



mackay area productivity services



## **ANNUAL REPORT AND FINANCIAL STATEMENT**

**FOR THE PERIOD  
1 APRIL 2020 TO 31 MARCH 2021**

# MISSION STATEMENT

**Maximise sustainable and profitable production of sugar cane in the Mackay Sugar area through the delivery of effective agronomic, economic and environmental advice, extension and tools to growers**

## **Objectives**

- 1. Minimise crop loss through advice and assistance about the prevention, control and eradication of pest and disease infestations of cane**
  - 1.1 Provision of high quality pest and disease advisory service
  - 1.2 Provision of programs to monitor and control pest and diseases
  - 1.3 Provision of improved access to pest and disease information via the regional industry computer database
  - 1.4 Education of growers regarding pests and diseases
  - 1.5 Maintaining crop hygiene and quarantine standards
- 2. Maximise the sustainable value of cane production in Mackay Sugar district**
  - 2.1 Provide advice and assistance on maximising the value of cane production and harvesting
  - 2.2 Increase the uptake of approved seed
  - 2.3 Distribute new varieties
  - 2.4 Promote practices which enhance the long-term capacity of land and water resources to sustain viable sugar production, while minimising off-site impacts.
- 3. Managing human resources**
  - 3.1 Ensure that the human resources match current and foreseeable objectives
  - 3.2 Improve safety and productivity within work environment
- 4. Strengthen collaboration with research, development and extension providers working within the industry**
- 5. Ensure compliance with all legislation impacting on the Board's operations**
- 6. General**
  - 6.1 Maintain support of industry stakeholders
  - 6.2 Enhance performance in communicating with industry stakeholders through provision of effective, timely and efficient exchange.

## CHAIRMAN'S REPORT

Once again, another season has rolled on. After a tumultuous year of 2020 we seem to be settling into the new norm. Last year's season finished on a good note with a slightly better than expected crop and a nice kick in the sugar price. This then provided us all with some optimism going forward. The 2021 season looks very promising with good crop in the ground and an excellent sugar price. Sometimes, things do align.

Again, I would like to thank Anthony and the staff for the excellent work done this year. Their commitment and dedication to this company and the work they do is without par. I would like to congratulate Indiana Zarb who has stepped up to fill the shoes left by Audra Allan. It was sad to see Audra leave but we wish her all the best for her future. It is good to see that growers are keen on integrating the Agtrix Farming program, with good numbers attending training workshops. Shane Hare has picked up the ball on this and run with it, presenting workshops as well as liaising with Agtrix and implementing changes to improve the program. I would also like to welcome Eric Kok and Erin Headon to the MAPS family and I am sure they will enjoy working with the team.

Once again we continue to be involved in major projects, such as:

- Implementation of MAPS 5 year Strategic Plan
- Smartcane BMP – Indiana Zarb, new BMP Officer
- Great Barrier Reef Foundation Fund (GBRF) Water Quality Project
- RP 161 Nutrient Project
- Janes Creek Water Quality Project
- Sandy Creek Water Quality Project
- Agtrix Farming – Grower uptake and training workshops
- MAPS Observation Plots – Collaboration with SRA for maturity and data collection
- Soldier Fly Project with SRA
- MAPS Legume Planter

Staff have worked on these projects, as well as continuing to work on MAPS' core role of pest and disease, clean seed distribution and grower extension. Staff are out there now, checking plants and doing surveys to keep ahead of the game and catch an issue before it gains traction. Thanks to the growers who have allowed MAPS to establish clean seed billet plots on their farms throughout the district. I do hope growers take advantage of these plots as this is one of the best ways to improve vigor and productivity.

Finally, I would like to thank the Board for their support and involvement during the year. Welcome to Marcus Reiners as the new MAPS Director from Mackay Sugar Limited. Marcus comes to us with an extensive background in agronomy and brings a new perspective. With the upturn in prices and crop we can look forward with optimism and a clear vision and continue to strive to improve the viability and sustainability of our growers going forward.



**Frank Perna**

# CHIEF EXECUTIVE OFFICER'S REPORT

## WORKPLACE HEALTH AND SAFETY (WH&S)

MAPS proactively maintains a strong Workplace Health and Safety (WH&S) environment. Some of the important measures taken include:

- Safety issues are the first agenda item at staff monthly meetings;
- The fire extinguishers, all electrical equipment and slings/chains were tested and tagged;
- Prior to hot water treating, the chains on one of the crates were identified as being unsafe and were replaced - several slings were also deemed to be unsafe for use and were substituted with new ones;
- All staff attended the annual First Aid course;
- All staff attended the Mental Health First Aid workshop;
- Before the start of planting the MAPS farm and plots, all field staff participated in a job start safety meeting to identify risks and their mitigation;
- Snake awareness and hygiene for the handling of rat-damaged cane were discussed with staff;
- Staff First Aid kit supplies are regularly updated before expiry dates;
- The CEO attended SRA's Fire and Emergency Management training;
- Washouts at MAPS' Victoria Plains farm were repaired; and
- Strict COVID-19 protocols were implemented to combat the risk of infection amongst staff and growers. Social distancing, increased hygiene practices (washing hands), reducing face to face meetings and working from home are some of the practices staff have followed.

