few changes!!

Diuron or diuron/hexazinone mixtures can be still used in the Wet Tropics (North of Crystal Creek), but are subject to greatly reduced application rates. Growers south of Crystal Creek may use higher rates of diuron but must comply with “no use periods” as specified on the product labels. Please note not all products have the new specifications for use in the Wet Tropics and other areas of the state on the label, (that is approved and specified by the APVMA), so it is ILLEGAL to use a product containing Diuron without the new approved label! Diuron can only be applied ONCE a YEAR and only on up to 5% of your farm area when SPOT SPRAYING.

Current Permitted Diuron and Diuron/hexazinone use for Herbert growers

<table>
<thead>
<tr>
<th>Wet Tropics - north of Crystal Creek</th>
<th>Dry Tropics - south of Crystal Creek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron 900 use greater than 500g/ha is not permitted</td>
<td>Diuron 900 use @1.9kg/ha is not permitted between 1 January &amp; 29 February</td>
</tr>
<tr>
<td>There is no spot spraying registration for Diuron</td>
<td>Spot spraying @ 1kg/100L water for guinea grass is permitted all year round</td>
</tr>
<tr>
<td>A tank mix of 275-500g/ha of diuron + 1.2-1.6L/ha granoxone may be used all year round</td>
<td>A tank mix of 600-900g/ha of diuron/hexazinone + 1.2-1.6L/ha granoxone may be used all year round</td>
</tr>
</tbody>
</table>

Use of residual herbicides: points to note

Due to the range of grass species, broadleaf weeds and vines found in most blocks it generally recommended a mixture of two or more residual herbicides are used, plus a knockdown herbicide if weeds are already established. The products used in plant cane early in the season will be more effective due to better soil moisture and lower soil and atmospheric temperatures.

Seek advice on products suited for application to trash blankets in ratoons as products may not be as effective. Herbicide efficacy is generally reduced for most pre-emergent products when applied to GCTB. Herbicides applied to trash blankets are at a higher risk of being moved off site due to high rainfall events and should only be considered when there is a specific weed of concern (like Guinea grass or Sour grass).

Most herbicides require 48 hours to be fully bound to the soil particles. If heavy rain (more than ~25mm) is likely it is better to avoid any herbicides application, to minimise runoff losses and crop damage.

There are a range of herbicides and herbicide mixtures available and being widely used to replace Diuron and Diuron/hexazinone products for both grass and broadleaf weed management.

With products such as Balance®, Flame® and Soccer® now coming off patent, other manufacturers are now supplying equivalent products at competitive prices which will over time reduce the costs of using these products.
The following list gives examples of herbicide mixtures commonly being used:

- **Asulox® 5.5-8.5L/ha + Atrazine 900 WG 2.2kg/ha** – grass and broadleaf weeds
- **Ametrex® 800WG (ametryn) 4.5L/ha + 2.5kg/ha Atrazine 900 WG** – Grass and some broadleaf weeds
- **Gesapax Combi® 6 – 8L/ha** – grass, vines and broadleaf weeds
- **Gesapax combi 6L/ha + Actril® DS 1L/ha** – grass & broadleaf weeds (add knockdown for larger weeds)
- **Krismat® WG 1.5-2 kg/ha** – some grass and broadleaf weeds

**Balance® and Balance® mixtures**
- **Balance® 750WG 200g/ha** – grass & broadleaf weeds - for ratoons only
- **Balance® 750 WG 200g/ha + Atrazine 900 WG 2.2kg/ha** - grass & broadleaf weeds
- **Balance® 750 WG 100g/ha + Soccer® 700 WG 0.7 – 2.2kg/ha** - grass and broadleaf weeds

**Flame® (imazapic) and Flame® mixtures**
- **Flame® 240, 300-400ml/ha + Atrazine 900 WG 2.2kg/ha** – grass & broadleaf weeds
- **Flame® 240 300-400ml/ha + Stomp® Xtra 2.2L/ha** - Certain annual grasses, broadleaf weeds and Ipomoea spp.
- **Flame® 240 300ml/ha + Soccer® 700 WG 2.2kg/ha** – grass & some broadleaf weeds

