



ANNUAL REPORT

AND

FINANCIAL STATEMENTS

1 APRIL 2018 – 31 MARCH 2019



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Annual Report

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Chairman’s Report

This report covers the period from 1st April 2018 to 31st March 2019. I wish to thank all fellow directors for their efforts during this time as the company continues to evolve and expand into the extension services space whilst remaining committed to core pest & disease services, sound corporate governance and secure fiscal planning.

Chairman Chris Hesp stepped down due to health reasons in July 2018. He appointed Alternate Director Chris Lyne in his place. I was elected Chairman at the Board meeting in August 2018.

Boards must think strategically and the board of BPS has set 6 clear strategic goals that they intend working toward so that the value of BPS membership is enhanced without increasing levies.

Directors and Board Meetings

Six regular board meetings were held during this period. There was a 92% director attendance at these meetings. The Company Secretary has ensured that meeting papers were prepared and minutes recorded for each of these meetings. Directors also represented BPS on numerous other occasions during engagements with industry stakeholders. All directors are thanked for the time taken in performing their duties.

Board Structure

The board for this period consists of the following directors:

Grower-elected Directors - Mr Chris Hesp (Chairman), Mr Bryce Davies, Mr Mark Vass
(April – July)

Grower-elected Directors - Mr Bryce Davies (Chairman), Mr Mark Vass, Mr Chris Lyne
(August – March)

Wilmar-appointed Directors - Mr Peter Larsen, Mr Lee Danello, Mr Ian Davies

Company Secretary - Mr Mark Rickards

Management and Staff

The importance of pest & disease control has not diminished and remains the primary objective of the company. BPS has a very capable group of field staff who are committed to delivering a sound and reliable service to members. Generally, these officers are the first point of contact when a member encounters a problem with their crop or requires advice on any other farm related matter. Training of field officers is regularly updated to ensure they stay ahead of industry related pest and disease issues. Thanks goes to field officers Dave Paine, Madeline Molino, Leigh Chapple and Wayne Johnstone.

Leigh Chapple replaced Brendan Arboit as Invicta Field Officer and Wayne Johnstone replaced Ashley Taran as Inkerman Field Officer. I would like to thank Brendan and Ashley for their effort and commitment to the industry during their time with BPS.

Participation in government and industry funded projects aligned to members' interests, has led to the bolstering of agronomic expertise within the ranks of BPS. Manager Rob Milla heads a well-balanced team of extension staff that includes Marian Davis (Extension Agronomist), Terry Granshaw (Extension Officer), Cherrie Johnson (Trainee Extension Agronomist) and Jasmine Connolly (Extension Officer). The extension team has been further boosted by the appointment of Claire Bailey as an Extension GIS officer who is focused on precision agriculture and new technologies.

The increase in extension capability has proven invaluable to those members who have taken advantage of additional services on offer. Growers are encouraged to seek advice from BPS extension staff and field officers whenever required as their services are paid for in your 7c/tonne levy deduction.

The board thanks both Rob Milla (Manager) and Mark Rickards (Commercial Manager) for their operational organisation of the company over the past twelve months. They have ensured that the objectives set out in the strategic plan have been met.

Rob Milla has now completed six years in the manager's role. He has ensured staff remain focussed on delivery of BPS core business including crop data collection, distribution of approved seed cane and all other aspects of pest & disease control. He leads our extension team and has been very active in liaising with stakeholders, government departments and other agencies to ensure our member's interest are represented fairly.

Rob is supported by Mark Rickards Commercial Manager who is in charge of finance while ensuring the business remains compliant with the ever increasing regulatory requirements. He is responsible for overseeing the field staff in all general BPS activities including Workplace Health & Safety. Mark also performs the additional role of Company Secretary, this is quite an onerous and extremely important position. I commend both Rob and Mark for the way in which they manage their duties.

Study Bursary

Good agronomic advice is crucial to maintaining and improving production on farm. In recent times, it has proven difficult to fill positions at BPS in the agronomy field, so the board has made a conscious decision to promote the entry of local high school graduates into tertiary study of agricultural science through a bursary program. The BPS Study Bursary program is designed to encourage one local high school graduate every year to study agricultural science at a tertiary institution of their choice, then reward them with financial assistance for successful completion of required subjects each semester. Our desire is for these students to graduate, then return to the district to work in the sugar industry. Currently the bursary is helping four students from the Burdekin with their studies.

Strategy & Direction

The strategic plan for years 2018-2020 has commenced. Although many of the functions of BPS will remain the same, the business needs to assist members meet an ever changing environment within the sugar industry. Demands made by government and conservationists must be addressed. BPS will continue to assist their membership to achieve compliance at government level in the best way possible without losing focus on the district's ultimate goal of 19tsugar/ha & 9 million tonnes of cane. A profitable and financially sustainable local industry are key drivers in this new plan.

In developing the 2018-2020 BPS Strategic Plan, the board used information gathered from consultation with members and other stakeholders to identify 6 strategic goals and develop various enabling strategies to reach the milestones. The 6 strategic goals are:

1. Minimise Pest & Disease through seed cane supply & crop monitoring
2. Deliver a wide-ranging extension service to members
3. Participate in Industry & Gov't funded projects that deliver value to Growers & Millers
4. Admin practices based on sound corporate governance & secure fiscal planning
5. Develop It systems to enhance the collection, storage & communication of data
6. Adoption of new technologies to advance industry efficiencies

The industry is subject to increasing environmental legislation and BPS is well placed to assist our members to comply with new and existing regulations. Embracing the Industry led Best Management Practice (BMP) Program is one way farmers can demonstrate to Government that we are serious about protecting the environment.

Cash Reserve

The company's assets have grown substantially in the past 5 years and as a result BPS has a sizeable cash reserve. These funds are there to benefit members and it is the board's intention to preserve sufficient cash in reserve so that BPS can remain operational if opportunities for alternate sources of income diminish or some catastrophic event requires the reserve to be drawn upon or an opportunity presents that will create further value to members. In any case it remains a valuable liquid asset of the company.

Seed Cane Plots.

It is important for us to acknowledge the value of our approved seed cane distribution system and the role that it has played to ensure that the Burdekin District remains a mostly disease free cane growing area. This seed cane system is widely regarded as the best in Australia and with average sales of around 6000 tonnes of treated cane on an annual basis, it is also the largest.

A lot of effort goes into producing a tonne of seed cane for distribution to our members, from hand cutting, treating, propagation, cultivation, through to it being harvested and delivered to individual growers. I sincerely thank all those people who are involved in this process including the plot owners, plot managers, harvesting and hauling crews, planting contractors, field workers and BPS personnel. We are dependent as a district, on this valuable source of treated cane.

Summary

As the 2019 harvest progresses, it is evident that cane supply tonnage will be less than originally anticipated, even though there was a timely finish to the 2018 crush. This shows that there are many variables at play when producing a crop of sugar cane. Weather is one we have no control over. There are however, many other contributing factors that can be controlled and the Board, management and personnel at BPS are ready and willing to assist their members.

I urge all members to take advantage of the many services available to them from BPS to maximise their productivity, profitability and sustainability.

Bryce G. Davies
Chairman
14th August, 2019.

Manager's Report

BPS continued to strive to deliver practical and productive services to all members during the 2018/2019 financial year. Crushing results for the 2018 season were 8.02 million tonnes crushed at a district average of 116 tc/ha and CCS of 15.0, resulting in an average of 17.4 tonnes of sugar/Ha. While there were challenges faced during this season, members should be congratulated for the emphasis placed on optimising productivity, profitability and sustainability on each of their farms and the region.

