



Grower Update

ISSUE 41 – JUNE 2021

Welcome to the June issue of our BPS newsletter. We hope you find the articles contained in this issue informative.



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BPS Activities

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Itch Grass

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Shirtan Ban

Staff Contacts

BPS ACTIVITIES

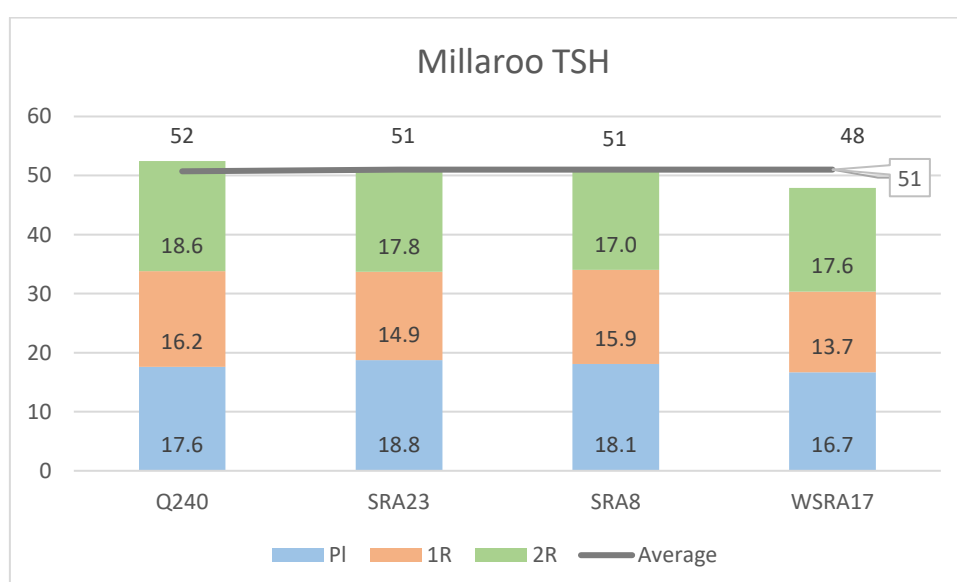
BPS Field Officers are starting a commercial RSD survey across the district, so you will likely see them out and about collecting juice samples from blocks across farms. Based on advice from pathologists, this year's survey will focus on sampling 1st ratoon blocks for higher risk farms (e.g. farms that have historically had RSD, or are part of a group that has RSD present), and 2nd ratoon for other farms.

