

# HERBERT SUGAR INDUSTRY REPORT 2023



# CROP PERFORMANCE 2023

The 2023 growing season started with slightly below average rainfall in the January and February period, moving to a well below average throughout March. The April to May period saw decent rainfall, which delayed some of the early planting. Steady rainfall continued throughout the harvesting season, which allowed for the crop to grow on during the first half of the crush, this however did not seem to have an impact on CCS.

The 2023 harvest concluded on the 26<sup>th</sup> of November 2023. Despite the estimate of 4.2 million tonnes of sugarcane at the start of the crushing season, a crop of only 3.99 million tonnes of sugarcane was harvested. A number of factors, including poor standover performance and extensive losses associated with rat damage, are to blame for the reduction in projected versus actual sugarcane crushed. The average district yield for 2023 was 73.26 TCPH, with a season average CCS of 13.03, which is over a unit higher than the previous year's average of 11.59.

Several years of mild wet seasons, and a significant amount of standover from the 2022 season, helped to drive a further rise in rat numbers, and associated damage to the 2023 crop throughout the year. A grower survey conducted by HCP SL in late 2023, estimated losses to be in the vicinity of 400,000 tonnes of sugarcane, and a potential reduction in CCS in harvested rat damaged blocks of approximately 1.8 units. Rat damage and poor standover quality also led to milling issues.

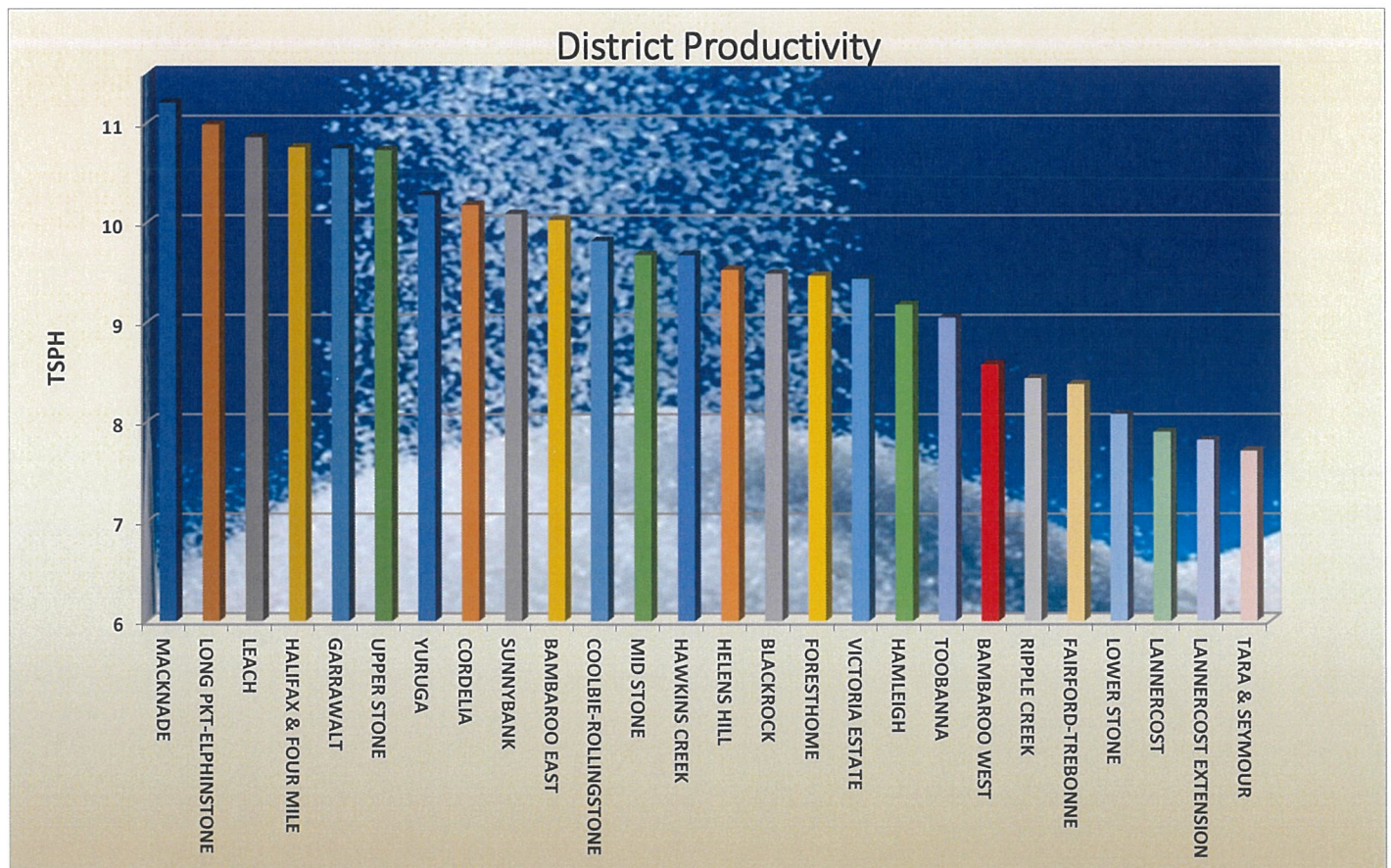
## HISTORICAL DATA

Year	Tonnes	Ha Harvested	CCS	Cane Yield	Sugar Yield
2006	4899992.30	57655.81	12.64	84.98	10.72
2007	4287010.73	57158.66	13.87	75.00	10.38
2008	4688595.64	55061.21	13.55	85.15	11.53
2009	3920941.21	51171.33	14.82	76.62	11.33
*2010	3274402.07	39567.98	12.88	82.75	10.64
2011	2920227.24	52361.15	12.93	55.77	7.19
2012	3625680.08	50394.18	13.61	71.95	9.77
2013	4000685.4	54017.57	13.97	74.06	10.33
2014	4152315.9	55800.99	13.65	74.41	10.13

Year	Tonnes	Ha Harvested	CCS	Cane Yield	Sugar Yield
2015	4459593.58	56590.9	13.45	78.77	10.56
*2016	4811839.74	56162.09	12.30	85.67	10.50
*2017	5033376.39	57119.45	12.96	88.18	11.36
2018	4718178.26	57043.23	14.24	82.71	11.78
2019	4055299.12	56361.12	13.92	71.96	10.00
2020	4250399.37	55224.52	13.25	76.97	10.13
2021	3797257.53	54985.47	12.79	69.10	8.80
*2022	4531003.93	49495.77	11.61	91.50	10.60
2023	3993792.10	54527.56	13.03	73.26	9.54

\* Standover Left





## HCPSL SERVICES

Herbert Cane Productivity Services Limited (HCPSL) is a non-for-profit organisation established to provide agricultural technical services and support to the Herbert Sugarcane industry. The key focus of the company is to drive productivity and sustainability for the local industry.

Sugarcane farmers from the Herbert sugarcane growing region and the local miller (Wilmar) make up the membership of the company. The HCPSL Board is represented by its membership, consisting of 3 grower and 3 miller members holding director positions on the company Board.

HCPSL consists of two service groups:

### **Membership Fee Funded Services (Core Services)**

HCPSL undertakes the following activities through a service fee that members pay annually.