**Metolachlor and S-Metolachlor mixtures**
- **Metolachlor 960 EC 2.175-2.7L/ha + Ametrex® 800WG 1.1kg/ha** – grass and broadleaf weeds
- **Metolachlor 960 EC 2.175-2.7L/ha + Atrazine 900 WG 2kg/ha** - grass & broadleaf weeds
- **Primextra Gold 4.8 – 6L/ha** - grass and broadleaf weeds
- **Dual® Gold (S metolachlor) 1.1 – 1.45L/ha + Atrazine 900 WG 2 – 2.5kg/ha** – some annual grasses and broadleaf weeds

**Soccer® mixtures**
- **Soccer® 700 WG 2.2kg/ha + Actril® DS 1L/ha** - grass & broadleaf weeds
- **Soccer® 700 WG 2.2kg/ha + Starane™ 1L/ha** – grass and broadleaf weeds
- **Soccer® 700 WG 1.5-2.2kg/ha + Ametrex® 800WG 2kg/ha** – grass & broadleaf weeds
- **Soccer® 700 WG 1.5kg/ha + Dual® Gold 1.8L/ha** - grass & broadleaf weeds

**Stomp®Xtra & Treflan™ mixtures**
- **Stomp® Xtra 2.2 – 3.3 L/ha + Atrazine 900 WG 1.7 – 2.2kg/ha** grass & broadleaf weeds
- **Stomp® Xtra 2.2 – 3.3 L/ha + Soccer® 700 WG 0.7 – 2.2kg/ha** – grass & broadleaf weeds
- **Treflan™ 480, 2.3-3L/ha** – grass & broadleaf weeds
- **Treflan™ 480, 2.3-3L/ha + Soccer® 700 WG 1.5-2.2kg/ha** – grass & broadleaf weeds

The above table covers some of the weed control options available to manage a range of weeds in our district. Seek advice on your particular weed issues and have suitable treatments at reasonable cost developed for your needs.

For the comprehensive guide to Herbicide use and Weed Management in the Herbert, along with costs for all mixtures go to the HCPSL web site – [www.hcpsl.com](http://www.hcpsl.com)

Contact your local HCPSL extension agronomist to discuss options and to help establish some strip trials on your farm with some combinations of herbicides you may not have used before.
OPPORTUNITY FOR CANE FARMERS TO BE REWARDED FOR NITROGEN USE EFFICIENCY

Carole Sweatman, Terrain NRM CEO

Terrain NRM is pleased to be involved in a partnership with the Australian Government in rolling out the Reef Trust Tender Programme.

Terrain NRM’s CEO Carole Sweatman said, “The Reef Trust Tender is a four year program offering financial incentives to cane farmers across the Wet Tropics to improve their nitrogen use efficiency (NUE) and farm sustainability through a market-based competitive tender process”.

Carole has been attending cane grower meetings across the region to convey to growers firsthand information on the programme.

Successful applicants will receive annual payments totaling their tender price until 2018 and are not required to match the funding if awarded. Farmers must complete an Expression of Interest (EOI) by the cob 18 December 2014. Only applicants who register their interest will be eligible to lodge a tender however, applicants who complete an EOI are not obliged to progress their application.

Workshops will be held across the region to assist farmers to find out how to calculate their NUE for the tender application. The workshop for the Ingham region will be held at the Tyto Centre on Friday 5th December from 6pm. Other area venues listed below:

<table>
<thead>
<tr>
<th>Date</th>
<th>Region</th>
<th>Venue</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dec</td>
<td>Mossman</td>
<td>Bally Hooley Hall at Mossman mill, Mossman</td>
<td>7.30am</td>
</tr>
<tr>
<td>2 Dec</td>
<td>Cairns</td>
<td>Mulgrave Rambler, Gordonvale</td>
<td>7.30am</td>
</tr>
<tr>
<td>3 Dec</td>
<td>Innisfail</td>
<td>Sugar Heritage Museum, Conference Room, Mourilyan</td>
<td>3.00pm</td>
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<tr>
<td>4 Dec</td>
<td>Tully</td>
<td>Mill Hall, Tully</td>
<td>4.00pm</td>
</tr>
<tr>
<td>5 Dec</td>
<td>Ingham</td>
<td>Tyto Centre, Ingham</td>
<td>6.00pm</td>
</tr>
</tbody>
</table>


For more information, email reeftrust@terrain.org.au or call 1800 357 755.
ON FARM TARGETED SUPPORT PROGRAMME FOR CANE GROWERS

Carole Sweatman, CEO of Terrain NRM, and Peter Sheedy, Manager CANEGROWERS (Herbert River), recently announced the signing of the region’s two year contract for the supply and delivery of farm practice training and extension to sugarcane growers in the Wet Tropics region. The project is funded through the Australian Government’s Reef Programme.