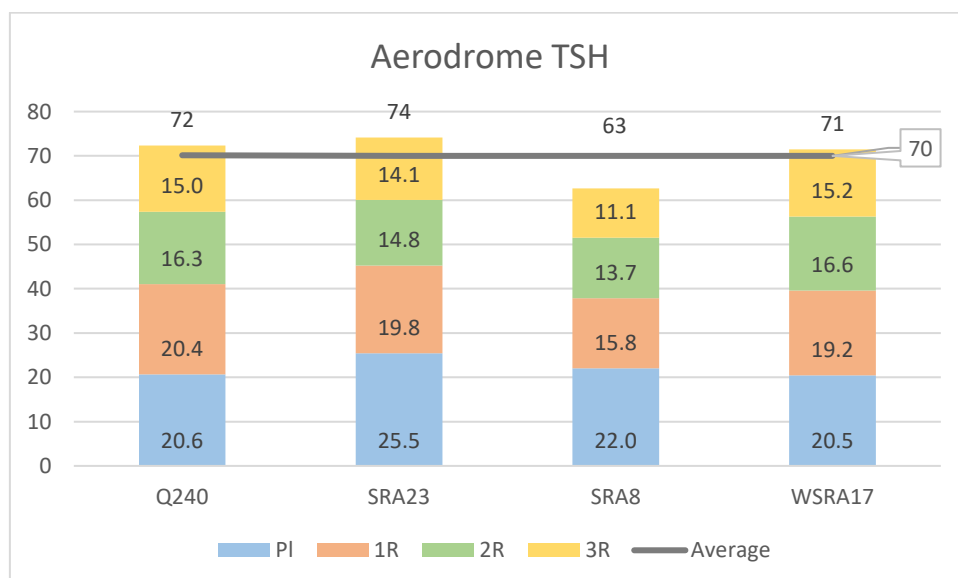
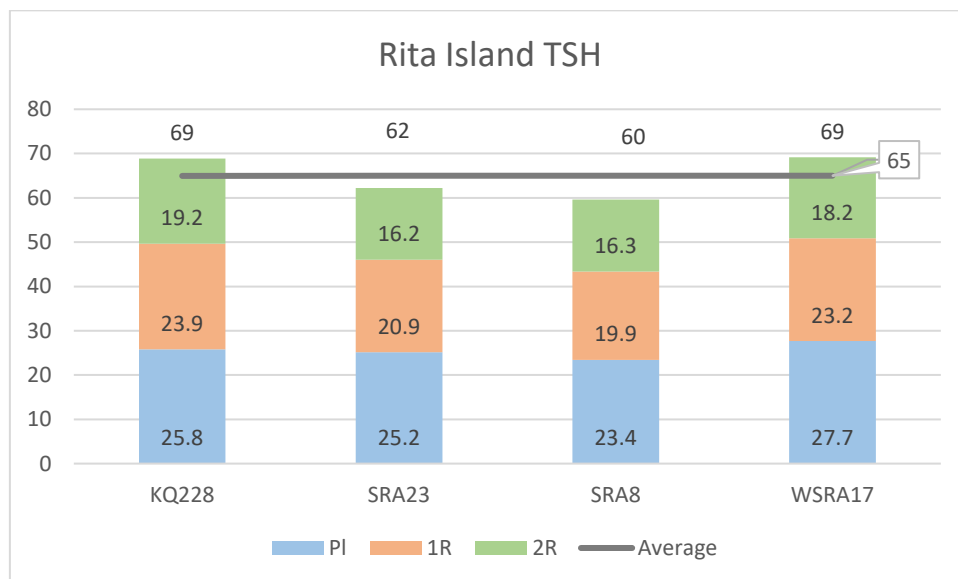
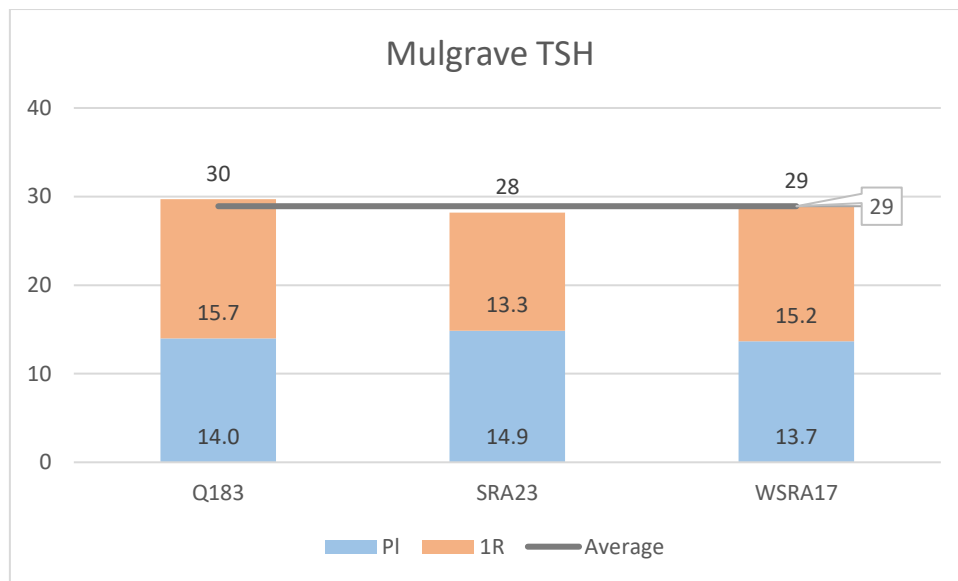
PLOT UPDATE AND SRA23

The rain events early in the year that delayed many planting operations, along with closure of the Inkerman Plot, have resulted in lower sales of approved seed cane. BPS staff have been able to meet all pre-orders to date, however supplies of Q240 and KQ228 are very limited. There are ample volumes of all other varieties, particularly WSR17 and SRA23 available to all members, so please contact your BPS Field Officer if you would like some of these varieties.