Approved seed cane sales increased slightly from the 2017 sales of around 4250 T to 4620 T for the 2018 season. Levels of RSD have remained static with 17 farms testing positive. While it is positive that the number has not increased, the level of RSD is still concerning. In order to manage this disease better, BPS have committed to testing at least one block on every farm in the region.

In early to mid 2019, BPS staff have observed higher numbers of many cane pest species include moth borer, termites, crickets and wireworm. This may be related to the wet season events of early 2019. Increased moisture and high temperatures could have resulted in increased insect life cycle activity.

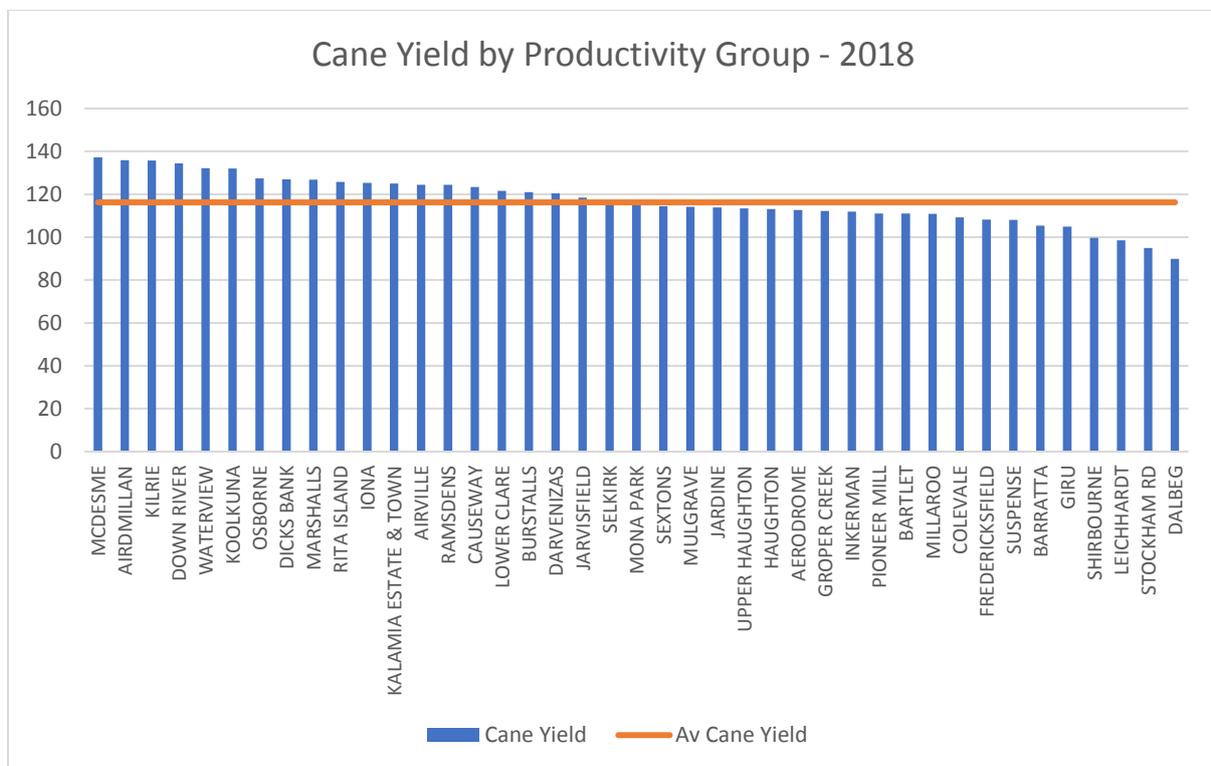
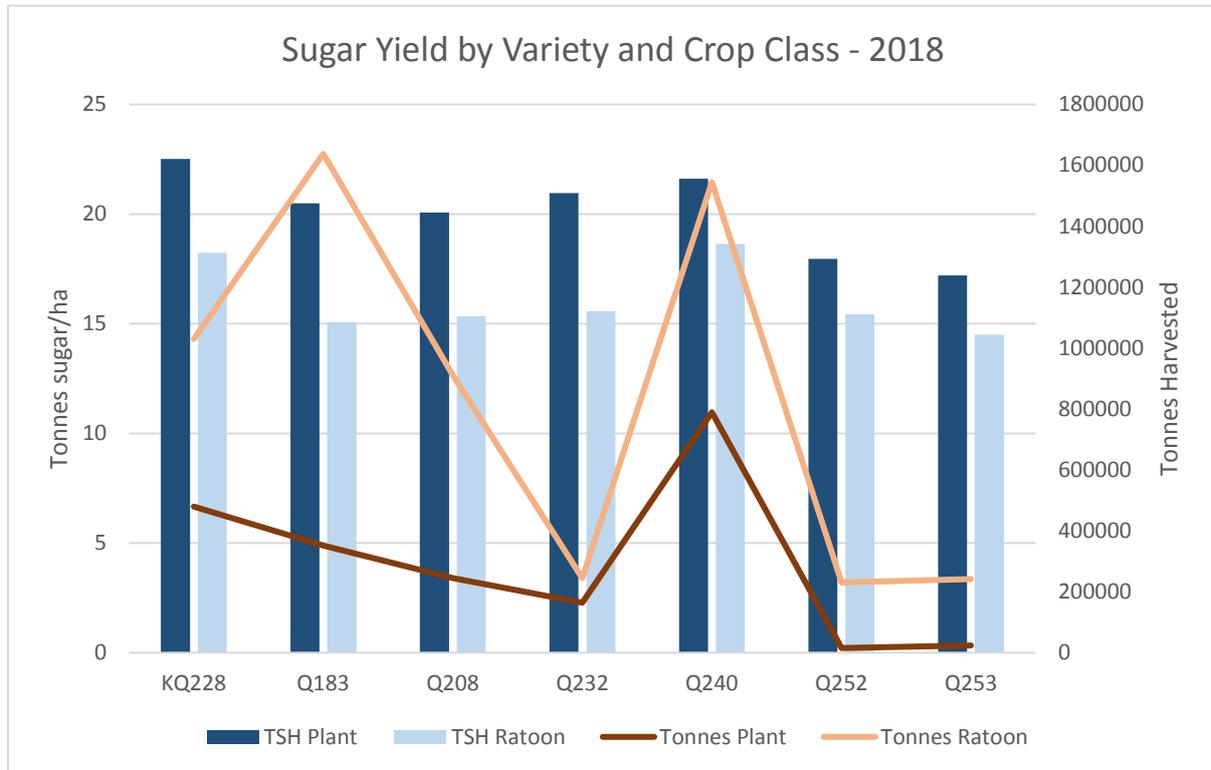
Pest damage has increased overall when compared to the previous years' figures, with wallabies, coots and canegrubs having the highest increase. Overall, pest damage has increased to around an extra 15 000 T cane lost compared to 2017 losses. Wallabies and pigs have been reported by members to be causing the most damage across the district, and coots and rats also contribute to a significant number of tonnes lost to pests. Growers are encouraged to report all pest and disease issues and concerns to their relevant field officer, so that the damage can not only be recorded, but also so that appropriate management strategies implemented.