WH&S reports over the year shows that a safe work ethic is foremost in the minds of MAPS' staff. Reportable incidents were mostly restricted to minor cuts, stings and bruises received while executing normal field duties. Near misses were dominated by encounters with snakes. Staff are equipped with appropriate knowledge, safety equipment (including snake-bite kits) and communication devices.

An external MAPS' farm safety audit was conducted on 17<sup>th</sup> January 2020. No serious issues were detected but some suggestions were investigated and necessary changes were implemented to improve safety.

## SEASON

The 2020 crushing season started on 12<sup>th</sup> June and finished on 10<sup>th</sup> December with 5.15 million tonnes crushed with an average CCS of 14.1. The 2020 crop was the first time since 2016 the crop has passed the 5 million tonnes mark. Favourable weather conditions between December to March have been very beneficial for the 2021 crop and it is estimated to pass the 5 million tonnes mark again.

## GROWERS SERVICES

MAPS Productivity Officers perform a vital role in assisting growers to improve crop health, productivity and profitability, as well as meeting record keeping and industry Best Management Practice (BMP) requirements.

A list of Productivity Officer's major functions is as follows:

- One-on-one advice and extension with their growers;
- Propagation of approved SRA cane varieties;
- Plant source inspections (intensive RSD testing);
- Observation plot establishment/monitoring (advanced clones);
- On-farm variety recommendation, selection and management;
- Calibration of fertiliser and chemical applicators;
- Soil test interpretation and nutrient recommendations;
- Chemical advice and recommendations;
- Machinery inspection (biosecurity);
- Surveys (pest, disease, farming practice);
- Data collection/entry for Agtrix Farming record keeping;
- Assist growers with self-assessment for Smartcane BMP and supporting practice change; and
- Organising and running of farm walks, shed meetings and field days.

Apart from these general duties, each Productivity Officer has a particular project to manage.

A list of field staff, their geographic area and their special projects are as follows:

- **Andrew Dougan**, Senior Productivity Officer (110 Racecourse farms) & MAPS Farm Manager
- **Ian Marais**, Productivity Officer (200 Upper Valley farms) & Soldier Fly Project
- **Shane Hare**, Productivity Officer (180 Marian farms) & Agtrix Support
- **Steve Garrad**, Productivity Officer (190 mainly Southern Farleigh farms) & Janes Creek Water Quality Project
- **Britney Gibbs**, Productivity Officer (201 mainly Racecourse farms) & Feral Pig Project
- **Maryanne Volker**, Productivity Officer (205 mainly Pleystowe farms) & Sandy Creek Project
- **Brendan Rae**, Productivity Officer (215 North Coast farms)
- **Audra Allan**, Smartcane BMP Facilitator (Resigned November 2020)
- **Indiana Zarb**, Smartcane BMP Support Officer (Commenced BMP Officer role, November 2020)
- **Dave McCallum**, Senior Extension Agronomist/Grower Specialist, worked on a range of activities including general extension, advisory work, projects/trials, industry liaison, trouble shooting and core MAPS business. Dave moved into the Grower Specialist role (March 2020), and he works closely with identified growers on improving productivity and profitability.
- **Andy Humphreys**, Reef Program Precision Planning Consultant (PPC) in the MAPS Great Barrier Reef Foundation (GBRF) Water Quality Project. Andy provides one-on-one extension to growers developing nutrient and chemical management plans. The focus has been on nutrient and pesticide management with the offer of considerable agronomic extension assistance. Andy Humphreys has the added responsibility of MAPS Company Secretary.
- **Eric Kok**, Productivity Officer (160 farms – Racecourse & Marian)
- **Erin Headon**, QFF graduate – Trainee Extension Officer
- **Vicki Royal** works part-time as MAPS Corporate Services Officer. Vicki is the main point of contact for the company and ensures all the daily requests are sorted out effectively.