BPS staff have implemented more thorough cleaning and sterilising processes for any haul out vehicles and other machinery entering plots. All machinery requires an inspection certificate prior to entering the plot. BPS staff will assist growers with this process. It is critical that there is no plant material present on any machinery prior to entry.

SRA23 is readily available from the plots, and below is some summarised data from a few trials across the district. SRA23 has two central Queensland experimental varieties as parents and is classed as resistant to smut. The data below shows that SRA23, on average, has similar performance to our current suite of varieties. The data shows tonnes of sugar per hectare, and where there is more than 1 years' worth of data for a trial, each year is stacked on top of the previous year. The grey line shows the average tonnes of sugar for the whole trial.





RATOON STUNTING DISEASE (RSD) UPDATE

As most will be aware, there has been a lot of focus on RSD over the last few months. Below is a quick recap of key events this year:

- Standard RSD testing across all plots resulted in some positive RSD samples from Inkerman and Rapisarda plots
- Further intensive sampling showed 15 positive locations at Inkerman and 3 at Rapisarda
- Machinery used to cut plants at the Inkerman plot was subsequently used to cut plants to supply the Rapisarda plot – so this is the most likely source of transmission at Rapisarda plot
- Further intensive sampling across all plots (4 times more samples than standard) found all other Invicta plots clear of RSD, and 2 low positive results in KQ228 plant and 1R at P&K plot
- Inkerman and Rapisarda plots are closed, and KQ228 Plant and 1R at P&K have been quarantined
- At the time of writing this article, all pre-ordered seed cane has been able to be supplied to growers with BPS subsidising transport if cane is not sourced from a grower's standard plot
- Commercial (i.e. on grower's properties) RSD sampling is underway at the time of writing this article, BPS staff will endeavour to test 1 block on every farm across the district. If you get an RSD positive result, BPS staff will notify you as soon as that data becomes available. We will also notify your harvesting contractor that RSD is in the group (but not identify the individual or block)
- Steri-max is available at cost price from the BPS office to assist growers and contractors with management of RSD

RSD is transmitted through infected planting material or infected juice. It is critical to ensure that your planting source is free from RSD and that any machinery that can spread juice is cleaned and sterilised when moving between blocks or farms. This machinery includes planters, harvesters, stool splitters, break pushers, fluming line pushers or any other implement that can cut through plants. Even haul out trucks and other machinery that might have billets that could dislodge have the potential to spread RSD.

BPS staff have also observed a number of fallow situations where cane volunteers are growing. If infected volunteers grow amongst a newly planted crop and machinery then transfers juice from these infected volunteers to the plant cane, there is significantly increased risk of RSD spread within that block. RSD does not survive in the soil, nor is it hosted by legumes or crops other than sugarcane.

As discussed in shed meetings and workshops over the last few years, there has been a rise in RSD across the district since 2018. This increase has coincided with the introduction of a much more sensitive and accurate test (qPCR). It is worth noting that many of the farms that have RSD detected on them over the last few years have not purchased approved seed cane for a long period of time. There have been some suggestions that RSD has spread from approved seed cane plots, however the data does not indicate this is the case. In most cases RSD infections appear to have been introduced via machinery. So, on-farm, all growers and contractors need to be vigilant about cleaning and sterilising equipment between blocks and farms.

It is important to clean dirt and plant material from a machine prior to sterilising, and then spray with a 1% solution of Steri-max to the point of runoff. We suggest that you only mix enough Steri-max for the job at hand, using good quality water free from organic matter (typically channel water is not ideal).

Please ensure everyone works together to minimise the spread of RSD; discuss cleaning and sterilising procedures with your contractors, neighbours, and machinery hire agents. It is also very important to consider using the best available plant source – the lowest risk will be approved seed cane. Remember that RSD is not the only thing to consider when selecting a plant source, but all the following factors should be taken into account:

- Vigour of crop

- Pest damage
- Disease risk
- Eye/bud condition
- Lodging
- Crop age
- Years away from hot water treatment
- Piping
- Chemical damage

Approved seed plots have a very strong focus on farm hygiene, follow a strict set of procedures and a high level of sampling. These plots are likely to be the best available source when compared to other options that have not followed approved seed cane procedures. If you have any questions regarding RSD, or require assistance, please contact any BPS staff member.



NITROGEN AND PHOSPHORUS BUDGET Q & A

What is a nitrogen and phosphorus (N & P) budget?