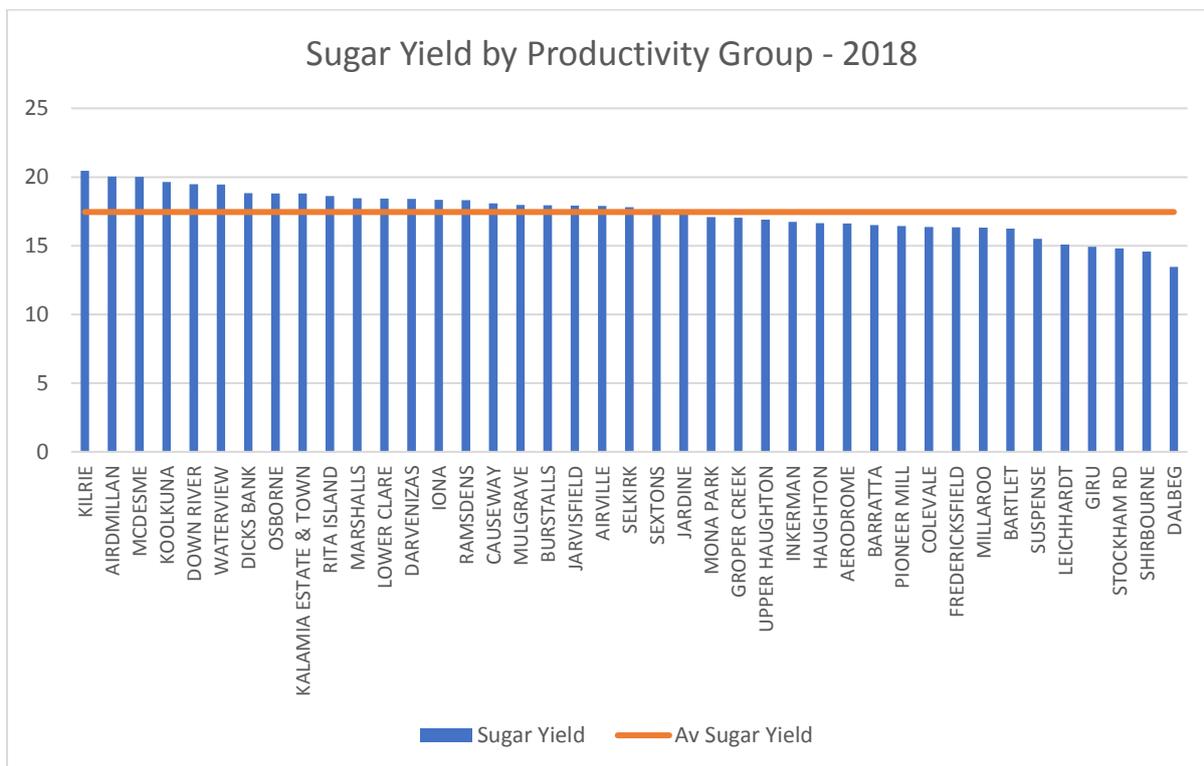
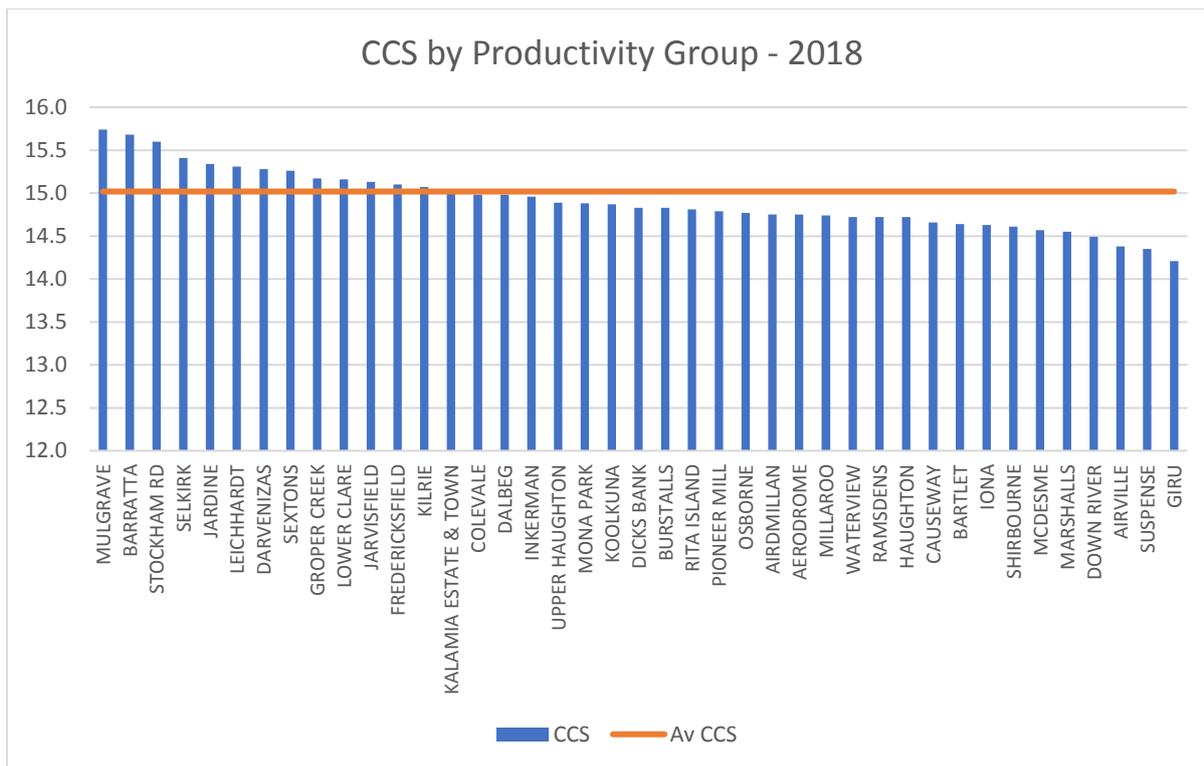
The BPS extension team harvested and established around 40 trials during the reporting period, largely around nutrition and varieties, with some work also exploring soil amelioration products and farming systems. A large proportion of this work has been funded through external sources such as NQ Dry Tropics, DNRM, Queensland CANEGROWERS, SRA and DES. BPS will source funding opportunities when they align with the BPS strategic plan and provide potential productivity, profitability or sustainability benefits for our members. There has been an ongoing increasing demand for independent soil test sampling and recommendations through BPS, and all members are encouraged to utilise this service. BPS has noticed an increase in other extension activities such as advice on soil amelioration, nutrition, weed control, legume cropping, irrigation and farming systems. It is encouraging to see an ongoing demand for Smartcane BMP services with around 298 self assessed and 43 growers representing 16 335 Ha accredited.

Another increasing area of activity conducted by BPS has been machinery inspections when moving implements between Biosecurity Zones. This often time consuming task is critically important – if machinery was moved between districts with no consideration for removal of soil or plant material, the risk of spread of pests and diseases would be significantly increased. Please ensure that you contact BPS prior to moving any machinery out of the district, and ensure that any purchase of machinery from other districts comes with an inspection certificate.