- The planting, management, and distribution of sugarcane for grower members to plant through the HCPSL approved seed program, consisting of access to seed cane from the 'clean' seed distribution plots, tissue culture program and hot water treatment facilities. This activity constitutes a significant component of the HCPSL annual budget.
- The lease of three farms in the Central Herbert, Lower Herbert and Stone River sub-districts, and commercial arrangements with growers in the Ingham Line, and Abergowie sub-districts to facilitate distribution of clean seed cane.
- Plant source inspections and associated disease testing (Ratoon Stunting Disease etc.) of grower's seed cane to be used for commercial plantings.
- The provision of basic agronomic advice, including
  - crop nutrition.
  - pest and disease management.
  - fallow management.
  - variety management.
- Access to the HCPSL GPS base station network.
- Laser levelling and dumpy level surveys.
- Access to services provided by the Hinchinbrook Community Feral Pig Management Program.
- Industry updates and training (shed meetings, workshops, articles etc.)
- Access to the HCPSL website, which includes resource material.

HCPSL also supports other initiatives and events that provide benefits to the industry and our members.

### **Externally Funded Services (Fee for Service)**

HCPSL conducts 'fee for service' activities and undertakes work delivered through commercial contracts between government agencies, NRM groups, universities, commercial companies, and growers. Activities that fall within this category include,

- Soil tests for crop nutrient, soil health and pathogen assessments (i.e. *Pachymetra* root rot, nematodes).
- Water quality testing (i.e. irrigation).
- Nutrient and weed management plans.
- Facilitation of training and accreditation activities for growers and industry workers (i.e. chemical use accreditation courses).
- Electromagnetic soil mapping.
- Precision agriculture application maps.
- Drone technology applications (i.e. mapping, imagery).
- Project specific activities (i.e. grower engagement and training activities, evaluating new practices and technologies).
- Development of new products and applications (i.e. soil amendments, fertilisers, chemicals).

For more information about the services HCPSL offers contact the Company Manager Adam Royle on (07)47761808.



***Trialing the delivery of feral pig baits via drone in remote areas through Project Squealer.***

## TISSUE CULTURE

Tissue Culture in 2023 for HCPSL was another massive year. We once again broke previous year's records with tissue culture sales. 2023 saw a total of 23,320 plants sold to growers with this total increasing once again in 2024. On top of this, HCPSL made an investment in ordering 80,000 plants of varieties that don't respond well to hot water treatment.

HCPSL will continue to keep tissue culture as a source of seed material for all growers and ourselves. HCPSL would advise farmers that tissue culture is a great way to source cane that doesn't respond well to hot water treatment and a great way to ensure their seed cane is one hundred percent clean.

Tissue culture is also a great way to order minor varieties that aren't kept in surplus numbers in the approved seed plots. HCPSL also keeps a tissue culture planter for growers to hire.

If tissue culture is something you are interested in, please do not hesitate to contact Rhiannan Harragon on 0490 905 367 to ask for information or assistance in setting up and managing.



Tissue Culture being irrigated at Ingham Line  
Photo Credit – Gino Zatta



Tissue Culture Block at Ingham Line in December  
Photo Credit – Gino Zatta

Year	Plants Sold
2020	9,400
2021	15,290
2022	19,250
2023	23,320
2024	33,610



Rhiannan Harragon and Bethany Donker after planting 25,000 tissue culture plants for the day

## GROWER AND INDUSTRY FORUMS

### The Herbert Walk and Talk Day

The 2023 Herbert Walk and Talk Day was held at the Herbert SRA Research Station and HCPSSL offices on the 15<sup>th</sup> of March 2023. The day included static displays from agribusinesses and a guided grower tour. The event was well attended with over 90 growers and industry representatives present.

The guided grower tours included presentations on -

- Water quality monitoring - HCPSSL & TropWATER (Project CaNE)
- New varieties and variety management – SRA & Wilmar
- What is the Soil Biome – HCPSSL (Project Catalyst)
- Managing Diseases in the Herbert - HCPSSL
- Understanding and using micronutrients - Stoller
- Reef & Carbon credits - Greencollar

### HCPSSL Shed Meetings

The first round of HCPSSL shed meetings were conducted on the 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> of February 2023 with 96 growers and industry stakeholders attending.

The following presentations were undertaken -

- HCPSSL clean seed plots
- Clean seed ordering system
- Tissue culture orders and management
- RSD sampling program
- Managing standover

A second round of HCPSSL shed meetings were held on the 5<sup>th</sup> and 6<sup>th</sup> of September 2023 with 55 growers and industry stakeholders attending.

The meetings focused on Project CaNE with the following presentations delivered -

- Water quality monitoring results
- N Stabiliser demonstration sites (year 1 results)
- ‘Clear as Mud’ mill by-products demonstration program (year 1 results)
- Calibrating and testing spraying equipment.

HERBERT SUGAR INDUSTRY AWARDS PRESENTED IN 2023	
AWARD	RECIPIENT
<b>Grower of the Year</b> (Sponsored by Wilmar)	Chris Butler
<b>Young Grower of the Year</b> (Sponsored by Wilmar)	Anthony Marino
<b>Mangrove Jack Award</b> (Sponsored by Herbert River Catchment Group)	Remo Pietrobon
<b>Harvesting Efficiency Award</b> (Sponsored by Sugar Research Australia)	GNC Harvesting
<b>Innovation Award</b> (Sponsored by Rabobank)	Agro Group
<b>Farm Presentation for Harvesting Award</b> (Sponsored by Honeycombes)	A & S Castorina
<b>Improved Farm Layout Award</b> (Sponsored by Canegrowers Herbert River)	Roblea Investments
<b>Consistent High Productivity</b> (Sponsored by QSL)	No winners – no data
<b>R&amp;D On-farm Co-operation</b> (Sponsored by HCPSSL)	Paul Cantamessa Brian Exelby Jeff Cantamessa Geoff Low Pace Farming
<b>Lifetime Achievement Award</b> (Sponsored by HCPSSL)	Dr Rob Magarey Tony McClintock Steve Guazzo



Growers watching a demonstration of variable rate ameliorant technology at the 2023 Herbert Walk & Talk Day.



**Project CaNE™**  
 Providing growers with agronomic support and tailored solutions to help them improve productivity, profitability, and environmental outcomes on their farm

**CLEAR AS MUD DEMONSTRATION PROGRAM**

Since 2021 HCPSL has had several mill by-product demonstration sites implemented within the Herbert district. These trials were funded under the GBRF funded Project CaNE. When we were choosing blocks for these sites, we wanted to find blocks that have had no mill by-products before and were in relatively harsher soils for those productivity zones. This led to the majority of sites being in Hawkins Creek, Stone River and Abergowrie in plant or 1<sup>st</sup> ratoon crops.

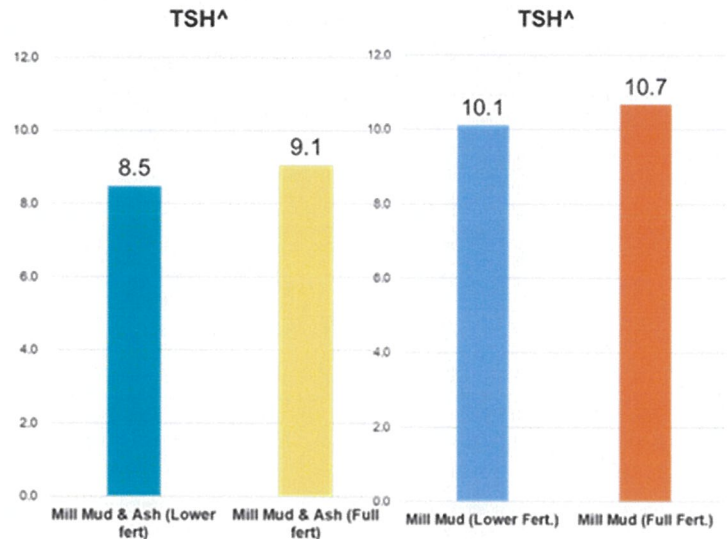
All mill by-products were applied at a rate under 100t/ha, basing our fertiliser reductions from available nutrients in the mill by-products.