- An N & P budget calculates the total amount of nitrogen and phosphorus that you can apply to your farm based on the regulated method. The process for creating recommendations has not changed.
- It gives you the flexibility to alter block nutrient rates of nitrogen and phosphorus as long as the total farm application doesn't exceed the budget. For example, it can help to smooth recommendations so that only one or two blends need to be used.



Do I need to have a nitrogen and phosphorus budget for my farm?

- Yes, all growers will be required to have a budget by 1st December 2021, to cover the fertiliser applications for the 2022 season.

Who can create the nitrogen and phosphorus budget?

- An appropriate person. This is someone with professional qualifications, training, skills or experience relevant to completing an N & P budget. A grower may be considered an appropriate person if they can demonstrate they have the necessary qualification, training, skills or experience.

Will I need to update my farm budget?

- Yes, your farm budget needs to be reviewed annually and the total N and P amounts recalculated to take into account changes in crop class and fallow area. As a grower you can do this yourself or employ an appropriate person to do it for you.
- After 5 years the N & P budget must be reviewed by an appropriate person.

What does an N & P Budget need to include?

- Calculated whole of farm N amount for the following harvest period (total kilos applied).
- Calculated whole of farm P amount for the following harvest period (total kilos applied).
- Total amount of N applied to the whole farm for the previous harvest period (kg).
- Total amount of P applied for the whole of farm (kg), or a record of where the crop cycle requirement for P has been applied in full.
- Actual yield from the previous year in tonnes cane per hectare (e.g. field book).
- Reference of soil tests used to develop the recommendations for each block.
- Maps:
 1. Farm map showing the following:
 - Farm number or unique identifier; and area of whole farm in hectares.
 - Block boundaries.
 - Block identifier i.e. block number and area of each block in hectares.
 - Crop class and fallow areas.
 - Identification of any physical or soil constraints to yield (if they exist) for each block or management zone.
 2. Soil testing maps:
 - Map showing block or management zone boundaries where soil tests were taken and where fertiliser or mill mud or mud/ash mixes have been applied.
 - Soil map showing the dominant soil types where soil tests were taken.

How many years do I need to keep my N & P Budget records for?

- Each year's N & P Budgets, and associated records, must be kept for at least 6 years.

Soil Testing

- You must be able to reference a soil test for each block of cane to be fertilised. The soil test should be a complete suite of nutrient analytes to ensure that the crop's requirements are being met.
- Record keeping for soil sampling:
 - Date of soil testing and description of the location and dominant soil type sampled.
 - Map of the boundaries of blocks or management zones where soil sampling has been undertaken.
 - Where fertiliser and mill by-products have been applied.
 - A soil map showing the dominant soil types covering the blocks or management zones where samples were taken.

Management Zones

- Management zones are a block or group of blocks with similar yields and history.
- Often there are underlying constraints that affect crop production on farms. These need to be addressed. Management zones could include areas that suffer waterlogging, sub soil constraints, sodicity, salinity, highly saline irrigation water affecting crop growth that needs to be managed. It is not mandatory to address these issues in the N&P budget, however if you would like to that's ok.

REGENERATIVE CANE FARMING FORUM BUS TRIP

On February 15th and 16th BPS and SRA along with a group of growers from the Burdekin and Herbert areas travelled to Cairns to participate in the Australian Regenerative Cane Farming Forum. This trip was funded by a DAF peer to peer flexible grant. On the way to Cairns, we stopped in at the SRA Tully research station where Danielle Skocaj and Laura MacGillycuddy explained how pachymetra and nematode testing is done. Then back on the bus and on to Cairns.

Over 120 growers and industry delegates attended the forum. After a brief discussion at the venue, we then jumped on one of 4 buses for a roving farm tour. At each stop the grower explained his or her farming system, highlighting soil health as a major contributor to their success and sustainability. Mixed species crops were prevalent in the wet tropics and it was obvious from the first field we inspected that there was an abundance of beneficial insects in these cover crops. One possible reason for this could be that specific plants like sun hemp and sunflowers grow quicker than your typical legumes, therefore attracting pests and beneficials in earlier before legumes start to seed. Another reason could be that there are far less insecticides sprayed in the far north, this would contribute to less beneficials being taken out of the system.