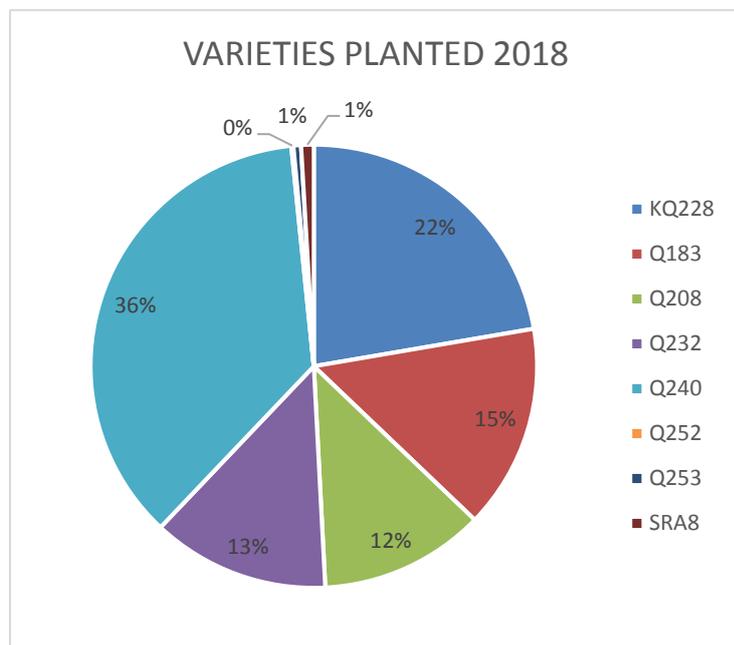
Productivity Results From 2018 Season

The following are a summary of variety and productivity data from the 2018 season, data supplied by Wilmar.



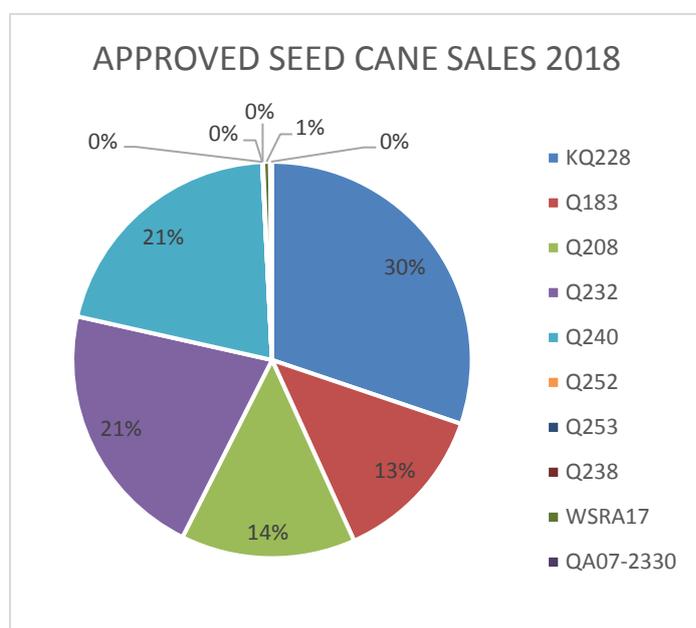


Area and Percentage of Plant Cane 2018



Variety	Area Planted (ha)
KQ228	3011
Q183	2013
Q208	1620
Q232	1738
Q240	4909
Q252	20
Q253	74
SRA8	124

Tonnes of Approved Seed Cane 2018



Variety	Tonnes Sold
KQ228	1402
Q183	605
Q208	656
Q232	980
Q240	959
Q252	1
Q253	0
Q238	3
WSRA17	26
QA07-2330	7
Total	4638

Approved Seed Cane

Sales of approved seed cane increased slightly from the 2017 season from 4250 T to 4626 T this year, although this is still significantly less than previous years with over 6000 T sold. We would certainly like to see an ongoing increase in uptake of approved seed cane in future years, as this is one of the cornerstones of a well managed farming system. We also need to ensure our plot owners remain viable through the sale of seed cane. The mix of varieties purchased for approved seed cane is quite good from a district wide perspective of managing risk. KQ228 and Q240 were by far the dominant varieties, with Q183, Q208 and Q232 all having similar quantities. In order to manage risk, it is best practice to ensure a mix of varieties across a district (and on your farm) in case of a pest or disease perversely affecting one particular variety. All members are reminded that regular purchase and use of approved seed cane remains a foundation of a well managed farm. It is always a challenge for BPS staff to accurately predict demand for each variety of approved seed cane, so with limited area available, it is important to communicate with your field officer your requirements for future years seed cane orders.

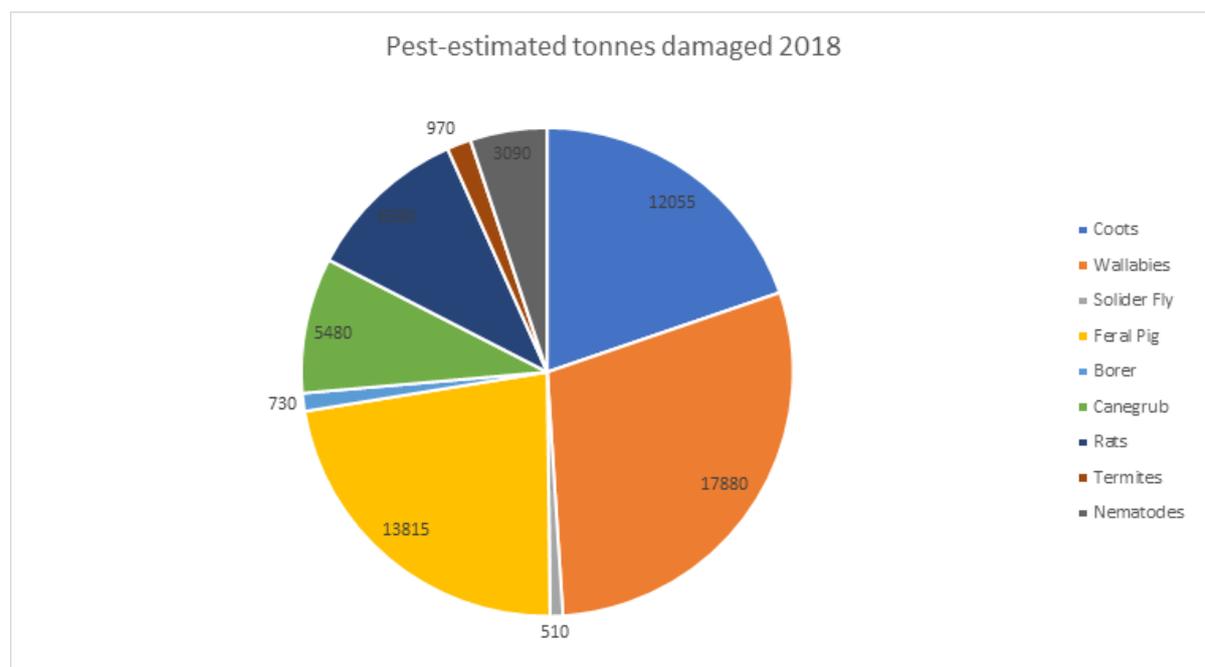
Mill Area	Plot	Tonnes sold	Total Tonnes For Mill Area
P & K	<i>Whitson's</i>	2364	2582
	<i>Duncan</i>	218	
Inkerman	<i>Klaka Rd</i>	1188	1188
Invicta	<i>Giru (Lyons)</i>	291	856
	<i>Millaroo (Cervoni)</i>	14	
	<i>Clare (Rapisarda)</i>	186	
	<i>Brock Rd (JJB Farming)</i>	365	
Total		4626	4626



Image: Approved Seed Cane being harvested from P&K Farm

Pests

Pest damage results are shown below, this data is compiled from data collected by BPS Field Officers from each grower during collection of crop data. In terms of financial impact across the region, our two most damaging pests are pigs and wallabies, although this year there was a significant increase in damage caused by coots and wallabies compared to 2017. The graph shows total tonnes damaged by each pest across the Burdekin region. It is important to note that the tonnes damaged are estimated, based on information supplied to field officers by growers.