The newly announced project will deliver professional, targeted and coordinated support to cane farmers in the Ingham area and across the whole Wet Tropics.

In coastal North Queensland, agriculture, and in particular sugarcane is scrutinised because of the intensity of crop production inputs, past modification of landscapes, and close proximity to the Great Barrier Reef.

Carole said, “The project is designed to support farm practice change, targeting water quality improvement, but not losing sight of farm productivity and profitability.

“Practices must be affordable and economical.”

The project will focus on farming practice, seeking in particular to support practice change to maximise the reduction of sediment, nutrient and pesticide loads resulting from farming in the local geography.

Mr Sheedy says that the delivery of targeted training and extension through this project is seen as essential in speeding adoption. “Collaborative partnerships like these really increase the success rate for growers being able to achieve practice change. We need that broad scale buy-in at the farm level if the industry is to achieve its objective of improving its efforts to protect the region’s waterways and reef.”

Recognising the power of partnerships in achieving change on farm, an alliance of key industry groups and extension and training providers have come together on the project which is a huge collaborative effort. Partners include HCPSL, CANEGROWERS, Terrain NRM, Australian Cane Farmers Association, other Productivity Services Companies and milling companies. Extension and training providers are also involved including Sugar Research Australia’s professional extension and communications unit, local productivity services groups, and Queensland Department of Agricultural Fisheries and Forestry. Private extension service providers such as Farmacist Pty Ltd have also joined the project.

Don Pollock, Training and Extension Leader with CANEGROWERS, will be coordinating the project.

For further information about the programme go to www.terrain.org.au/Projects/Agriculture-and-Innovation/Reef-Programme or call Terrain NRM on 07 4043 8000.

Photo caption: L to R – Roy Pace (HCPSL Chairman), Lawrence DiBella (Manager HCPSL), Peter Sheedy (Manager CANEGROWERS HR), Stephen Guazzo (Chairman CANEGROWERS HR), Carole Sweatman (Terrain CEO), Jeff Cantamessa (Director CANEGROWERS HR & Member ,CIWG), Donald Pollock (Training & Extension Leader).
Cane cleaning trail in the Herbert investigates ways to reduce cane loss

Phil Patane SRA Development Officer - Harvesting and Machinery

The Australian sugar industry has constantly sought to find a balance between effective cane cleaning and cane loss. With losses between 5-25 per cent this is a multimillion dollar cost to the Australian sugar industry.

At the start of this year’s crush, Sugar Research Australia started a project titled Increased Harvest Recovery: Reducing sugar loss and stool damage. The key objectives are to:

Reduce sugar loss at harvest due to extractor and chopper losses.

Investigate alternative approaches for the harvest/transport/milling system.

Understand the impacts of stool damage due to harvesting and promote options to minimise the effect on ratooning.

A local initiative addressing objective two, involved conducting a cane cleaning plant trial in the Herbert region. The trial commenced on the 4th of November 2014 with a collaborative effort between SRA, HCPSL, Norris ECT and Wilmar Sugar.

The aim of this trial was to evaluate the potential cost/benefits of an alternative approach to cane cleaning. Research has shown that producing clean cane using the harvester extractor - results in high levels of cane loss. An alternative approach adopted by a number of offshore sugar industries has been to minimise extractor losses in the field through reduced fan speed and then extract excess extraneous matter using a cane cleaning plant (either siding or mill based).

The trial involved measuring infield sugar loss, EM levels, CCS, yield, bin weight, dollars/hectare and the impact on milling parameters for different harvest/transport/milling scenarios.