One of the sites we visited was a grower who has been growing peanuts in his fallow for soil health benefits as well as cash flow for many years. His comments on how the peanuts complement his farming system were quite inspiring. Another bus visited a wetland that had taken 5 years to establish. The soil was acidic and prone to waterlogging due to the natural topography of the land. The grower was very proud of his efforts and suggested that the nutrient and chemical run off testing that was taking place at the property would, once it is finalised, prove that the wetland was fulfilling its purpose. The final farm that we visited had completed a range of improvements over the last 30 years. These growers had planted trees and grasses on banks to stop erosion, installed subsurface drainage and created their own compost from waste products that were locally sourced. They also planted both a legume crop and a mixed species fallow crop every year. Compost was then applied, and chemical nitrogen reduced according to the tests that were carried out on the compost material. The brothers also harvested their own cane and utilised new technology where possible.

Growers who attended the conference said that although the climate and growing conditions were completely different, specific practices they had seen at the forum could be implemented on their own farms.



OPTICANE

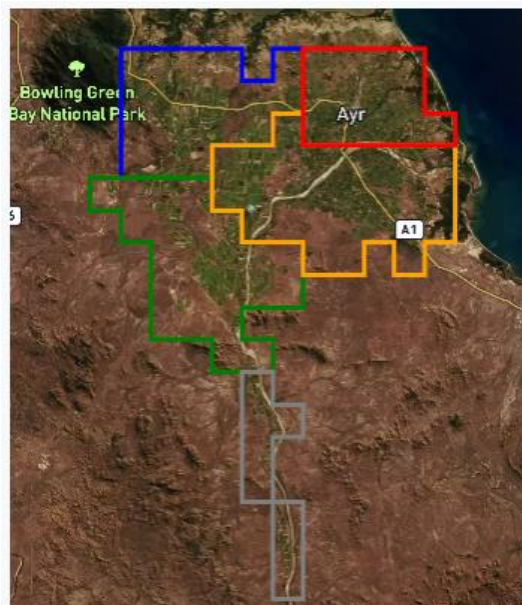
Opticane is a new weather forecasting tool that has been developed under the Climate Smart Sugarcane Irrigation Partnerships (CSSIP) project. CSSIP is a joint project of JCU, BPS, AgriTech Solutions, CSIRO and SQR Software; it is funded under the National Landcare Program.

Opticane is developing weather forecasts that take into account the climatic variability seen across the Burdekin. The district has been divided into 5 climate zones, each with their own individual forecasts. Short (7 day) and long term (14 week) forecasts are available for each climate zone.

Other features of the tool are access to the current weather conditions from the BPS and JCU weather stations and a tasks page that provides a snapshot of current and forecast conditions that are relevant to various farming activities such as fertilising, burning and spraying. Users can also create an account to access customisable tools.

When you create an account you can:

- link to IrrigWeb (if you have an IrrigWeb account) to integrate forecasts into the irrigation schedule,
- create alarms for specific weather events e.g. high probability of rain forecast,
- set a default weather station to easily access current details and for the IrrigWeb forecasting,
- create a custom dashboard for frequently accessed forecasts or current conditions.