Pest	Tonnes Damage 2017	Tonnes Damage 2018	\$ Damage at \$40/T
Wallabies	11 200	17 880	\$715 200
Pigs	11 120	13 815	\$552 600
Coots	8 890	12 055	\$482 200
Rats	9 860	6 580	\$263 200
Nematodes	1 380	3 090	\$123 600
Weevil Borer	1 520	730	\$29 200
Canegrubs	2 430	5 480	\$219 200
Termites	490	970	\$38 800
Soldier Fly	100	510	\$20 400
Total	46 990	61 110	\$2 444 400

Canegrubs

Canegrub numbers reported by growers to field staff increased significantly this reporting period, which is of concern. Particularly considering that numbers in 2017 more than doubled from 2016. Reported damage increased from 970 tonnes in 2016, to 2430 tonnes in 2017, then a further increase in 2018 to 5 480 tonnes. Observations from the May 2019 grub flights showed the greatest areas of grub damage were seen around the Haughton and Giru areas, with most other areas showing minimal impact from canegrubs. It is hoped that the damage from the current 2019 harvest season will decrease. Most Delta blocks around the Burdekin River did not have obvious damage when viewed from the air.

The two main products used for grub control utilise the same active ingredient – imidacloprid. There is a liquid product (Confidor Guard, Senator and others) that gives 12 months control, and suSCon Maxi Intel is a slow release granular product that can give up to 3 years control. Talk to the BPS staff about which product may be best suited for your farming system.

Imidacloprid products have quite specific label guidelines, and there is considerable evidence that if these guidelines are not followed, the product will not work. Please check the label of the product before use. BPS staff often are asked what is the maximum width of side dressing coulters when applying liquid based Imidacloprid products. The label states the coulters should be NO WIDER than 500 mm apart; the depth of application should be 100-125 mm; and that at least 100 mm of soil should cover the band.

It is extremely important to be mindful of the fact that imidacloprid levels in runoff water and underground water sources are being closely monitored. As a result all growers are reminded to only use grub control products if there is a risk of grub pressure and to follow the application guidelines on the labels to minimise off site movement. This will ensure that we have these products available to us in the future.

BPS staff presented information at shed meetings detailing the label requirements on the granular form of imidacloprid. Some paddocks were inspected in 2018 and granules were found to be placed too deep and in some cases too wide for effective grub control. Please contact a BPS staff member for specific advice on product selection and application requirements.

Pigs

Levels of pig damage reported by growers in the 2018 season increased by approximately 25% from the previous season. Although the 13 815 T reported in 2018 is still lower than the 20 000 T reported as lost to pig damage in 2015. During the reporting period, 344 pigs were shot through BPS' pig subsidy program

Pigs have a significant impact on the local industry, so BPS will continue its aerial shooting subsidy for members – please contact your field officer for how to access this subsidy. BPS also offers a service to put out a food source (when this source is available) to pre feed and attract pigs prior to baiting by Burdekin Shire Council Pest Control Officers.

Itch Grass and Wild Sorghum

Itch grass control activities by BPS have increased over the last 12 months. Field staff regularly monitor and spray road and creek areas where itch grass is known to be a problem, and casual staff were employed to eradicate the weed in known areas.

No new itch grass sites were identified in 2018, and the two sites identified in 2017 have been intensively rogued, sprayed and monitored. Levels along the banks of Plantation Creek decreased from previous years. Growers in previously high pressure areas around McDesme and Airville should be commended for ensuring fallows were kept very clean, and plant cane block inspections showed minimal to no signs of itch grass, whereas historically the levels were quite high in these blocks.

If you observe an area of itch grass, please contact your field officer immediately so we can implement appropriate control measures.

Wild sorghum is an ongoing weed pest in the region. BPS can assist growers who wish to rogue sorghum plants by organising casual labour to remove plants. It is critical to control blocks with sorghum pressure in the fallow. While optimal fallow management will not totally eradicate the plant (due to seed dormancy of up to 7 years), it will be a good starting point to minimise pressure in the following cane crop. BPS field and extension staff are available for all members to discuss weed management plans, particularly with those growers who have high levels of wild sorghum.

BPS staff presented samples in vacuum sealed bags for growers to inspect to assist in identification of Itch Grass and Wild Sorghum. Often Itch Grass can be challenging to identify as a young plant, so with the samples it is hoped there is a higher chance of growers identifying this problem weed early.

Disease

Ratoon Stunting Disease (RSD)

Ratoon Stunting Disease is a bacterium that is spread by infected juice or contaminated equipment or planting material. RSD can cause losses between 5% and 60%, although in a fully irrigated environment like the Burdekin region we are unlikely to experience losses at the high end of this range. Losses between 5% and 10% are very difficult to observe in a crop of cane, so it may be possible to have RSD on your farm and be unaware of it. BPS has significantly increased its focus on RSD monitoring and management over the last few years, and field officers have been very proactive in taking at least one RSD sample from every grower in the district. Normally, the oldest ratoon of the most RSD susceptible variety will be targeted for sampling.

Results from the 2018 sampling program showed that 17 blocks in the district tested positive to RSD. All approved seed cane plots were clear of RSD, and the positive samples were spread across the Burdekin region. Since the sampling was generally limited to 1 block per

farm, it is likely the total number of RSD infected blocks in the Burdekin region is higher than 17. This is a slight decrease from numbers recorded in 2017.

BPS has taken extra precautions during planting operations on its approved seed cane plots, such as extra washdown and cleaning operations, to further minimise risk of spread or contamination. All members are reminded that RSD is quite simple to control if the following 3 steps are addressed:

1. Regularly purchase and plant approved seed cane
2. Ensure fallows are clean and free from cane volunteers
3. Sterilise equipment that is capable of carrying juice or plant material.

Results to date from the 2019 season, appear to be showing that there is some further spread of RSD in the district, with two harvester groups that have previously not tested positive to RSD each having three farms test positive within the group. These results highlight the importance of growers communicating with their contractors and ensuring that clean down and sterilisation procedures are being followed.

Smut

Sugarcane smut is a fungal disease that is primarily spread by wind blown spores or infected planting material. It is a disease that needs to be appropriately managed through variety selection on your farm and within the region. During the 2018 season, it was not uncommon to find blocks of cane with smut infection. Primarily these were in Q252 and SRA8, however smut was also observed in Q208 and Q183. The variety selection committee (comprising local experts, plant breeders, pathology staff, BPS, Wilmar and local collectives) approved the release of variety WSRA17 in 2018. This variety has been planted to distribution plots in 2019 with it being available for purchase from approved seed plots in 2020. While this variety has an intermediate-susceptible smut rating, BPS, SRA and Wilmar staff have not observed any smut in standard field conditions in the Burdekin. Growers are advised to trial this variety if they are interested, and ensure that Sinkers is used as a planting fungicide.

The Regional Variety Committee also approved the release of a smut resistant variety (SRA23) which will be available from approved seed plots in 2021. Both of these varieties have performed at least equal (and better in many cases) to the current standard suite of varieties.

Yellow Canopy Syndrome (YCS)

The incidence of YCS appeared to increase in early 2018, however decreased slightly in 2019. BPS field and extension officers continue to provide information to SRA researchers around the incidence and severity of YCS, as well as providing sites for sampling. SRA researchers are continuing to focus their efforts on finding a causal agent and investigating management options. This research is focusing on the learnings from local research that an insect plays a crucial role in YCS, however the type of insect, and the way it affects YCS and the plant are yet to be determined.