## GROUP EXTENSION ACTIVITIES

MAPS prides itself on being able to offer all Mackay farmers the only one-on-one service, however we also run a number of other larger group extension activities including:

- **MAPS/SRA Field Day** – This was cancelled due to Covid-19.
- **Shed Meetings** – Excellent feedback has been received from growers who attended this year's shed meetings after a year absence due to the initial Covid-19 pandemic outbreak. These more personalised meetings offer a platform for our growers, MAPS Officers, Mackay Sugar staff and SRA researchers to discuss new information and any concerns before we enter the 2021 crushing season.

These discussion items were largely specific to geographical areas such as pest damage, variety performance and disease observations but also included issues that face the wider Mackay Sugar District and industry as a whole.

BMP accreditation, Reef Regulations, water tariff changes, record keeping and loss of good cane growing land were also commonly discussed items across all shed meetings.

- **MAPS Newsletter** - This topical-awareness style document is posted or emailed to all growers with three editions circulated each year (July, December & March).
- **CANEGROWERS Mackay Newsletter (*The Billet*)** - MAPS supplies district-relevant content on a regular basis to the publication.
- **Media** engagement occurs regularly and mostly it is used for awareness of important issues for the local industry via newsletters and newspapers.
- **MAPS website** - The updated website has proven to be popular with growers and other industry personnel.

Traffic on the site has increased significantly since the Agtrix Farming tutorial clips and the MAPS legume planter demonstrations were added to the site.

Information on the site includes:

- Clean Seed Plots
- Variety Information
- Pest, Disease & Weeds
- Nutrient & Chemical information
- Agtrix Farming – tutorial clips
- Fallow Management – Breakcrops – legume planter clips
- Smartcane BMP
- Newsletters
- Weather Stations

**Figure 1: Inspecting a Soybean crop**



## **SPECIFIC PROJECTS**

### **Agtrix Farming**

MAPS' investment in the new recording/reporting program, Agtrix Farming, developed by AGTRIX, is a platform for growers to record operations and generates reports to help make better business decisions and meet compliance needs. Agtrix Farming is a web-based spatial program that displays a grower's farm details such as block number, block size, variety and soil type. The program is designed to be user-friendly, to provide growers a simple option to record farming activities such as chemical applications, fertiliser applications, fallow management, irrigation and a record of soil tests.

The Agtrix Farming software is utilised by MAPS' staff for recording all daily activities such as plant inspections and collection of planting and fallow details. All field staff are equipped with a Microsoft SurfacePro tablet that is used to capture in-field data and allows staff to demonstrate the program to growers on a one-on-one basis.

Twenty five percent of Mackay Sugar growers are registered and using Agtrix Farming as their recording program. Agtrix Farming workshops held throughout the year have been well attended by growers with very different levels of computer skills and technical knowledge. The workshops always have at least two MAPS staff to provide assistance to growers to fully explain the functionality of the program. The main focus for growers was the chemical and nutrient recordings, so that they are compliant with Government regulations.

Grower feedback has been very positive with regards to the Agtrix training, with several growers relaying their own experience with the program to other growers at the recent shed meetings. Since the shed meetings, there has been an increase in growers requesting registration to Agtrix Farming.

**Figure 2: Agtrix Farming workshop**



### **Government Reef Program**

This MAPS' project associated with the Great Barrier Reef Foundation (GBRF) funding is focused on water quality improvements of Dissolved Inorganic Nitrogen (DIN) and pesticides in the Plane and Pioneer Basins. Throughout the project, MAPS provides one-on-one grower extension, developing property-specific nutrient management plans and supporting growers with the Agtrix Farming program. Apart from the water quality aspect of the project, MAPS has a real focus on soil health by offering growers involved in the project the use of the MAPS legume planter.

The four year project provides growers with a minor grower incentive of \$2,000 and has the option to be involved with the major grants project through Reef Catchments. Andy Humphreys is responsible for the project and works closely with the participating growers, developing nutrient management plans and providing advice and assistance throughout the project.

### **Smartcane BMP**

Both Audra Allan and Indiana Zarb achieved excellent results throughout 2020 with the Smartcane BMP program and provided growers an opportunity to work their way through the program with support and assistance.

With Audra's resignation in November 2020, Indiana was promoted into the BMP Officer's role and has continued the good work in achieving BMP accreditation for growers. A total of 138 businesses (21,233 ha) have been accredited to the end of March 2020, which is approximately 28% of the Mackay Sugar area.