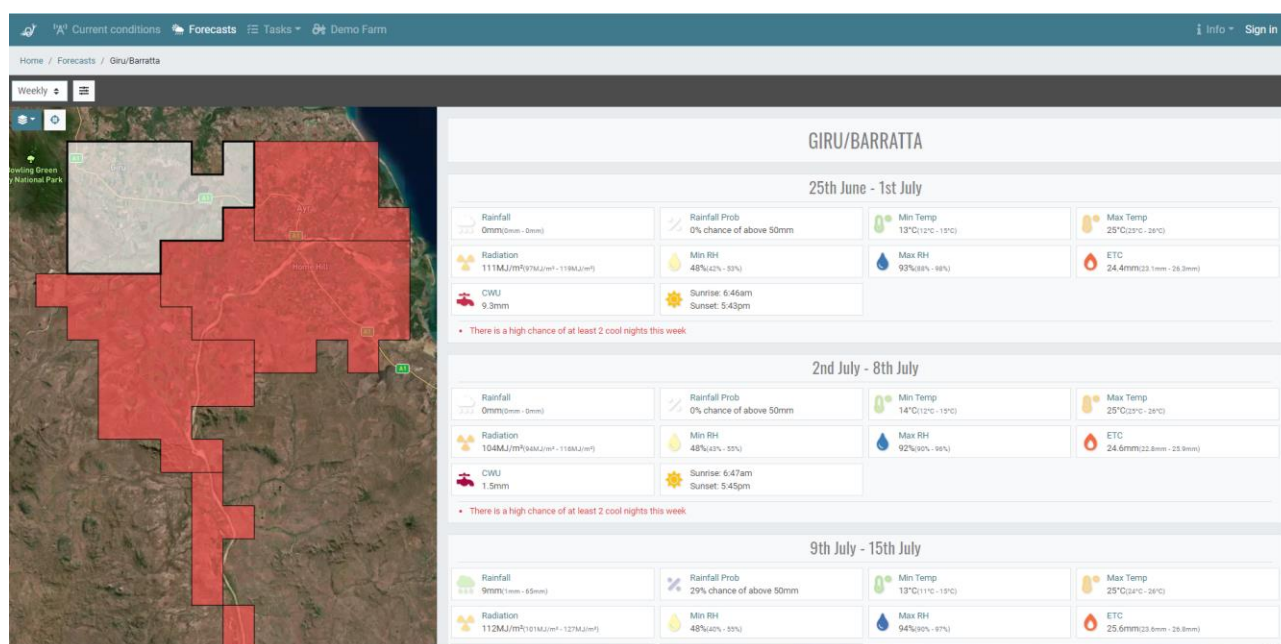


Five climate zones in the Burdekin sugarcane growing region.

Opticane is free to access via www.opticane.net

For assistance with setting up and using Opticane please contact the BPS extension staff.

JCU has also produced a one-page newsletter detailing progress on the development of the tool.



Example of the long-term forecast for the Giru/Barratta area.



**JAMES COOK
UNIVERSITY
AUSTRALIA**

Celebrating
50
YEARS
1970 - 2020

Climate Smart Sugarcane Irrigation Partnerships

NEWSLETTER

April 2021

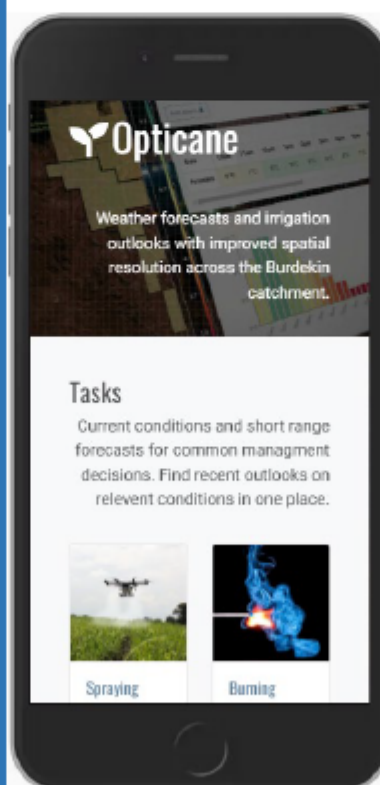
Highlights

- Website revamp: www.opticane.net is getting prettier and more user friendly
- New 'Tasks' page collects useful observations and forecasts for tasks such as spraying
- Short (~7-day) and Mid (~14 week) irrigation forecasts available with an associated IrrigWeb account
- Irrigation outlook collects forecast irrigation dates, water requirements and rainfall forecasts to help guide irrigation decisions
- Weather station installed in Giru/Barratta climate zone (North-West Burdekin region)

Web-App Development

Our Opticane web-app has been consistently upgraded in look and feel to provide a clean user experience on both a PC and mobile device. Opticane now provides short and medium range weather forecasts for 5 zones in the lower Burdekin region. These forecasts also integrate into IrrigWeb in order to provide irrigation outlooks for user described paddocks. These outlooks make use of schedules that have been set up in IrrigWeb. A demonstration of the irrigation forecast is available on our Demo Farm page.

A user customizable dashboard and 'task' page have been added to the web-app. These allow the user to collect different forecast and observed data together in one convenient place. Current conditions across the Burdekin region are available from local weather stations including a new JCU weather station in the Giru/Barratta area.