BPS staff were instrumental in field testing a method of rapidly identifying YCS with a field test kit. Confirming a YCS diagnosis is important, as there are times when YCS has been misdiagnosed simply because a plant has yellow on part of a leaf. The test requires collection of specific leaves from a plant, and staining of the cut leaf with a solution. The presence of the stain along the edges of the leaf cut indicates the presence of YCS. The pictures below show a positive and negative result from different samples collected by BPS staff.



Projects and Extension

BPS is involved in a number of externally funded projects that align with our strategic plan. Through these projects, BPS continues to provide one on one and group extension and supports and assists growers on a range of issues such as irrigation, harvester performance, nutrition, water quality, soil ameliorants and BMP. BPS acknowledges and greatly appreciates the financial support from the organisations providing funding.

Reef Alliance Project

NQ Dry Tropics have funded BPS to undertake one on one extension activities relating to nutrient and irrigation management. Over the life of this project, BPS has worked one on one with around 65 growers in the region to supply nutrient management plans, irrigation management plans, growth calibrations to irrigation scheduling equipment, numerous pump flow tests, setting up farms on IrrigWeb for irrigation scheduling and other farming systems changes. While this project is complete, BPS staff are available to discuss any extension needs of members.

Farm Water Futures Program – Funded by DNRM

The Farm Water Futures program commenced in July 2018 and is a follow on program to the Rural Water Use Efficiency – Irrigation Futures program. It is a 3 year project funded by DNRM, and delivered via industry bodies. In the sugar industry the program is being administered by Canegrowers. Canegrowers have partnered with BPS and other industry organisations to deliver the program to growers. The farm water futures program is supporting industry in the provision of extension services to improve irrigation efficiency. The project also provides some funds to maintain information systems projects that were initiated under the RWUE program.

BPS has a number of tools and services that can help growers to gain more information about their irrigation system. These include the provision of scheduling advice, conducting pump flow assessments to determine irrigation application volumes, and irrigation assessments as the basis for developing irrigation management plans.

The FWF program is also providing financial support to allow BPS to continue to provide free grower access to IrrigWeb. It is also supporting the upkeep and maintenance of the soil moisture monitoring network that growers can access via the BPS website.

BMP

The Department of Environment and Science has funded CANEGROWERS to implement the Smartcane BMP program. CANEGROWERS has subcontracted BPS to deliver important parts of the Smartcane BMP program. BPS acknowledges that the Smartcane BMP program will deliver productivity and profitability gains for Burdekin growers. Improving record keeping, nutrient and weed management plans, irrigation efficiency and adopting new technologies are all key areas where BMP will improve grower's productivity and profitability. CANEGROWERS have renewed their agreement with the Queensland Government to extend funding for the Smartcane BMP program until 2021.

There are now 320 Burdekin growers registered in the Smartcane BMP program and 298 growers benchmarked. This equates to 65 880 Ha of sugarcane land who have completed self-assessments in the three key modules (soil health & nutrient management, irrigation & drainage, weed pest & disease management). The Burdekin now has 43 growers accredited in the three key modules which accounts for approximately 16 335 Ha. BPS staff currently have 30 growers who are working towards becoming accredited in the three key modules and 10 growers who will be accredited at the time of writing this report. Many other growers have indicated that they would like to achieve accreditation within the next few years. The Burdekin also has one grower who has progressed to a level of having all eight modules accredited. This grower will be the only grower to achieve this in Australia.

Two Smartcane BMP funded workshops have been held to help growers update or obtain a chemical certification. There has also been GPS system training for Trimble and AgLeader with John Deere pending. These workshops have been very successful with future workshops a possibility. Around 150 growers attended these courses co-ordinated by BPS staff during the reporting period.

Smartcane BMP self-assessment group workshops every fortnight continue as well as one on one workshops for individuals who cannot make the workshops. General extension advice on irrigation, herbicide and insecticide calibration spraying set up, nutrient application and precision agriculture are all steps that help growers on the way to achieving

accreditation. Through extension and workshops, growers are steadily gathering the information required to complete BMP accreditation. BPS have also developed a suite of tools which help growers gather information such as spray and fertiliser calibration calculators and record keeping sheets.

Irrigweb (an online irrigation scheduling tool) which is available to all Burdekin growers simplifies this process to record irrigation events. Irrigweb workshops have increased and grower participation has been positive. The reports generated from Irrigweb provide all evidence required to complete the BMP irrigation module successfully. All growers who are using Irrigweb have been accredited in the irrigation module to date.

BPS encourages all growers to become involved in the Smartcane BMP program in order to review your farming system against industry standards as well as demonstrate to the larger community and government that we can self-regulate as an industry.

EEF60

EEF60 is a 3 year project investigating the use of two Enhanced Efficiency Fertiliser (EEF) products – a nitrification inhibitor and a polymer coated product. To date, these 2 products have been tested separately, however EEF60 is the first project to investigate the effectiveness of combining these two products in a single blend.

The project is in its second year of harvesting. The first year's trial results showed minimal significant differences between the treatments, however this is only the first years' results which may be influenced by residual nitrogen in the soil profile. Fifteen trial sites were established in 2017 and have been maintained with the exception of three. These three have been replaced and one will be harvested in the second year and the remainder in the last year of the project. Nutrient management plans are being updated with new soil test information. Grower engagement is maintained through regular visits to obtain irrigation, herbicide, pesticide and cultivation activities on the trial block. Some growers in the project are becoming increasingly interested to use EEF's on their farm, however cost issues seem to be the main inhibitor at this stage.

To assist growers in understanding their irrigation volumes applied, BPS staff have performed pump flow tests with a portable ultrasonic flow meter to help calculate their irrigation. Along with this, irrigation scheduling workshops, such as Irrigweb, are being held for Burdekin growers to encourage water use efficiency. Other extension activities such as BMP, soil/water tests, calibrations of fertiliser boxes and spray rigs, chemical certification courses, GPS system courses etc. have been provided to the participating growers. There are 7 growers that are Smartcane BMP accredited in the project and a majority of the others are working towards accreditation.

Biomass sampling has been completed for the second year with the results being analysed at the time of reporting. Some blocks may have been influenced due to the large amount of rain earlier in the year. The second year of harvesting has begun and will conclude later in the year.

Soil Health Project

Terry Granshaw was appointed the soil health officer in the Burdekin for the SRA soil health project. This project is a collaboration between research and extension providers SRA, BPS and DAF and most importantly interested participating local growers. Three demonstration sites were established across the Burdekin. Each site will compare the individual grower standard practice compared to an improved farming system. There are 3 representative farms across the region on various soil types and farm sizes. One is a large farming corporate type entity in the BRIA, another is an average size family owned farm in a high yielding delta soil and the third site is a small grower in a historically lower yielding area of the Burdekin. All three sites have had a demonstration trial plan developed and implemented to date.

Thorough soil physical, chemical and biological measurements have been taken by SRA technicians and researchers have evaluated differences between each demonstration plot on each site to date. DAF economists are working with the participating growers to monitor and accurately compare production costs of all operations on the trial sites. Various field days and soil pits have been established to highlight differences between treatments. These field days have had local growers who are interested in the outcomes and the findings of the project attend throughout the year.



BPS and SRA staff discussing root development at one of the Demonstration Sites

All three sites have capacitance probes, end of row sensors, rainfall gauges and irrigation telemetry installed in each treatment. This allows BPS staff and the growers to record irrigations on each site accurately and efficiently, as well as provide site specific irrigation management advice. The demonstration sites also have yield monitors installed and this data will be evaluated and used with other precision ag data such as EM and other soil maps.