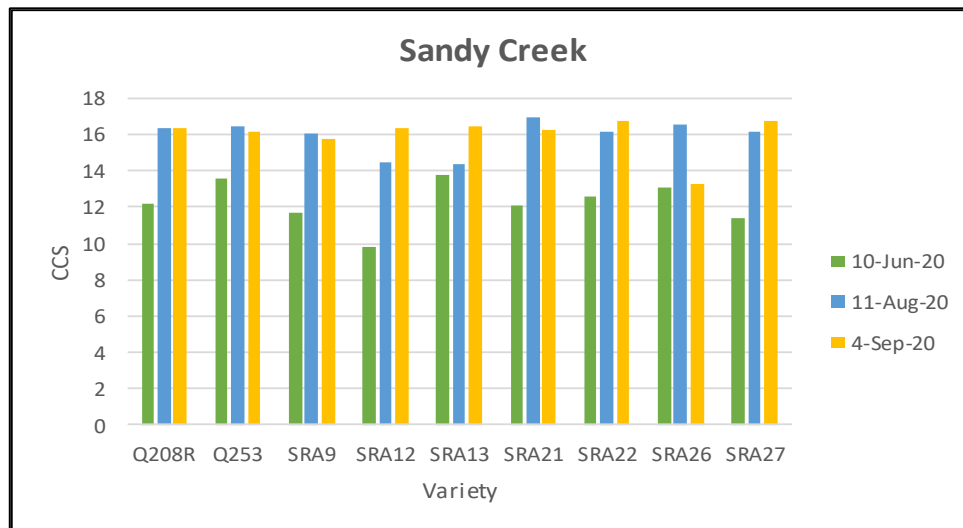
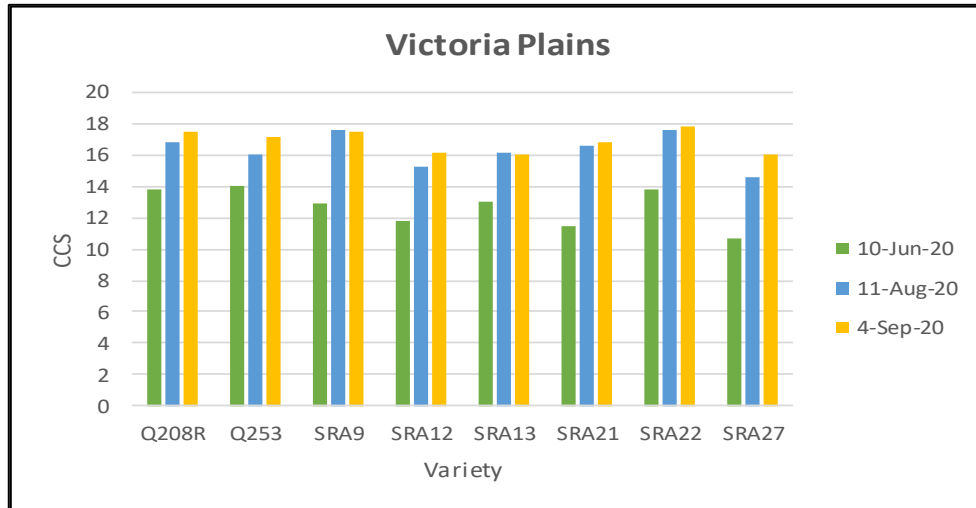
### **Variety Observation Plots**