The treatments involved:

Current practice (high fan speed – to produce acceptable bin weights/EM levels but with high cane loss).

Low fan speed (minimal cane loss but bin weight/EM at unsustainable levels for millers)

Low fan speed plus cane cleaning plant (minimal cane loss to maximise crop yield with EM removed by the cane cleaning plant to produce minimal EM levels and high bin weights).

The trial ran smoothly and SRA would like to thank the voluntary efforts of the harvesting crew, growers, Wilmar and HCPSL who helped make this complicated trial a reality. Data analysis is underway and the trial outcomes will be presented to the wider industry for discussion.

For more information contact SRA Development Officer – Harvesting and Machinery, Phil Patane on mob: 0431 818 482 email: ppatane@sugarresearch.com.au

Cane cleaning plant in the Herbert (04.11.14)
The Reef Water Quality Programme (RWQP) Formally Reef Rescue

HCPSL and Terrain NRM are working together to deliver water quality improvement grants to growers in the Herbert through the Australian Government Reef Programme. The Programme seeks to improve the quality of water flowing into the Great Barrier Reef Lagoon. Round eight of the grants component of the Reef Programme is soon to roll out across the region.

Through this funding, it means that the Reef Programme (formerly known as Reef Rescue) is in its last year of funding to improve best management farming practices, by providing incentive grants to farmers. Grants will be available for projects in the Wet Tropics, in the Cane, Banana, Multicrop, Dry grazing and Dairy Industries. Grants available include: small grants of up to $5,000.00, single farm grants for up to $30,000.00 and multiple farm grants for up to $150,000.00.

Applications open on the 27th January for the round 8 2015/2016 funding. Anyone interested in applying must contact their industry Grants Officer to register a project application by 3rd of March 2015. Applicants must then work with the industry Grants Officer to submit a complete application by 14th of April 2015.

For the Herbert region, the cane industry’s Grants Officer is HCPSL’s Linda Di Maggio who can be contacted on 4776 5660 or 0448 003 549 and by email ldimaggio@hcpsl.com.au.

‘WHAT DOES THAT MEAN FOR THE HERBERT’

For the 2013/14 year, 219 projects have been funded with the total funds allocated for 2013/14 being $3.2 Million. A total of 61 cane enterprises (some enterprises were single farmers, others were multi farm) received grants in the 2013/2014 rounds in the Herbert District.

For 2014/2015 year a total of 19 projects have been funded in the Herbert.

The top three practices (for both rounds), in order were:

1. New Farm System using GPS Guidance,
2. Subsurface application of fertiliser using a stool splitter or subsurface beside the stool for use in application at the correct Six Easy Steps rate,
3. Improved pesticide application equipment including directed spray equipment modifications or hooded sprayers/new application technology, and rate controllers.

Herbert district cane growers, Jonathan & Nigel Biasi were looking to boost the cost effectiveness of their fertiliser regime. With assistance from Department of Agriculture, Fisheries and Forestry extension officers, a BioSolids trial was developed – at two different rates while maintaining some paddocks with their traditional regime. The results – a significant boost in productivity and profitability – has seen the Biasi’s move to a new regime integrating BioSolids.

**THE BUSINESS GOAL.**
The Biali Family partnership owns a 620 Ha cane farm in the Hawkins Creek area north of Ingham.

Jonathan and Nigel Biasi believe there are alternative products available that can support his fertilising regime while allowing him to reduce his reliance on inorganic fertilisers. A reduction in inorganic fertilisers should allow him to reduce costs associated with production and maintain profitability.

**WHAT IS BEING DONE DIFFERENTLY?**
Jonathan participated in a tour of a cotton farm in southern QLD in 2012 where BioSolids were being used alongside a conventional fertiliser program. The Herbert and Tully Young Farmer groups were interested in how the use of BioSolids could be applied in Sugarcane systems.

DAFF assisted in establishing a replicated trial to compare BioSolids applied at 50T/Ha and 100T/Ha with the grower standard fertiliser rates.

A plant mix was applied with both applications of BioSolids. A treatment of 100T/Ha BioSolids only was added for comparison and not replicated. The trial was harvested in 2014 and fertilised for continuation into the first ratoon.