The soil health project has been a great opportunity to partner with other organisations and projects. One such example has been a collaboration between BPS and researchers at Griffith University who wanted to explore the rates of breakdown and availability of sub surface mill mud/ash. Over sixty soil samples taken to a depth of 60 cm were taken across one of the demonstration sites to evaluate deep application of mill mud/ash, shallow mill mud/ash and a control across each treatment. Once these results become available, this data will be shared with the project participants and wider industry. Another example of collaboration has been discussions and planning between BPS staff and various machinery manufacturers to design or modify machinery to investigate cost effective applications of banded, sub surface mill mud.

The project also found ten new growers to be a part of the soil health project as paired site participants. This meant finding growers who are already using an improved farming system approach and comparing them with neighbouring growers standard practice on the same soil types, variety and crop class. Four of the biggest growers in the Burdekin have participated within the project in 2019. Physical, chemical and biological soil tests were conducted and analysed by SRA technicians and researchers. Findings from these sites have been shared at local shed meetings and other grower information sessions. The long term demonstration trials will show differences between farming systems and a soil health toolbox kit is being developed to help advisors measure soil health differences in paddock. Growers should be able to address the limiting factors in their own farming systems and make the appropriate practice changes to improve soil health and overall productivity and profitability.

Harvesting Best Outcomes Program

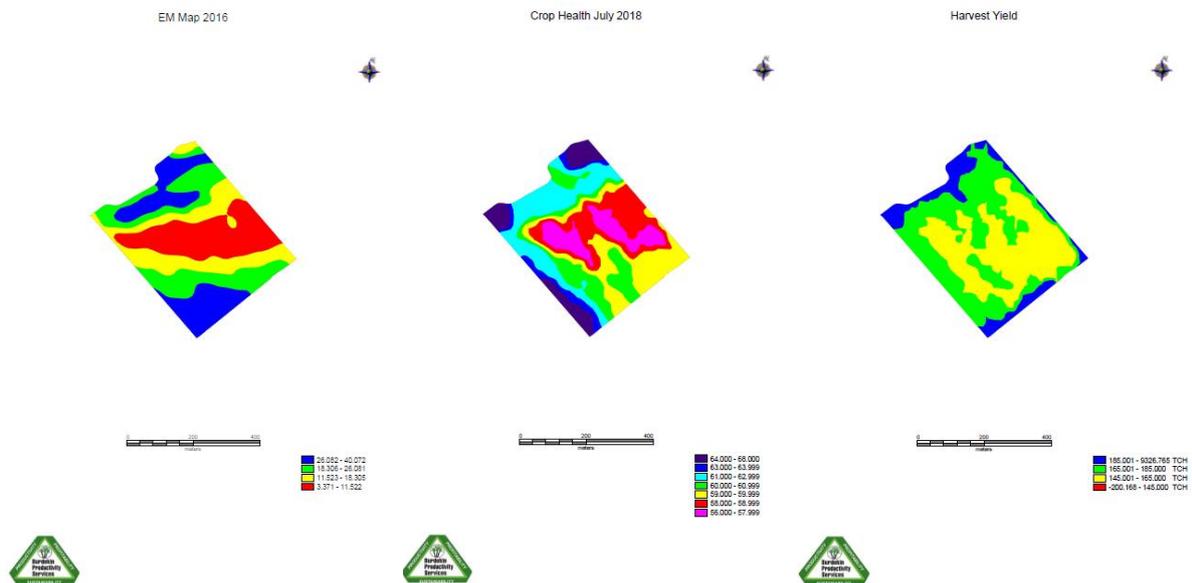
SRA, Wilmar and BPS will conduct trials in the Burdekin this year with five contractors that were involved last year in harvester optimisation trials. Growers in the groups will be involved in demonstration trials exploring the impact of harvester operation losses for each group. The growers in each group will collectively be able to decide what they would like the harvester to demonstrate as a trial. Some of the suggestions have been pick up and basecutter losses, optimised feed train, forward speed, reduced fan speeds and new chopper box technology. Economic and production outcomes will be shared amongst the contractor and growers from the groups.

The overall outcome is to show benefits to harvester operators, growers and the milling sector by improving cane quality and reducing costs across the whole industry.

Geographical Information Systems (GIS), Mapping and Precision Agriculture

BPS provides GIS mapping services to our members, and for the past two years BPS has been creating specialist maps as part of nutrient and irrigation management plans. All members can request a nutrient management plan and irrigation management plan. BPS considers current and past management, so the information is relevant and suits individual grower needs. The nutrient management plans contain written recommendations based off soil tests, farm soil type map and nutrient plan maps. The irrigation plans take into consideration the irrigation infrastructure and management on the farm and available labour. BPS provides a readily available water (RAW) soil map to tailor the irrigation to block specific soil type requirements. If growers are interested, they are also able to sign up to Irrigweb which is a management tool for recording and planning irrigations.

In 2018 BPS invested in software to enable us to meet the growing interest in precision agriculture. This software allows BPS to interpret multiple types of GPS and yield monitor data. From the yield monitor, we can produce a number of useful maps. When the precision information is combined with productivity data, crop health imagery and soils information it enables us to make informed decisions. It is important to remember that when information such as a yield map is viewed in isolation it does not provide a full picture. However, when we bring the information together and view multiple layers, we begin to see variation that allows people to start asking the right questions. The right questions lead to ground truthing and final outcomes that can result in profitable outcomes.



Maps: Left to Right EM Map, Crop Health, Harvest Yield

Above we can see a trend across all three maps. The EM Map indicates that there is a poor ridge running through the middle of the block, the crop health image indicates that this trend is continuing through the crop. The harvest yield shows variation, some of which can be attributed to the poor ridge.

Farm Record Keeping Tool (Agtrix Farming)

Over the past 12 months, BPS and other productivity service organisations have been working with AgTrix to redevelop a sugarcane specific farm recording keeping tool which is now available for BPS members to use. During the redevelopment process the Agtrix team focused on making the program more user friendly. The dashboard has been changed and data entry is very simple. The program is supported by BPS, it is free for members to access and use, and it's a simple way to record farm activities. Agtrix allows growers to keep records to level that is required by SmartCane BMP for chemicals, nutrients, land preparation and planting. Since the release of Agtrix there has been a great level of interest and a steady increase in users on the new system. Contact any of the staff from BPS to obtain login details and assistance on setting up this useful tool for your farm. Also note that all individual grower data recorded through Agtrix cannot be accessed by BPS without express permission from each grower.

Queensland Farmers Federation (QFF) Energy Savers

The QFF Energy Savers program is a statewide program that encompasses many agricultural industries. In the Burdekin this project is being jointly delivered by BPS and AgriTech Solutions. BPS are delivering the extension support and AgriTech Solutions are delivering the technical assessments. This program runs from February 2019 until March 2020.

In the Burdekin fourteen growers are part of the project which aims to assist farmers to reduce their on-farm energy costs. An energy audit is conducted for each of the participating growers. One pump is selected for a full assessment, this includes the tariff review and an assessment of the technical suitability of the current pump. Two pumps will have a visual assessment for suitability and a tariff review. All the baseline information has been collected and the audits are in progress.

Other Activities

Shed Meetings

Shed meetings have become a focal point for extension in the region, with over 40% of growers attending most meetings over the last few years. BPS would like to acknowledge the contribution of Evan Shannon (Farmacist) and Anthony Curro (SRA) in delivery of shed meetings in partnership with Rob Milla. Feedback from those that are attending shed meetings is that the information presented is highly valued, as is the opportunity to discuss a range of productivity and profitability issues. BPS encourages all growers to attend their local shed meeting, and please inform staff if you have any topics you would like presented.