Use and Feedback

Since the start of 2021, there have been 60 new users and more than 1,400 page views on the production version of Opticane. Improvements to the user experience of the web-app have been developed with feedback from BPS extension officers. Producing easy to understand and informative displays are an active area of development for the CSSIP Team. We would like to encourage everyone to explore our web-app and contact us with any suggestions, questions or comments you may have.

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ITCH GRASS

Itch grass is currently widespread throughout tropical areas of the world and is a highly invasive pest due to its quick germination and growth. In the Burdekin, Itch Grass tends to emerge at the beginning of the year due to optimal growing conditions with rain and warm weather. Flooding can also significantly increase the



spread of seeds so even if you haven't had itch grass on your farm, be observant in flood prone areas for the weed. BPS staff have found young itch grass plants under stress producing seeds when the plant is only 5cm tall. Itch grass can cause significant yield losses in sugarcane due to its ability to rapidly spread and compete with cane. It is very important to control itch grass if you find it on your property and prevent the spread to neighbouring farms.

How to identify:

- Stiff hairs covering the leaf sheath, stalk, and leaves (can irritate the skin when touched)
- Aerial roots can be a red/maroon colour and protrude from the lower nodes
- Leaves are narrow, 5-20mm wide and can reach 50cm long in larger plants
- Cylindrical seeds protrude from the top of the plant
- Seeds are cylindrical and break off into segments
- Height of the plant can reach 3m

How to manage/prevent:

- Clean down machinery (especially hired equipment such as laser levellers) from dirt and plant material especially if they are coming from another farm or a known itch grass area
- Monitor known itch grass areas and control with chemicals before seeding
- If found, cut the seed heads off (being careful not to break the seeds) and bag them with the whole plant, take it to a drum or controlled area and burn
- Keep a look out even in drains, creeks and bushland

BPS staff remain vigilant at managing itch grass hot spot areas and monitoring areas that are at risk of outbreaks. If you find itch grass on your farm, call BPS so that monitoring and eradication in that area can take place.



WELCOME TO NEW FIELD OFFICERS

BPS has recently welcomed new field officers for Invicta and Kalamia.



Joseph Magatelli - Invicta

Joseph Magatelli has commenced as the Invicta field officer. Joseph grew up on the family farm in the Burdekin. After taking over the farm he changed the way it was being run by implementing new practices to improve his productivity. Joseph has tried other roles since selling the farm, but has come back to agriculture with the aim of helping other growers however he can. Joseph's main interests are controlled traffic, legume fallow management, chemical training and record keeping.

Joseph can be contacted on 0427 372 124 or email jmagatelli@bps.net.au



Kristine Patti – Kalamia (Monday and Thursday)

Kristine grew up on a cane farm and first joined BPS in 2011 before leaving full time work to start a family. She has been employed on a casual basis to assist during busy times, but is now returning in a regular role. Kristine will job share the Kalamia field officer position with Eddie Fabbro.

Kristine has completed a Diploma of Agriculture and has also been trained in pest and disease identification and management. She is keen to assist growers in any way she can.

Kristine can be contacted on 0427 167 159 or email kpatti@bps.net.au



Eddie Fabbro – Kalamia (Tuesday, Wednesday and Friday)

Eddie Fabbro is job sharing the Kalamia field officer position with Kristine Patti. Eddie is a Burdekin local having grown up on a cane farm in the Jarvisfield area. He has worked in all areas of the cane industry including farming, at the mill and in the harvesting sector. Eddie is looking forward to helping growers with all aspects of their farming system.

Eddie can be contacted on 0447 209 152 or email efabbro@bps.net.au

SHIRTAN BAN

Shirtan is a fungicide that has been available to sugarcane growers for over 40 years to control pineapple disease in cane billets when planting. The active ingredient in Shirtan is METHOXY ETHYL MERCURIC CHLORIDE which contains mercury. In June 2020, the APVMA (Australian Pesticides and Veterinary Medicines Authority) announced that mercury containing pesticides would be banned from sale and use from 16th of June 2021. This was at the request of the registration holder.

Alternative fungicide control products registered for sugarcane include:

- Propiconazole – Tilt 500 EC, Bumper 625, Throttle 500
- Flutriafol – Sinker
- Triadimenol – Bayfidan 250 EC
- Prochloraz - Sportak



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