The harvest data for the plant crop has demonstrated a significant difference in sugar yields between the BioSolids treatments and the grower standard fertiliser treatment.

Image 1: Aerial view of BioSolids trial
WHAT DOES THIS MEAN FOR THE ENTERPRISE?
The harvest data was analysed and the results demonstrate that BioSolids treatments (both 50T/Ha and 100T/Ha) had a statistically significant higher cane yield (t/ha) but a lower CCS compared to the grower standard treatment. This resulted in a statistically significant difference in sugar yields between the BioSolid treatments and the grower standard treatment.

WHAT DOES THIS MEAN FOR THE BOTTOM LINE?

<table>
<thead>
<tr>
<th>Treatment</th>
<th>TS/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>0T/Ha + G.S Fert</td>
<td>11.91</td>
</tr>
<tr>
<td>100T/Ha + PM</td>
<td>13.03</td>
</tr>
<tr>
<td>50T/Ha + P.M</td>
<td>13.27</td>
</tr>
<tr>
<td>p-value</td>
<td>0.038</td>
</tr>
<tr>
<td>SED</td>
<td>0.357</td>
</tr>
<tr>
<td>95% LSD</td>
<td>0.992</td>
</tr>
</tbody>
</table>

Table 1: Statistical analysis of TS/ha

“the increase in yields and reduction in fertiliser use have been the biggest benefits to the business” – Jonathan

Economic analysis of this trial by a DAFF economist revealed the revenue less harvest and fertiliser costs was higher in the treatments that had BioSolids applied than the 0T BioSolid/ha + Grower Standard fertiliser application. The results indicate there has been an increase in revenue of approximately $360/ha for the 50T BioSolid/ha treatment due to the relatively low cost of fertilising the BioSolid treatment combined with a small increase in revenue generated from higher sugar yields.

WHAT DOES THIS MEAN FOR WATER QUALITY?
By reducing applied inorganic fertilisers, the amount of dissolved inorganic nitrogen (DIN) leaving the farm should also be reduced, providing a benefit to water quality and runoff heading downstream and entering the Great Barrier Reef.

WHAT’S NEXT?
The trial has been recently fertilised as a first ratoon crop.

Jonathan and Nigel are planning to continue the use of BioSolids in their production system with plant cane in 2015. He will be applying the BioSolid at 50T/Ha early next year in preparation for planting.

“We will continue using BioSolids in future years for plant crops to increase productivity and profitability” – Jonathan Biasi
Game Changer Project
Samantha Sellick, HCPSL Field Agronomist

Game Changer is an Australian Government Funded Project delivered by Terrain NRM in the Wet Tropics. The Project seeks to support Sugarcane farmers across 3 Regions, the “Wet Tropics, Burdekin & Mackay / Whitsunday” to develop & test ‘Next Generation’ Practices to reduce residual Nutrient & Herbicide loads running off farm. HCPSL has been contracted by Terrain to Deliver the Game Changer Project in the Herbert Area over the next 2 years.

There are 7 growers across the district participating in the Programme, with Projects focusing on Nutrient & Herbicide Management. Four Projects were successfully harvested this year with CCS, Tonnes of Cane & Tonnes of Sugar all being measured. Some of these projects will have economic and runoff water quality analysis.

This year’s Projects already being analysed are:

1. **“Control Release Fertiliser”** Urea Vs Control Release Nitrogen. This Project is replicated twice & is also linked with our demo farm project, where water runoff is sampled from each treatment, to measure water quality benefits of Control Release Nitrogen.
2. **“Corn as a Rotation Crop”** Bare Fallow Vs Corn Fallow, this is replicated 3 times within a block. Comparing 18month bare fallow to growing and harvesting a corn crop over 18 months.
3. **“Minimal Cultivation Pre Plant on Existing Control Traffic Beds”** 3 Different types of cultivation were carried out
   1. Wavy Disc Cultivator
   2. Ratooning Discs
   3. Ratooning Discs & Rotary Hoe
   These Practices were replicated 3 Times within a block.
4. **“Sodic Soil Treatments”** 3 Different treatments were applied over the drill, to access their benefits in improving sodic soil.
   1. Min Plus
   2. Gypsum
   3. Dolomite
   4. Nil
   These were replicated twice.