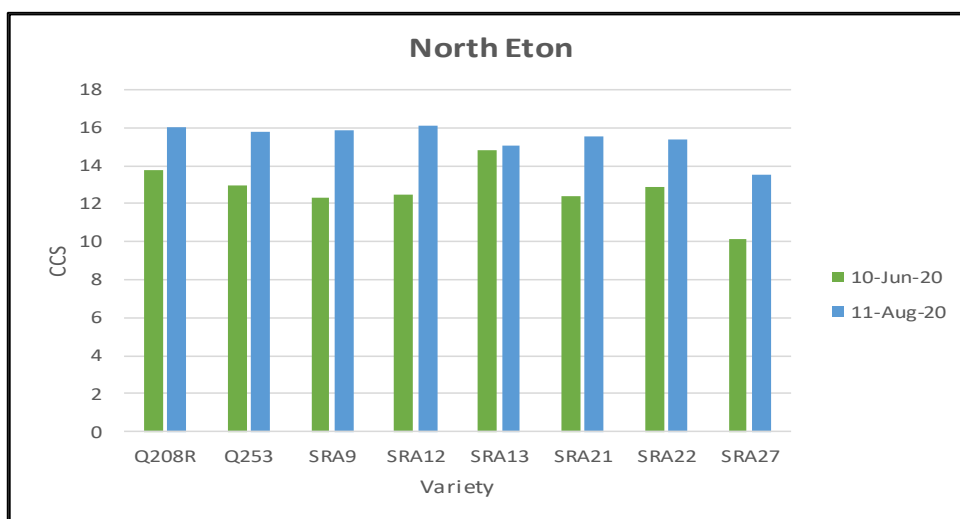
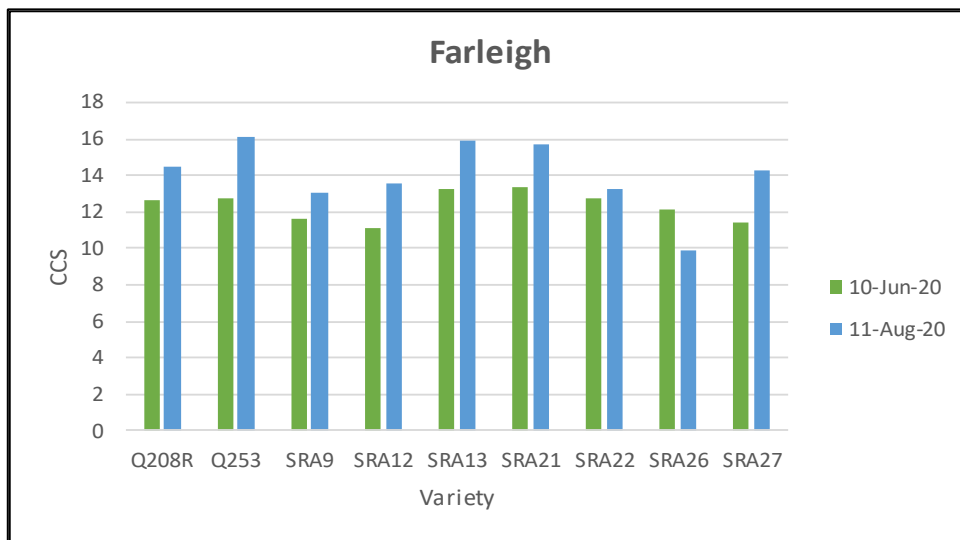
MAPS works closely with the SRA Plant Breeding program to gain information on promising advanced clones and varieties earmarked for release. These canes are planted in observation plots on six farms spread throughout Mackay Sugar area (North Eton, Septimus, Farleigh, Mt Pelion, Sandy Creek and Victoria Plains).

MAPS staff and growers are provided the opportunity to view and assess the advanced clones against current commercial canes on a range of soils and under different weather conditions and farming practices.

Valuable new information is gained on disease susceptibility, lodging and ratooning. Early maturity data from the newly released varieties was collected by MAPS and presented to the growers via the MAPS Newsletter and the MAPS website (Figure 3). This data allows growers to make better informed decisions of their variety management on-farm.

**Figure 3: Maturity Tests in MAPS Observation Plots**





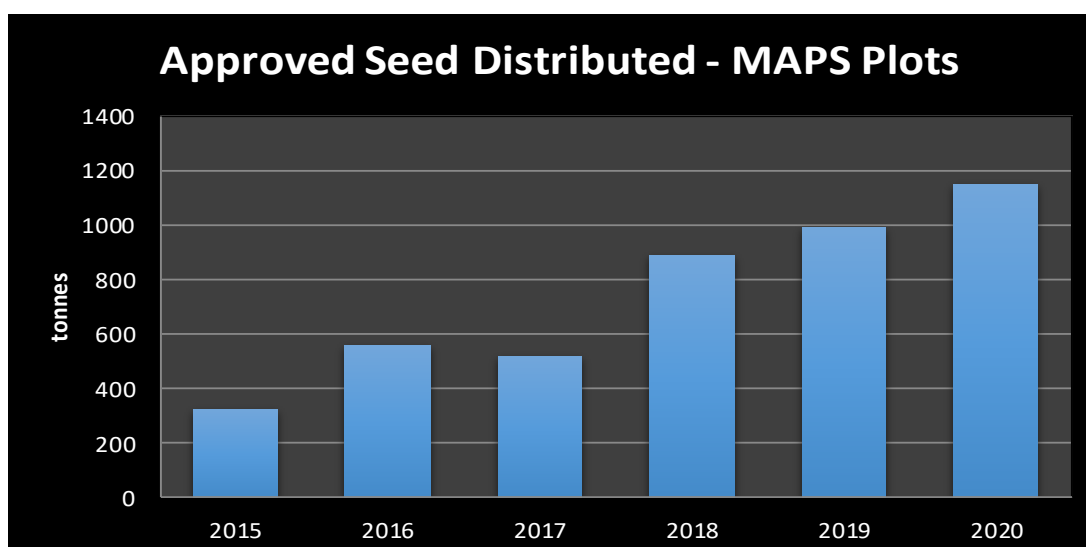
### Approved Clean Seed Plots

MAPS has a real focus on improving the uptake of clean seed from the approved plots. To facilitate greater use of approved seed, MAPS established two additional billet distribution plots in the Mackay Sugar region located at Mount Pelion and Benholme. Each plot is approximately two hectares, and they consist of two varieties that were available to growers on selected dates throughout the year. These plots provide an opportunity for growers to conveniently collect a larger source of clean plants without the physical hassle and demands of hand cutting.