The basis for these sites were mill by-products, mostly mill mud but sometimes mill mud/ash, with the full rate of fertiliser and a reduced rate of fertiliser. We then included a small control plot with a full fertiliser rate and no mill by-products applied. Reduced fertiliser rates were done in discussion with the growers, but these were typically a reduction of 20-30kg of nitrogen, 40-50kg of potassium and no phosphorus-based fertilisers applied. The second-year fertiliser reductions were typically 10-15kg of nitrogen, 20kg of potassium and no phosphorus-based fertilisers applied. A full economic breakdown of all the treatments and results is also being done by the Qld DAF Economics team members.

What you would typically expect when applying mill by-products will be an increased tonnage and a reduced CCS. What we found with our initial work (Year 1) was that there was an increase in tonnage but the decrease in CCS wasn't as high as what we were expecting. This resulted in an overall increase in sugar tonnes per hectare.

Moving forward, we will be collecting more harvest data on yield and collating with previous years, giving us a 3-year data set. This data will include a full economic breakdown to see what the most profitable practice has been. Finally, soil testing and further leaf testing will be done at the end of the trials to see what nutrients are remaining in the soil and how the mill by-products have impacted the fertility of the soil.

HCPSL would like to acknowledge and thank the growers involved, Qld DAF Economics team members, HCPSL staff, Agro Group and the support of the Australian Government.

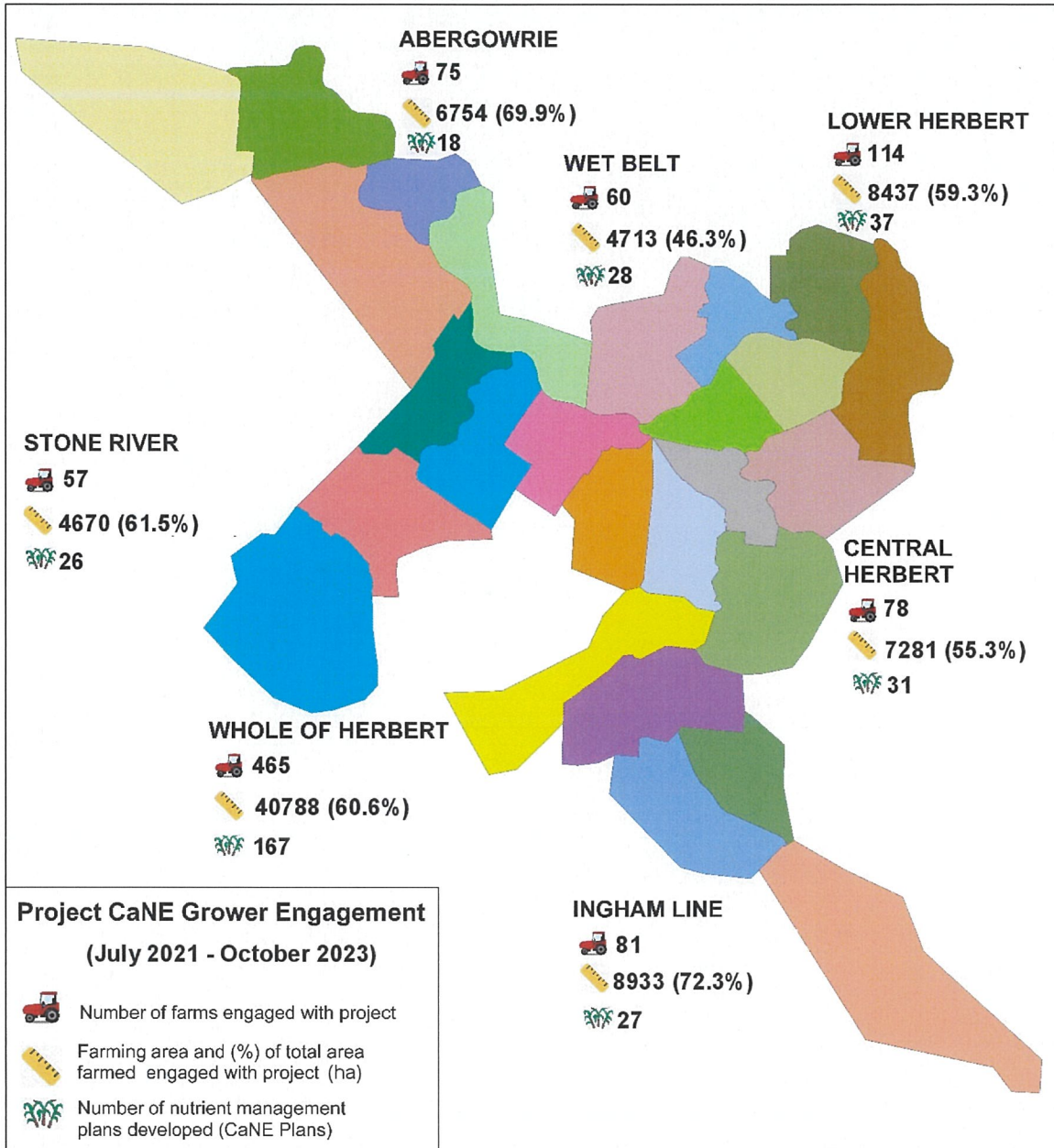


Above- Graphs showing sugar tonnes per hectare for the Hawkins Creek trial (mud/ash) and the Abergowrie trial (mill mud) for the 2022 season



Great Barrier Reef Foundation

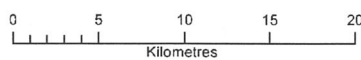
Project CaNE™ is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.



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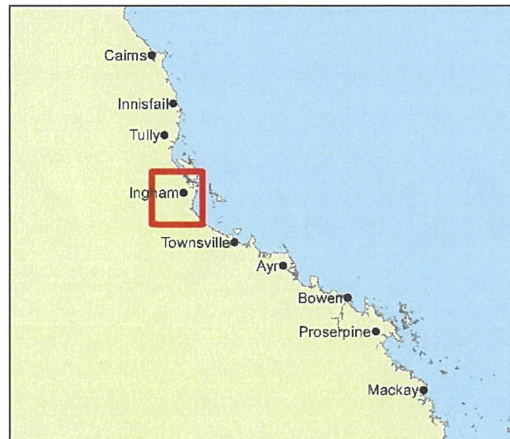
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**HCPSL**

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## Providing growers with agronomic support to adopt new innovative farming practices to improve productivity, profitability and environmental outcomes

Project Catalyst is a pioneering partnership between more than 150 innovative Queensland cane growers progressively improving farming performance and environmental outcomes, jointly supported by the Great Barrier Reef Foundation, The Coca-Cola Foundation and WWF Australia.

Every year Project Catalyst holds an annual Forum in February to celebrate and connect like-minded growers across the northern districts from Mossman to the Whitsundays districts about the latest innovations in sugarcane farming practices, technologies and environmental successes.

After a hiatus in 2022 due to Covid outbreaks, Project Catalyst forum 2023 was held in Cairns at the Pullman International. The event was held over 2 days and involved information sessions, field trips and social networking for growers, agronomists and industry representatives.

The 2023 Forum specifically touched on the topics of “Growing Ideas for Advancing Best Practices” and “Driving Productivity and Environmental Successes”. These topics were discussed with industry representatives from the Great Barrier Reef Foundation, Department of Fisheries and Forestry, Coca-Cola Foundation and local growers.

The following day involved field trips to the “Food Incubator”, a social enterprise with a clear mission to support entrepreneurs and growers to sustainably and profitably manufacture foods and beverages. The growers who attended learnt how they could utilise their waste materials into another income source, and most found the tour very informative. The field trip then went out to North Tropical Seeds where growers got to witness the process in legume seeds production, grading and processing facilities of premium pasture seeds. The tour group then travelled to Mt Uncle distillery to learn about the Agave plantation and the making of tequila.