We look forward to sharing the data from these trials in the near future.

**Courses on Offer at HCPSL in 2015**

- AusChem (formerly Chemcert)
- Six Easy Steps
- Integrated Weed Management
- Getting a better spray job
- Introduction to Precision Agriculture—get the most from your GPS
There are many considerations to take into account before deciding what type of fallow to implement. While there has been a big push towards legume fallow, there may be some situations where growers will benefit from a bare fallow.

**Bare Fallow**

The first point to make is that a bare fallow does not mean bare ground. Cultivating your fallow blocks and leaving them exposed over the wet season can lead to erosion and nutrient losses. These losses will impact the following crop, or at very least come at a cost to the grower by having to correct the problem at a later date.

The biggest benefit a bare fallow offers is in aiding to control problem weeds before the next sugarcane crop is planted. While this can be done in a cultivated fallow, getting access to apply herbicides throughout the fallow period will be far easier on non-cultivated fallow blocks.

Sometimes however it is necessary to cultivate a block through the fallow period, to correct drainage issues for example. In this case it might be worth looking at establishing a legume fallow after the drainage issue has been corrected.

**Legume Fallow**

Legumes have become a big part of our sugarcane fallow management system and they offer many benefits. Legumes can offer ground cover, weed suppression, nutrient benefits and can even suppress some pests and diseases such as nematodes. However, a poorly established and maintained legume crop can lead to weed outbreaks or other issues that may affect the productivity of future sugarcane crops.

The keys to establishing a good legume fallow are,

* **Plant your legumes into mounds** - Planting your legumes into existing or newly formed mounds greatly improves their chances of survival by limiting the time they will be exposed to waterlogging and flooding.

* **Apply your ameliorant before you plant your legumes** - Soil low in pH can cause poor establishment in some legumes, particularly soybeans. By applying lime, or calcium/magnesium blends or mill mud, your legume fallow crop will benefit from the rise in soil pH. Applying your ameliorant at this time will also allow enough time for the calcium to become available for your following sugarcane crop.

* **Manage your weeds** - Before you even think of establishing a legume fallow crop you should think about a weed management strategy that will keep the block free from weeds and volunteer cane throughout the fallow period. There is no point having a great crop of legumes if the price you pay is having to spend a fortune on weed control in your next sugarcane crop.

<table>
<thead>
<tr>
<th>Pre-planting (up to 2 days before planting)</th>
<th>Pre-crop emergence (immediately after planting)</th>
<th>Post-crop emergence (consult label recommendations for best spray periods)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knockdown - Small Grasses and Broadleaf weeds</strong></td>
<td><strong>Residual</strong> - Grasses and Broadleaf weeds</td>
<td><strong>Residual</strong> - Grasses, Broadleaf and Nutgrass</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herbicide</th>
<th>Rate</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sprayseed</strong></td>
<td>2L/ha</td>
<td><strong>Not recommended</strong></td>
</tr>
<tr>
<td><strong>Glyphosate</strong></td>
<td>“see label for rate”</td>
<td><strong>Not recommended</strong></td>
</tr>
<tr>
<td><strong>Stomp Xtra</strong></td>
<td>2.2L/ha</td>
<td><strong>Not recommended</strong></td>
</tr>
<tr>
<td><strong>Sencor (Metribuzin)</strong></td>
<td>750ml/ha</td>
<td><strong>Not recommended</strong></td>
</tr>
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</table>

* **Verdict 520** | 150ml/ha | **Blazer** | 1L/ha |

* **Gramoxone** | 1.5L/ha | **Blazer** | 1L/ha |

* **Blazer** | 1L/ha | **Verdict 520** | 150ml/ha |

* **Verdict 520** | 150ml/ha | **Blazer** | 1L/ha |

* **Verdict 520** | 150ml/ha | **Blazer** | 1L/ha |

* **Stomp Xtra** | 2.2L/ha | **Verdict 520** | 150ml/ha |

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* **Stomp Xtra** | 2.2L/ha | **Verdict 520** | 150ml/ha |

Note: Always add a good adjuvant to your herbicide mixture as per label instructions.
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