To ensure all plots are disease-free, MAPS follows strict disease inspection protocols by walking and inspecting every row of all the approved plots. Ratoon Stunting Disease (RSD) sampling is conducted, which involves a juice sample taken every 20 metres of every row and analysed at the Brisbane SRA Laboratory. Once the results have been received and no RSD is detected, the plots are free to be opened.

A total of 1,150 tonnes of clean seed was distributed from the MAPS approved plots, which again is a notable increase from 2019, as seen in Figure 4.

**Figure 4: MAPS Plots approved seed distribution**



### **Rural Water Use Efficiency**

The Rural Water Use Efficiency Program is funded by DNRM (Department of Natural Resources and Mines), is administered through CANEGROWERS Queensland and is delivered by agencies such as MAPS. This project aims to provide relevant irrigation information to sugarcane producers to enable them to make better irrigation decisions and improve their practices. Through this program, MAPS was able to fund four new weather stations located throughout the Mackay Sugar region. The four locations are Pindi Pindi, Balberra, Tannalo and Victoria Plains. Data recorded includes wind speed, wind direction and rainfall. The Victoria Plains station also measures relative humidity and barometric pressure. Data from the three sites can be accessed on the MAPS website.

### **EEF60 (Enhanced Efficiency Fertiliser) Project**

MAPS is a collaborator in the EEF60 project administered by CANEGROWERS and run by SRA. MAPS (through Dave McCallum) is responsible for managing extension of the project (7 Mackay co-operators) and its findings in the Central district. Although the project finished in June 2020, MAPS continues with the extension of the results and findings of the project.

### **Sandy Creek Water Quality project**

This joint project between Reef Catchments and MAPS works with producers in the Sandy Creek catchment on monitoring water quality and implementing on-farm change for water quality improvements.

MAPS works with up to 20 growers in the catchment providing increased one-on-one agronomic support for chemical management to the growers and by accessing minor grants to modify and upgrade spraying equipment designed to improve water quality. Maryanne Volker is the main contributor to this two year project.

### **RP161 Nutrient Management Project**

This joint project between MAPS and Farmacist works with growers to assess their nutrient management practices and assist where possible to bring them in line with best practices. The starting point is the production of a Nutrient Management Plan, with targeted extension aimed at improving water quality while maintaining or improving productivity. Dave McCallum is the main contributor to this project.

### **Janes Creek Water Quality Project**

This joint project between Reef Catchments and MAPS works with producers in the Janes Creek catchment on monitoring and improving water quality. MAPS works with nine cane farmers and five harvesting contractors in the catchment with accessing grants to modify farming equipment designed to improve water quality. Steve Garrad is the main contributor to this project.

The project has proven to be a success with high grower participation and involvement with growers collecting water samples during rain run-off events and requesting further water quality monitoring sites be added to the catchment. With the farming area being beside residential developments, water samples are now collected from the residential run-off into Janes Creek as well as from the farm land.

MAPS has provided Agtrix Farming workshops and support to the growers involved in the project and has also demonstrated the MAPS legume planter to the growers by planting numerous trials as part of the project. Due to Covid restraints, the water quality results were to be presented to the farmers in June 2020, however the results will be presented at a grower shed meeting in June 2021.

### **MAPS Legume Planter**

MAPS has been assisting and advising growers on the benefits of growing legume break crops in the sugarcane fallow for many years. Although there are many reasons why growers are not able to plant a legume crop every year, one of the main drawbacks is the availability of adequate equipment when there is an opportunity to plant. In the recent past, MAPS was able to organise and deliver a seeder to growers to plant these crops, but this equipment is no longer available.

After obtaining partial funding from the Queensland Government Department of Agriculture and Fisheries (DAF), MAPS decided to commission the construction of a seed drill planter from a local company, Donnelly's Engineering.

The purpose of the planter is to demonstrate to growers that planting through cane trash on the existing mound is achievable, as well as planting into worked ground.

The planter provides a practical option for growers to plant a legume crop across different farming methods and weather conditions to improve soil health and ultimately improve productivity. Demonstration trials were established with excellent results (Figure 5), where several growers bailed the soybean crop.