Overall growers and industry representatives experienced two days of informative presentations that could enable them to utilise these new ideas into their own farming practices.



Bethany Donker, Megan Zahmel and Ellie McVeigh from HCP SL at the 2023 Catalyst Forum in Cairns



Tour group at the Agave plantation



Field trip to the “Food Incubator” where growers learnt how to utilise waste materials into another income source



Great Barrier Reef Foundation







## DEMONSTRATION TRIALS

As part of the Grower Support Program, Project Catalyst growers receive support with on-farm demonstration trials to build confidence in adopting innovative practices.

In 2022, Project Catalyst established two on-farm demonstration sites exploring the potential for reductions in nitrogen after mill by-product applications in ratoons.

The first site in Lannercost, compared 6ES rates with a 25% reduction following 75t/ha banded mill mud. The second strip trial in Macknade, compared a no mill by-product control with strips of 75t/ha mud-ash receiving either 6ES rates or a 25% reduction to account for the mud-ash contribution. Both sites were harvested in September 2023 with varied results.

In October, Catalyst staff took the opportunity to set up a small demonstration of legumes mixes in the Central Plot at Pietrobon. Despite the planting facing adverse conditions with an extended few weeks of dry hot weather at the beginning of November, the mixes proved resilient and bounced back in late November, demonstrating the value of varied mixes for growers fallow cover crops.

**Right – Demo bean plots at Central in early November, late November and early February, showing the improvement in crop health and vigour following rainfall in late November**

## SCHOOL ENGAGEMENT

Throughout 2023, Catalyst engaged with local high school students, attending careers days and running various information sessions on soil health, productivity constraints, and improved farming practices.

In September, the Catalyst team presented to Ingham State High School students as part of a GBRF initiative from Lower Herbert Water Quality Program coordinator Carola Bradshaw to introduce students to the sugar industry and provide them with practical insights into sustainable farming practices and the current challenges and opportunities facing sugarcane producers.

In August, Project Catalyst extension agronomist Megan Zahmel presented to Gilroy Year 11 Agriculture students on the topic of plant nutrition requirements and in October extension agronomist Bethany Donker presented to international Students from Study Townsville.

As part of the Study Townsville tour, students visited harvesting contractors and local growers, including one Catalyst member's farm. The tour finished up with a series of 'walk and talk' sessions where representatives from project delivery providers addressed various topics around amelioration of constraints and precision technology.

From the various interactions with students this year it was evident that practical, hands-on interactions with the everyday tools of soil science went a long way towards developing their knowledge and interest in agricultural science, as well as their understanding of the drivers for change in sugarcane production.



22 November 2023 Scale 1:1,100



28 November 2023



8 February 2024

## PROJECT CATALYST BEAN DEMO HCPSL Central Plot 0028A Block 1-1



### Plots/Mixes

- Mix 1 - cowpea, lablab, sunnhemp
- Mix 2 - lablab, sunnhemp, safflower
- Mix 3 - cowpea, sunnhemp, millet, rape, mustard
- Mix 4 - cowpea, soy, safflower, lablab
- Mix 5 - sunflower, soy, millet, radish
- Mix 6 - soy, safflower, millet, mustard
- Mix 7 - soy, rape, millet
- Mix 8 - cowpea, lablab, sunnhemp, sunflower, safflower, millet, rape, mustard, radish



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Catalyst extension agronomist Bethany Donker discusses soil testing with students from the Study Townsville tour



Extension agronomist Megan Zahmel demonstrates a basic soil pH test for students learning about soil amelioration



Great Barrier Reef Foundation



The LHWQP is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation with support from The Coca Cola Foundation and the WWF Australia

## SMARTER PESTICIDE USE WORKSHOP

A pesticide workshop was held at the Herbert River Crushers Club house on 22<sup>nd</sup>. February 2023 to discuss smarter decision making when using pesticides. Ninety-four attendees came from the Herbert, Tully and Burdekin cane growing areas as well as QLD DAF, Wilmar Sugar and Hinchinbrook Shire Council.

The day was opened with an hour presentation from Assoc. Prof Michael Warne (Uni Qld), presenting on a Decision Support Tool (DST) to help growers make better-informed decisions on which pesticide will give the smallest environmental footprint into our waterways, creeks, rivers and reef ecosystems.

Andrew Ygosse (QLD DAF) presented new regulations on spray drift and what it means to growers. He also spoke on the requirements for record keeping and the latest update on what information is required.

After smoko a series of rotating meetings were conducted with the following presenters -

- Emilie Fillols (SRA) talked about the impact of different herbicides on cane varieties and alternative herbicides to use for sensitive varieties.
- Mark Rantucci (Nufarm) informed us on managing 2,4-D drift by using **DropZone**® (500 g/L 2,4-D present as the dimethylamine and monomethylamine salts) and **CanDo**™ (500 g/L Ethyl Esters of Canola Oil Fatty Acid).
- Nick Matthews (Bayer) on using balance in your spraying program and discussed different ways to use Balance 750 or Balance Flow.
- Rob Slugget (Farmacist), Project Bluewater talked about pesticide and water quality outcomes. He looked at nozzle selection and spray droplets in relation to off target drift and optimizing leaf contact and control of weeds.
- Travis Van Dooren (Travearth Drone Services) and Rod Neilsen (HCPSL) showed growers a fleet of drones and their various uses for scouting to application of pesticides.
- Mark Ellwood (UPL) discussed with growers the use of **Amitron**® 700 WG safety and the benefits in crop.
- Peter Reid (FNQAGRI), Greg Shannon (Tully Sugar) and Lawrence DiBella (HCPSL) talked about managing crop ripening of cane, the Do's and Don'ts and results from the Wet Tropics (Tully).