Rob Milla (BPS) and Anthony Curro (SRA) presenting at Inkerman shed meeting

Variety Strip Trials

Grower members identified that they highly value the variety strip trial program that BPS has implemented at focus group sessions held in early 2019. BPS currently has eight variety strip trials across the region on representative soil types. These trials are established once BPS has enough volume of cane of new or potentially promising varieties to plant in commercial strips. These trials will assist growers in deciding on the suitability of new varieties on their farm, as well as provide replicated data from which BPS staff can base recommendations.

BPS believes it is important to trial the new varieties in commercially managed situations and to allow growers to see them growing outside an approved seed plot where farming practice is such that growth is restricted to ensure a high quality seed source.

These trials have proved very useful extension tools for growers who wish to see the new varieties growing in a commercial situation. However, the most value of these trials is seen in discussions at Regional Variety Committee (RVC) meetings. Data and field observations from the BPS strip trials are discussed at length at RVC meetings, so that the voting members (grower collectives and Wilmar) can make an informed decision about releasing a variety. BPS appreciates the assistance of SRA, particularly Catherine Kettle, in providing these varieties for trial use.

Grower Initiated Trials

BPS staff have assisted growers conduct numerous trials on their farms to investigate the productivity and profitability impacts of a range of farming practices. Most of these trials have occurred due to a grower expressing a desire to learn more about a particular practice, or understand the impact on their own farm. Examples of these types of trials include:

- Optimising crop dry down
- Variety specific nitrogen rates
- Calibration and optimisation of irrigation schedules
- Use of banded mill mud
- Comparison of soil amelioration products.

If any member wishes to conduct trials on their own farm, please contact a BPS staff member to discuss how we may be able to assist.

Partnership Opportunities

BPS staff regularly engage with other organisations where there is potential to benefit members through:

- Access to expertise outside of BPS
- Access to new or improved products or technologies
- Ability to deliver on strategic goals through collaboration.

Some examples of existing and emerging partnerships include:

Burdekin Shire Council/Townsville City Council/Wilmar/HCPSSL – investigating a partnership project where council green waste could be composted and distributed to local farms to improve soil health and productivity

Soils CRC – BPS is a ‘participant’ member of the Soils CRC which allows us to provide input and direction to a \$60 million project over 10 years Australia wide that is conducting research on soils and soil health. BPS has been able to direct some of this research effort into sugarcane specific activities including investigation of alternative nanotechnology carriers of pesticide products for canegrub control, development of rapid, low cost soil nutrient tests and development of novel real time soil moisture sensors.

Griffith University – Partnership with Griffith University to investigate the breakdown and availability of sub surface applied mill mud. This partnership allows researchers access to sites they would not otherwise have, and BPS members to have regionally specific research information developed at no cost to the industry.

Promotion of Sugar Industry, ‘Good News’ Stories and BPS Bursary

BPS has taken an active role in the promotion of good news stories regarding the sugar industry – particularly to young people. There is a recognised lack of interest of suitably qualified agronomy graduates in the sugar industry, so we are trying to address this through promotional and information delivery sessions. Each year, BPS management visits the local high schools to promote the sugar industry and highlight the good work that is occurring on the ground. Local schools are also informed of the BPS Study Bursary, which is a cash incentive aimed at local Burdekin students to complete a degree in agricultural science. In

2018, two outstanding candidates were selected for the Bursary and we wish the local students the best in their studies. The BPS Board of Directors and Management decided the Bursary was a useful way of not only promoting agriculture as a career choice, but encouraging and support local students to pursue such an opportunity.

In early 2019, BPS also hosted a Townsville High School bus tour to the region, and was able to showcase innovation and technology in the sugar industry, as well as highlight the importance of agriculture in today's society.

Rob Milla also presents some guest lectures at University of Queensland on sugarcane agronomy, irrigation management and extension. These are well received by students as they receive a perspective from someone working on the ground, rather than just theoretical approaches. BPS uses this opportunity to again showcase some good news stories from the industry, and encourage students to consider pursuing a career in the sugar industry.

Next Gen Bus Trip

During the first week of March, members of the Burdekin Next Gen group departed on a four day bus tour through the Darling Downs QLD and Northern Rivers region of NSW accompanied by BPS extension officer Cherrie Johnson and SRA Regional Coordinator Anthony Curro.

The group looked at various dryland and irrigated cropping systems including soybeans, broccoli, lettuce, sweet potatoes, sugarcane and sorghum. As many of the sites visited are experiencing drought there was an emphasis placed on irrigation technologies and methods to best utilise water applied. An interactive session was held at the University of Southern Queensland where growers trialled the CaneCalcs Irrigation app and discussed emerging technologies. A tour of the PB Agrifoods depot, processing facility and variety field trials was also conducted.

The trip was made possible by funding obtained through peer-to-peer learning grants provided by Department of Agriculture and Fisheries. The growers who attended gained a number of new contacts across various industries and it provided a great chance for everyone to catch up and discuss ideas around farming systems management.



This is an open group, made up of people who are involved in the sugar industry. Most activities are hinged around social information sharing and include workshops, information sessions, guest speakers and bus trips. If you are interested, let Cherrie Johnson know and she will add you to the mailing list to notify you when events/activities are coming up. If there are topics you want to know more about or there are activities that you are interested in, let us know, your ideas and contributions to the group are very welcome.

General Grower Support and Other Trials

BPS continues to assist in grower led trial work across all aspects of the cane production system. If anyone is interested in having a trial on their farm or needs help designing or harvesting a trial, please contact the BPS extension staff. BPS also offers soil and water testing services as well as agronomic, pest, disease and whole of farm advice. Please contact the office for more details. Results from all trials are published in our quarterly newsletter and discussed in detail at field walks and shed meetings.

Future

BPS consulted again with members in early 2019 to ensure that our clearly defined strategic plan was delivering appropriate services and support to the local industry. Feedback provided by members at these focus group sessions was that BPS was delivering highly valued services to members. The main point raised by many members was the fact that BPS staff respond quickly to member requests and the relationships with members remains an outstanding feature and is one of our key strengths. The fact that BPS can give truly independent variety, pest, disease and other agronomic information was also highlighted by many members who attended the focus groups.

Another aspect of our services that was suggested to improve was the development of a sugar specific record keeping tool or phone app that could be utilised by local growers. BPS has spent considerable time working with Agtrix (a software company), and now have a record keeping tool (accessible via web browser or phone app) for BPS members to use at no cost. This simple to use tool allows all records in relation to chemicals, fertilisers and other paddock operations to be recorded and allows reporting functions. If members would like access and assistance with setting this tool up, please contact any BPS staff member.

BPS intends to continue to deliver under our 6 key strategic goals in the strategic plan, as well as respond to member requests for support and services. BPS also will continue to maintain and establish relationships with key organisations to promote the good work the local industry is conducting, as well as attract research and development opportunities to benefit members that align with our strategic plan.

Staff and Directors

I would sincerely like to thank the staff for all their hard work and dedication during the 2018/20189 financial year. The staff are a credit to themselves in the way they conduct their day to day activities and always ensure our members' best interests are first and foremost. The BPS team has a broad range of experience and expertise and I hope to continue to provide the best possible service to our members with the support of all the staff and directors. The Directors have also provided solid guidance and support over the last year, and ensured that the organisation has continued to operate in line with the strategic plan and in the best interests of our members

Rob Milla

Manager

August 2019