**Figure 5: Results of MAPS legume planter**

## IMPORTANT BENCHMARKS

The benefits of having a spatial record keeping system means that MAPS can produce information which can be used to evaluate our various activities and report on a collective basis to industry and government. The following information was extracted from Agtrix Farming.

### Fallow break crops

With 25 % of the fallow planted to breakcrops, this is almost double the area planted in the previous year. More growers are now growing a break crop for a cash crop and are getting a double benefit out of their fallow. Growing fallow legumes is a recommended management practice if growers want to address their poor soil health issues.

To address the soil health/fallow management issue, MAPS now has the ability to demonstrate the practicality of planting a legume on different farming practices.

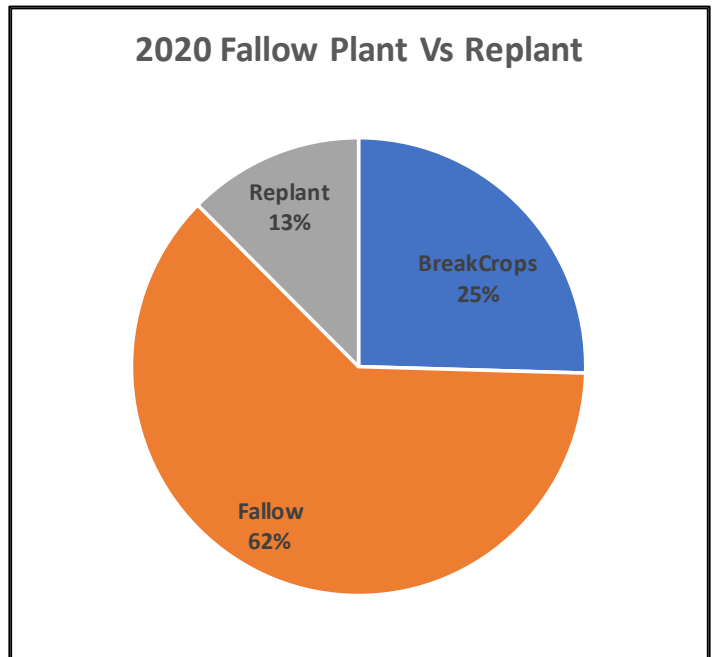


Figure 6: 2020 Fallow Plant Vs Replant

### Row spacing

Compaction of the stool by heavy harvesting equipment will continue unless row spacing is changed to match machinery track widths. It is encouraging to see that “conventional” row widths around 1.5m mark only accounted for 3% of all cane planted in 2020. Approximately 33% of all plantings were at acceptable row widths, being 1.8 m or greater (Figure 7).

The true crop health benefits of wider row spacing are difficult to achieve because haulouts still wander and it is not yet economical to fit them with GPS.

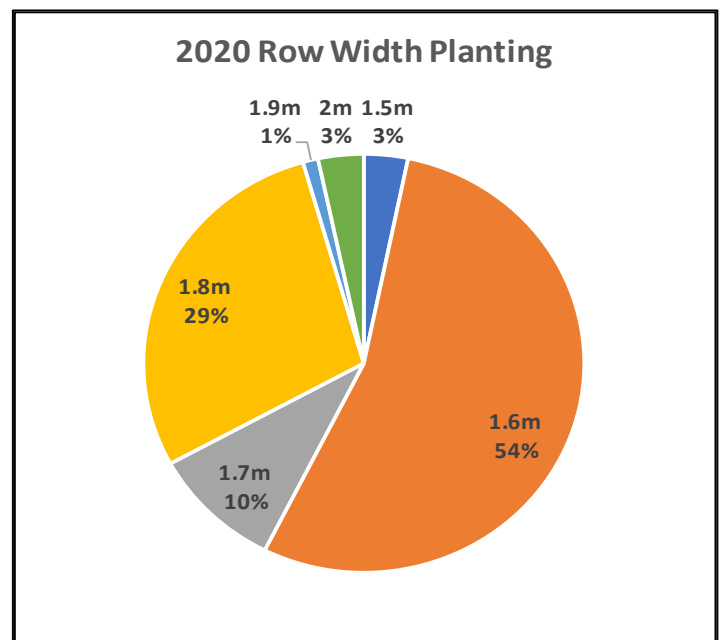
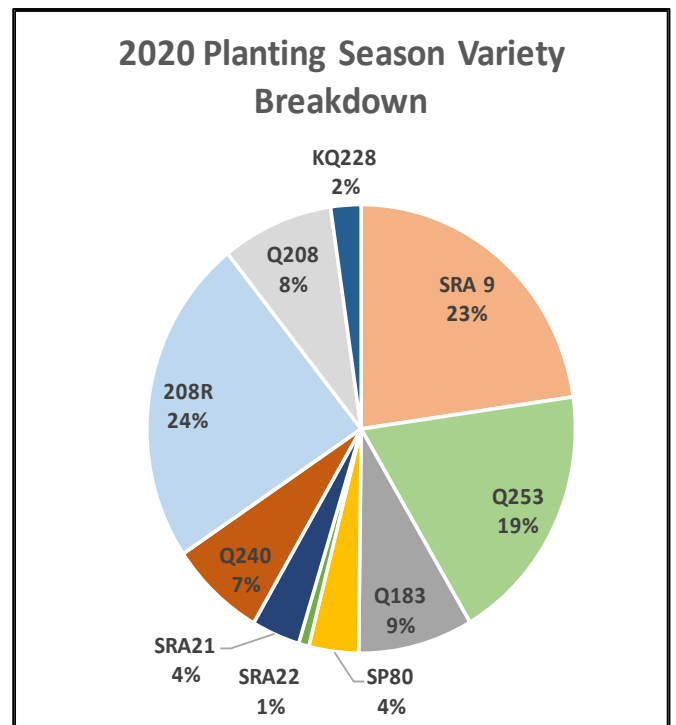