Opening Presentations at the Smarter Pesticide Use Workshop

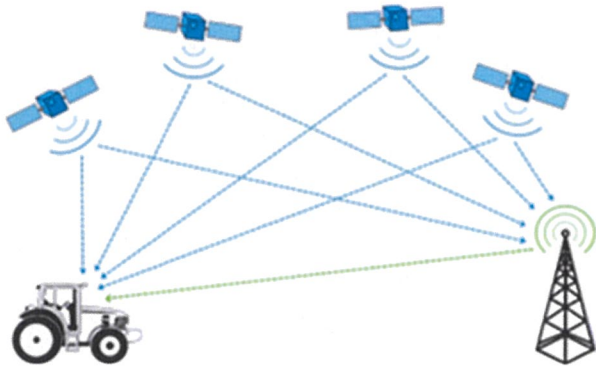


Emilie Fillols from SRA talking about herbicides on cane



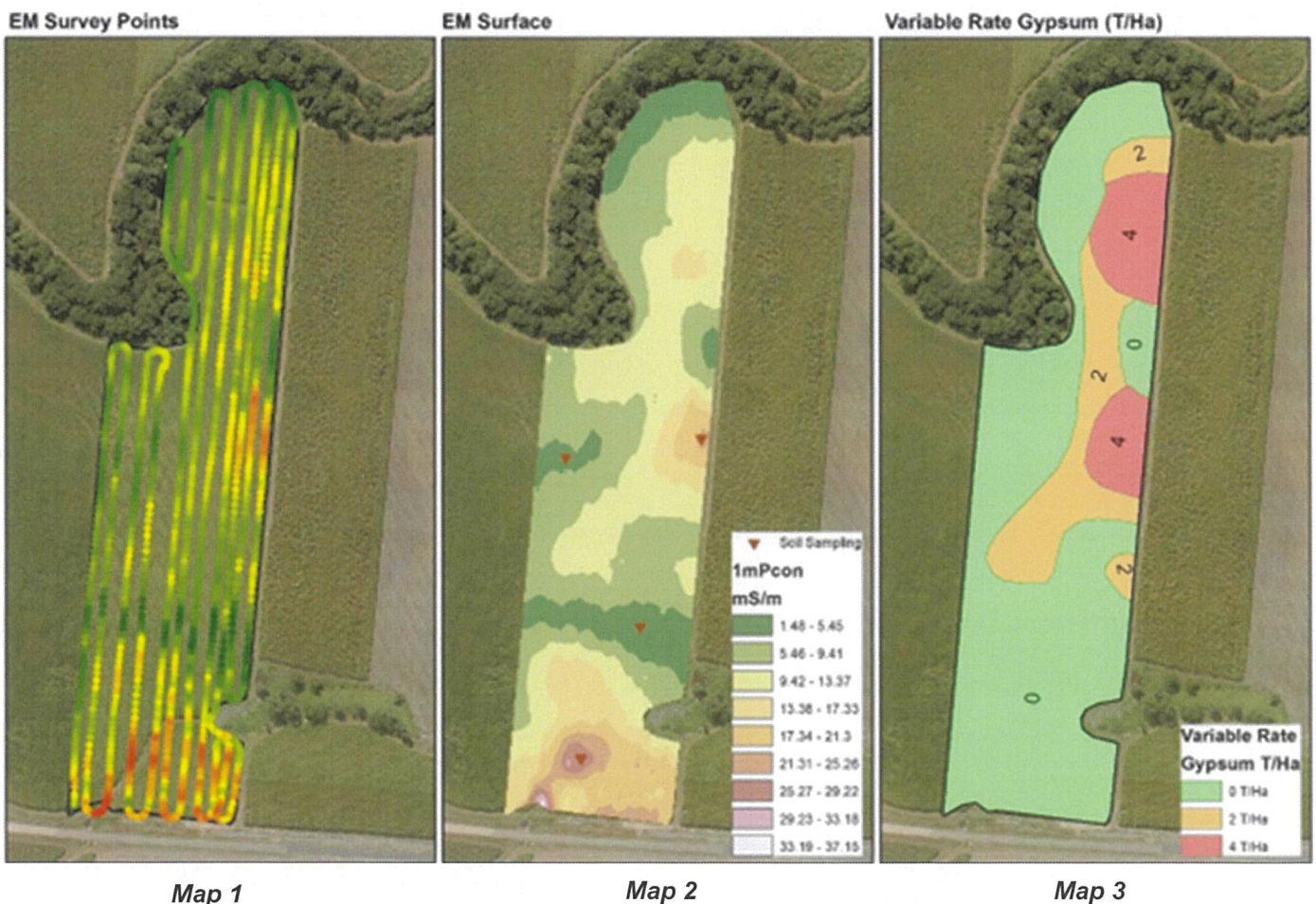
Travis Van Dooren and Rod Nielson talking about drones

Agriculture is said to have changed more in the last 100 years than in the previous 10,000 years. There have been a couple of major leaps forward in the last 100 years, one being mechanisation. More recently the integration of modern data driven technologies in farming systems such as high accuracy GPS with farm machinery, yield mapping, satellite and drone, and the myriad of internet connected sensors, used to collect data about the crop, water usage and soils, etc. This has now become known as precision agriculture.



The application of high accuracy GPS in agriculture provides several direct benefits. Here in the Herbert, we are seeing more of things like:

- **GPS Guidance**, using GPS to automatically steer machinery and avoid overlap during tilling, planting, spraying and harvesting. This more efficient operation reduces the time, labour, fuel and materials used.
- **Machine section control** turns planter, sprayer and fertiliser sections on/off in crop rows that have been previously treated. This helps to optimise material application, reducing cost and environmental impact.
- **Variable rate technology** uses sensors or pre-programmed maps to determine the application rates for fertiliser, and other crop growing products. This equipment may also utilise supporting technologies such as GPS, yield monitors, and crop and soil sensors.



A familiar example in the Herbert will be an EM (electromagnetic conductivity) mapping survey. This is where an EM sensor is towed across a field to collect data resulting in a collection of GPS coordinates with EM values at each point; **Map 1 on Page 11**. This point data is analysed using GIS software at HCPSL to create a surface image showing the change in electromagnetic conductivity across the field; **Map 2 on Page 11**. This is used to identify places across the field to take soil samples; **Map 2 on Page 11**. Soil sampling provides information on what soil attributes are contributing to the EM values. Then, with an understanding of the changes in EM properties across the field, a variable rate map can be created for the application of soil amendments, or nutrients; **Map 3 on Page 11**.

## Drones

Drones are becoming more prevalent across the district, particularly for spraying herbicides, but also for rat baiting. Initially this began with drone contractors, but as time has passed and with the success of such operations, several growers are weighing up business cases for the purchase of drones for use, at least over their own farms, and possibly contracting. Note that the business case for drones also includes the licensing for aerial application of chemicals, etc, as well as the cost of the drone and licensing.

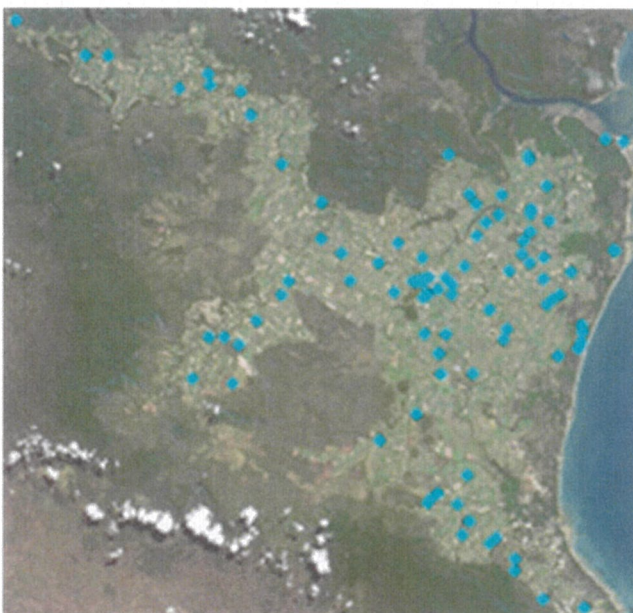
Several growers have purchased small drones like the DJI Mavic Mini 3 to fly over their crops, to look for weeds, other crop damage, e.g. pigs, rats, or grubs, or to assess the amount of water laying around after rain events. HCPSL would like to give a reminder that ALL drones, even very small ones, need to be registered with the Civil Aviation Safety Authority (CASA). Further information is available on the HCPSL website at: <https://hcpsl.com/cms/wp-content/uploads/2023/02/NewsletterDecember2022.pdf>

## Satellite Imagery

HCPSL regularly downloads the freely available Sentinel 2 satellite imagery when it becomes available. 2023 was a poor year for satellite imagery due to the consistent cloud cover over the Herbert district. Often times partially clear images are usable over some farms, but overall, the year wasn't very good for the application of satellite imagery, in the Herbert anyway. Of the 72 images downloaded, four were clear, and fourteen were partially clear (mostly during the crushing season).

As of January 2024, there are about 100 private weather stations across the Herbert, transmitting weather information to the internet. This number has been varying over recent years but has remained at around 100.

**NOTE:** These weather data may not be 100% correct, but it provides a good idea of what is happening across the district. None of these weather stations are owned or managed by HCPSL.



To access these weather stations, search Wundermaps (yes, that's the spelling) in Google. Click on the link for

[WunderMap® | Interactive Weather Map and Radar](#)

to go to the website. Then like in Google Earth, pan the map to find the Herbert. You will need to go into the settings to change the temperature from °F to °C. Click on Layers to view the options for the different data types. Click on an icon



to open a webpage with more details on the weather conditions at that site.

## RATOON STUNTING DISEASE (RSD)

RSD remains a significant concern for the Herbert district with 8.4% of potential seed cane blocks inspected in 2023 testing positive to the disease.

HCPSSL sampled a significant number of blocks in 2023 and while Q200, Q208, Q232, Q240, and Q253 returned the highest number of positive results, a total of 21 different varieties were found to have been infected with RSD.

Research shows that the use of clean seed can increase average farm yields by up to 13% and HCPSSL encourages all growers to plant with clean seed cane.

The best insurance against losses from RSD continues to be good hygiene management practices, and the establishment of dedicated on farm seed cane blocks.

HCPSSL invests significantly in supporting these practices by providing best practice hygiene advice, an annual RSD (seed inspection) program, and through the provision of the following to growers.

- Approved seed (distribution plots)
- Coordinated tissue culture ordering program and access to a planter; and
- Access to hot water treatment facilities.

With yield losses of up to 40%, RSD can have a very significant impact on productivity and ratooning viability.

The table below outlines the type and number of samples collected by HCPSSL, as well as infection rates detected.

Testing Method	Number of Samples	Number of Infected Samples	% of infection
Microscope (phase contrast)	969	65	6.71%
Leaf Sheath Biopsy (LSB)	232	17	7.33%
Xylem extraction	1227	121	9.86%
Total	2428	203	8.36%

## CANEGRUBS

Damage associated with canegrubs continued to be low, even in areas that have historically seen higher recorded incidences in the Herbert. Reports of increasing grub populations in other districts indicate that Herbert growers need to remain vigilant.

## RATS

Rats caused extensive damage to the 2023 crop in the Herbert. A combination of favorable seasonal conditions for breeding and large areas of standover from 2022 saw rat populations explode in 2023.

Estimates from a HCPSSL survey of growers put losses at around 400,000 tonnes of sugarcane and up to \$40M in lost revenue for the district.

To combat the rat issue, industry worked in partnership to investigate the extent of damage (HCPSSL), conduct research into enhancing the efficacy of rat baits (SRA), and to acquire special permits for aerial application of baits (Canegrowers). A coordinated district wide baiting program was established following an industry meeting with growers, however the program was put on hold due to flooding in late 2023 and the subsequent early onset of the wet season.



*A crop of Q208 (standover) in the Lower Herbert with extensive rat damage resulting in total loss of the crop.*

## FERAL PIGS

The addition of Project Squealer, on top of the existing Hinchinbrook Community Feral Pig Management Program (HCFMP), has provided the Herbert with the resources it needs to continue to manage feral pig numbers. Data shows that since the establishment of the HCFMP numbers of feral pigs and crop damage has been on the decline. Grower surveys however suggest ongoing management work needs to continue with damage to sugarcane crops still being reported.

## AUSTRALIAN (COMMON) COOT

The Australian Coot is typically a minor pest of sugarcane, particularly in the early growth stages of the crop. In late 2023, areas of the Lower Herbert saw significant numbers of these birds moving from nearby waterways into young sugarcane crops. As a result, there were a number of reports of significant crop damage. Thankfully these reports were relatively isolated.



## Project Squealer™

An initiative of the  
Hinchinbrook Community Feral Pig Management Program

The Herbert Community Feral Pig Management Program (HCFPMP) is a collaborative effort in the Herbert region to manage the impact of feral pigs on the natural environment, and on agricultural production. The program is the second longest continually running project of its kind in Queensland and has been running since 2009. The primary partners currently include the Hinchinbrook Shire Council (HSC), HCPSL and Qld Parks & Wildlife Services (QPWS).

Funding was applied for through the Queensland Department of Agriculture and Fisheries (QLD DAF) under the Queensland Feral Pest Initiative – Round 6, to trial and assess innovative and novel approaches to feral pig management in the region. If successful, this would have far-reaching impacts for the management of feral pigs in remote areas. Subsequently Project Squealer was born.

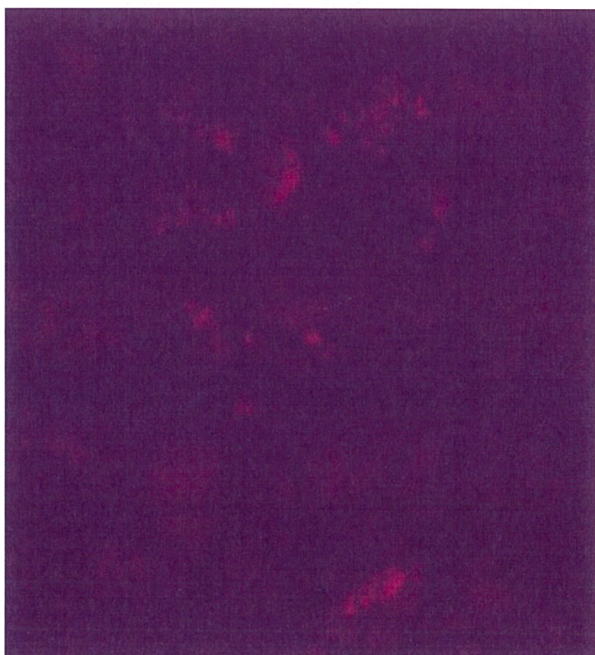
New approaches being trialled include –

- Using drones with thermal cameras to undertake feral pig counts to establish the size of sounders (mobs of pigs) in an area, pre and post baiting or shooting
- The use of drones to deploy prefeed baits in areas prior to deploying poisoned baits
- GPS tracking of feral pigs using GPS tracking collars to understand habitat use, movement and home ranges, to make more efficient use of resources
- Begin work on the AI detection of pigs within a trap to allow the automated closure of trap gates.



The image left, shows the DJI M300 drone with a H20T thermal camera which was used to determine the efficacy of this technology in certain circumstances.

In trials to count pig numbers over large areas where pig presence is unknown, the method was not effective. The height needed to cover large areas produces images with resolution too low to accurately identify pigs from other animals in the landscape, especially through even light canopy coverage.



The image left shows the thermal signature of up to twelve pigs within a cane block from approximately 30m above the cane. The effect of the canopy cover is also shown, making it difficult to give accurate counts in many circumstances. While perfect counts may not be possible, reasonably accurate estimates of numbers can be made, especially when distinguishing between individual animals, or twos and threes, and between large sounders of a dozen or more. The larger the sounder, the less accurate the count due to the presence of suckers. However large groups are easily distinguished from small groups.

The use of drones to deploy poisoned baits needs to first be proved as a concept by deploying prefeed baits. Once this has been accomplished, a permit to deploy poisoned baits can be applied for. However, work will also need to be done to demonstrate that non-target species can be excluded from the baits. This project is currently ongoing.

This year the team at HCPSL engaged in a wide range of interactive schooling events. We saw staff from all different backgrounds attending events, including GIS Officer, Administration Officers, Field Agronomists and Extension Agronomists. The staff displayed and showcased a wide range of job opportunities that are available in the local area related to the sugar industry.

HCPSL had the privilege of having three work experience students in 2023, with them being able to explore a wide range of job opportunities, from GIS work to field work and even laboratory work. Being able to see these students interested in the industry that is the backbone of our small community was such a delight.

One of the highlights of this year was being able to see the 2022 tissue culture plants entered by the students into the annual show cane competition. It was great to see how much effort these students had put in to get them to that stage. Another highlight for 2023 was seeing how the students were not afraid to ask the questions and get involved in any set up that we had.

As an organisation, HCPSL strives to encourage the younger generation to seek jobs within industry and embrace the learning and the importance this crop holds to our local town.

If you have a young person in your family who is interested in doing work experience with HCPSL, please contact your school careers officer to arrange it.

For more information on the Tissue Culture Cane School Competition please contact Rhiannan Harragon on 47761808.



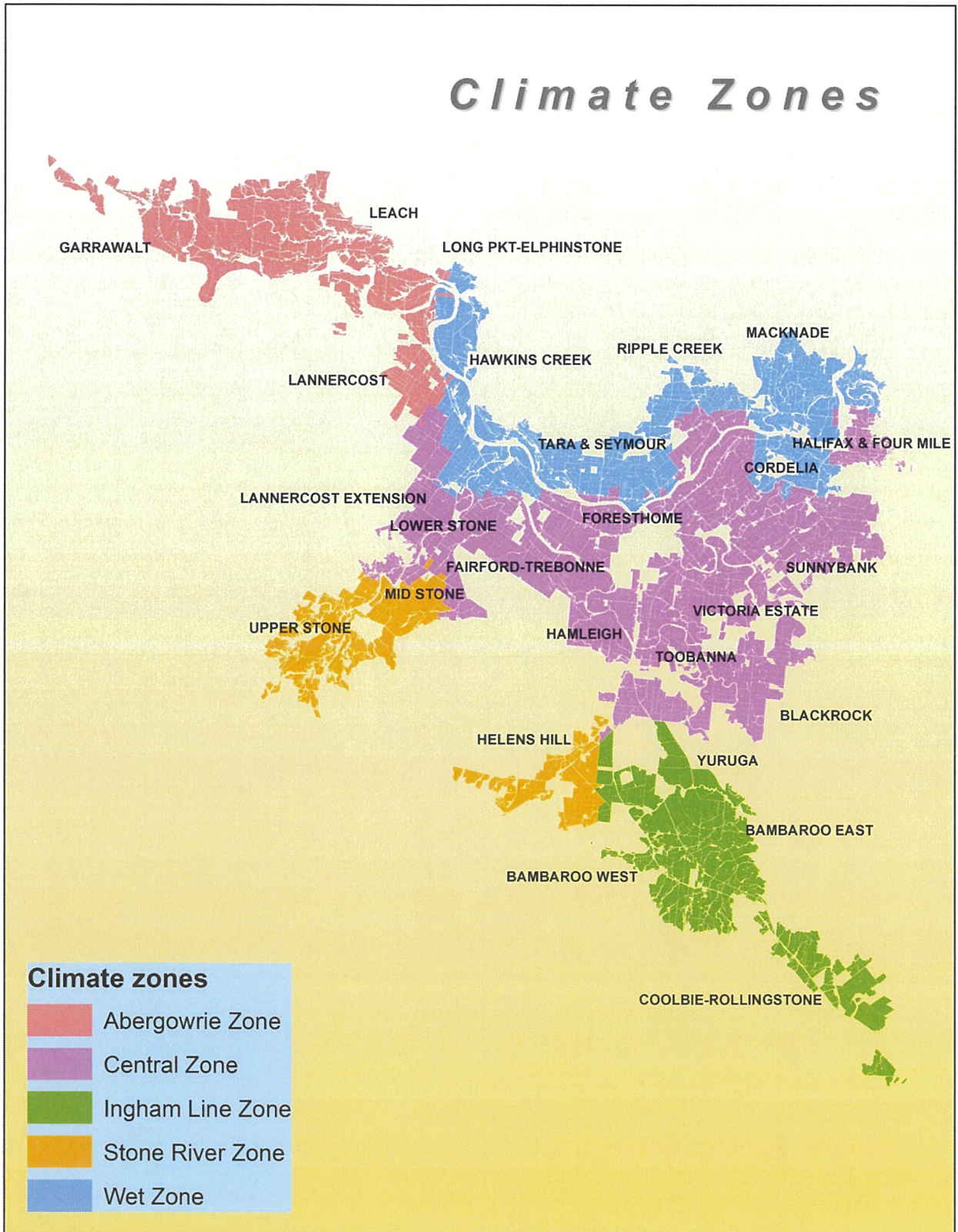
Work experience student Eve conducting CCS trials in the laboratory



Rhiannan Harragon from HCPSL pictured at the Careers night at ISHS



HCPSL team stall set up at the Find Your Future in Hinchinbrook





# CLIMATE ZONES

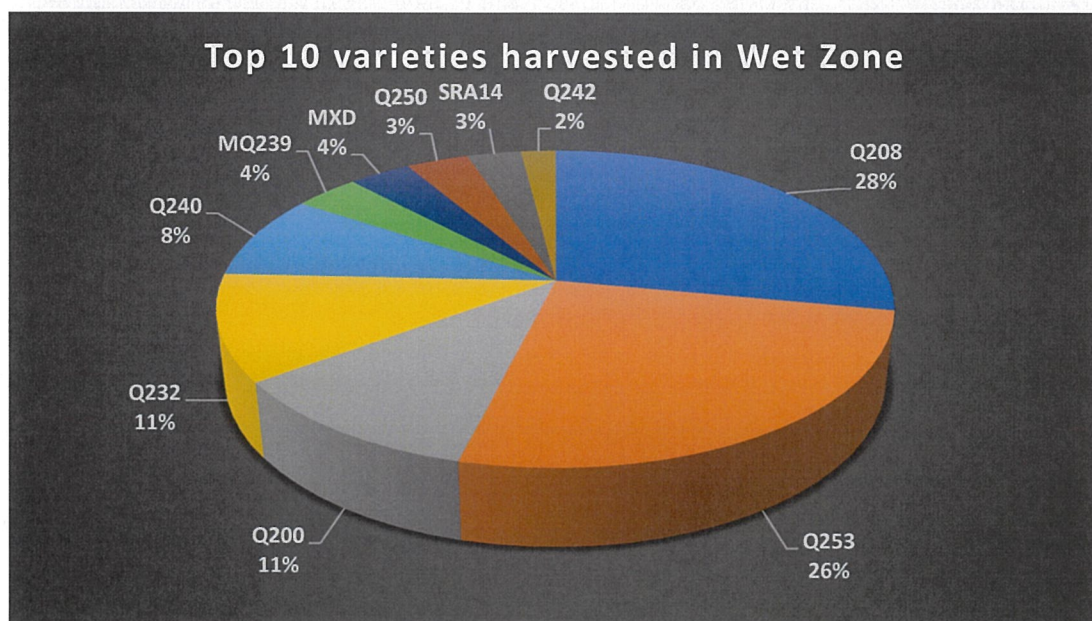
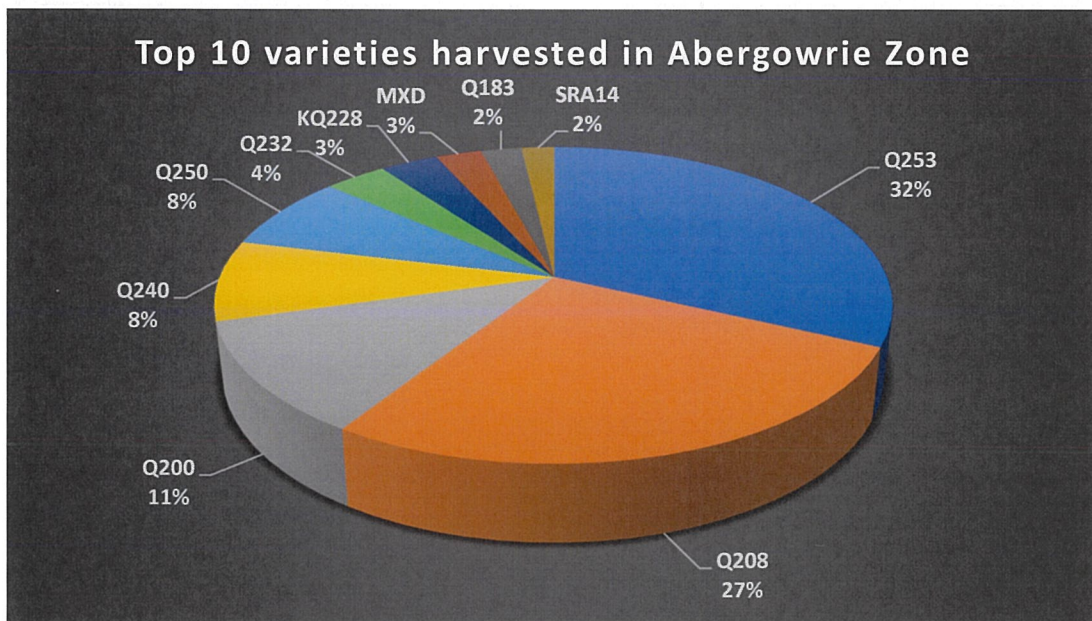
The Herbert River District can be broken into five different climatic zones (indicated on the map on page 17), and these are as follows: Wet Zone (Blue), Abergowrie Zone (Pink), Stone River Zone (Yellow), Ingham Line Zone (Green), Central Zone (Purple).

Before the 2023 season even started, the Herbert Sugar Industry was already facing the challenges created from the continuous wet weather at the conclusion of the 2022 season. Along with standover (some of which being plant cane), the wet weather wasn't enough to impact on rat populations (which exploded), and the Herbert experienced rat damage possibly greater than the levels seen in 2017/2018, with some standover blocks suffering even greater losses.

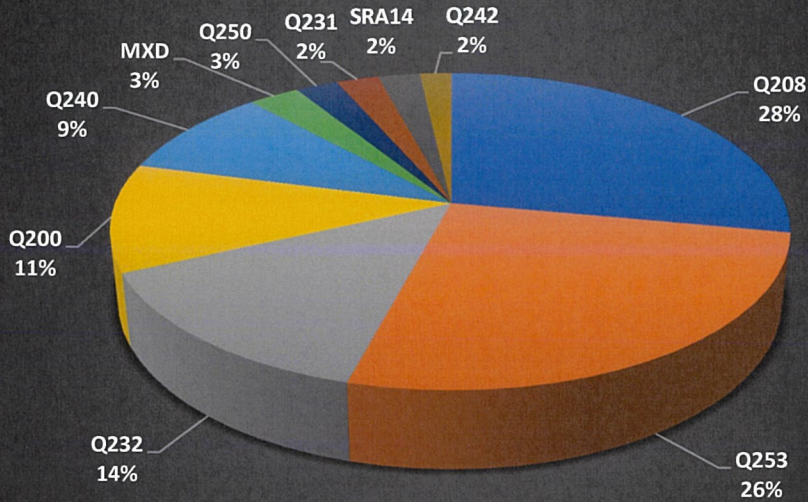
When the Herbert district last experienced standover, Q208 (among a couple of other varieties) handled the standover conditions quite well and whilst productivity was down, blocks could still be salvaged for harvest. However, in 2023 the rat damage on top of the standover blocks was too much for varieties like Q208 and as a result, a significant number of blocks didn't even make it to harvest. Combining this scenario with plant cane existing as standover made some very difficult choices in planting options and fallow planning, as well as harvesting in 2023.

Some varieties (including MQ239 and some blocks of Q253), did respond well to the standover conditions. Fortunately, the conclusion of the 2023 crop saw no standover, however some blocks were ploughed out instead of harvested (due to rat damage demolishing blocks), negatively impacting on district productivity.

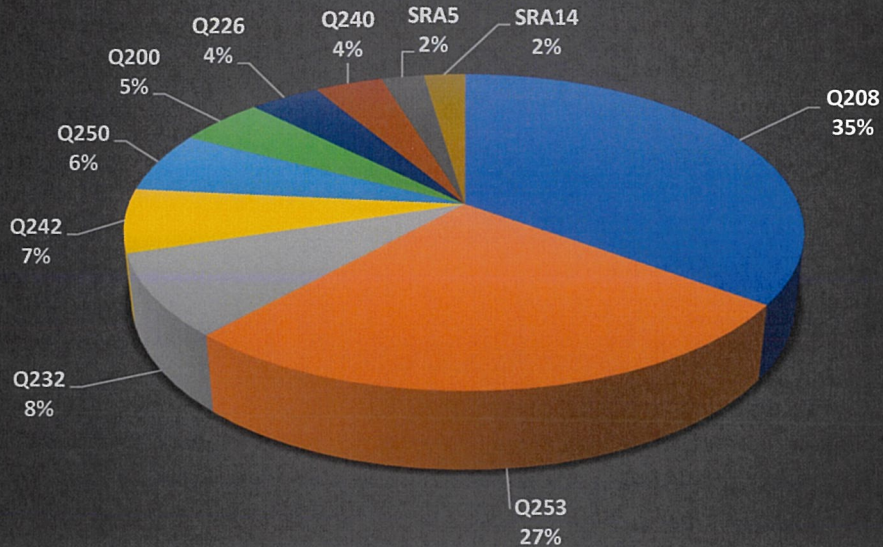
Even without the challenges of the standover and rat damage, some growers are starting to drift slightly away from Q208, whilst Q200 seems to be remaining consistent in the Herbert for the time being. Q240 is still one of the varieties showing the most expansion in area, however this is only occurring in the wetter regions of the district. Of the newer varieties, SRA28 is also generating a lot of interest in the wetter regions, whilst SRA26 is currently the most likely variety of the newer varieties to expand in area in the drier regions.



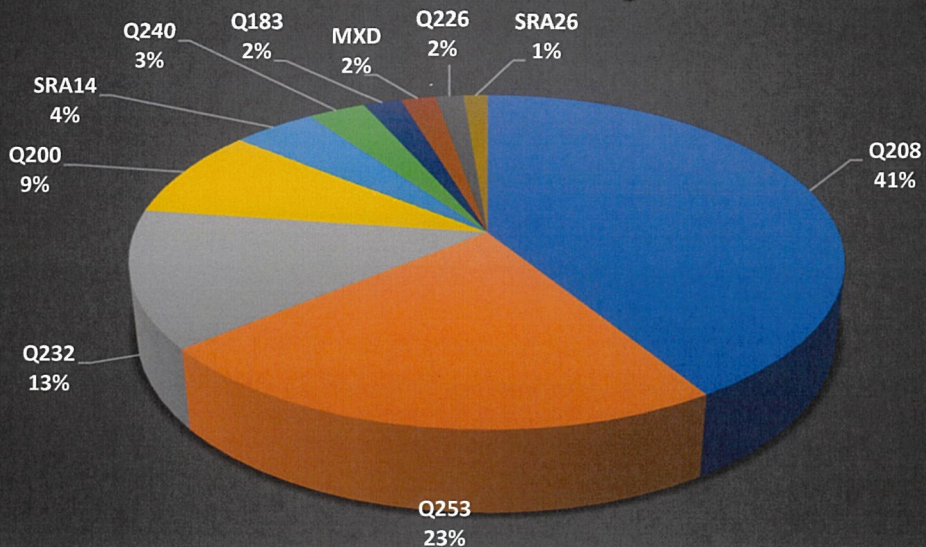
## Top 10 varieties harvested in Central Zone



## Top 10 varieties harvested in Stone River Zone



## Top 10 varieties harvested in Ingham Line Zone



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HCPSSL would like to thank Tony McClintock for his 47 years of service and wish him all the best in his retirement