Figure 7: 2020 Row Spacing plantings

**Variety profile**

Q253 has increased 10% from the previous year with SRA9 also increasing by 8%. The two varieties represent 42% of the planting throughout Mackay Sugar area. Both varieties are pachymetra resistant and are proving to be popular amongst growers because they are high yielding and can be grown in a variety of soil types. Q208R at 24% is the most popular variety amongst growers as the variety is versatile and productive and can be harvested all season.

SRA 21 and SRA22 have been released in the last two years and early commercial data collected of the two varieties is very promising.

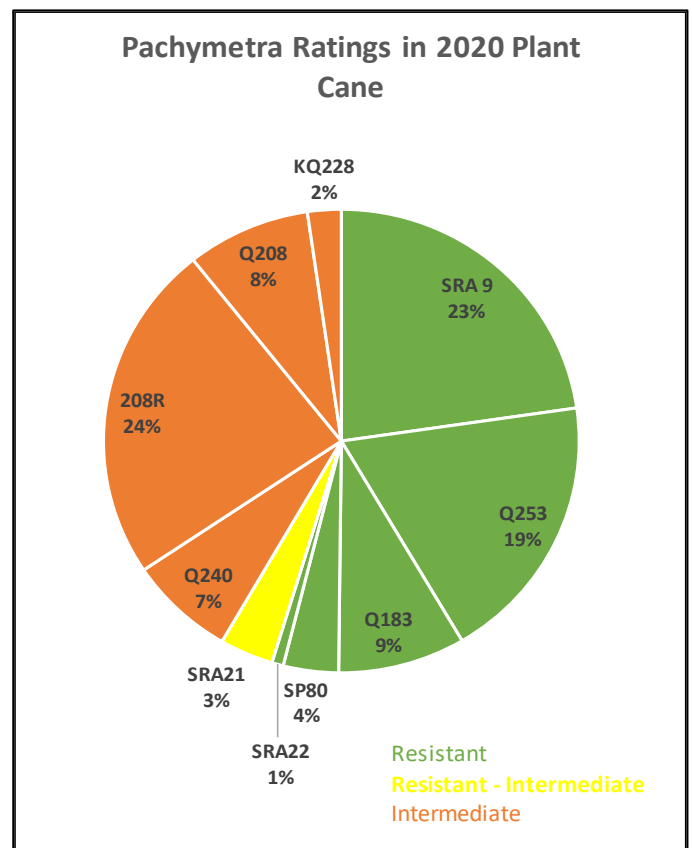


**Figure 8: 2020 Planting – Variety breakdown**

**Pachymetra Root Rot**

With Pachymetra still considered one our most serious disease issues, growers have addressed the issue with 56% of the area planted now with resistant varieties (Figure 9). Resistant varieties such as SRA9, Q253 and Q183 are producing good yield data and suit a variety of soil types. The recently released variety SRA22 which is also pachymetra resistant will be planted more significantly over the next few years as it has potential as an early testing variety.

It is encouraging to see growers continue to request for pachymetra testing on their farm to determine if there is a disease issue present. The continued release of pachymetra resistant varieties is extremely important for the management of the disease and improving productivity within the central region.



**Figure 9: 2020 variety Pachymetra ratings**

### Chlorotic Streak

Approximately 58% of the area planted in 2020 was with resistant and intermediate-resistant varieties. Chlorotic Streak is a disease which is more prevalent in the extremely wet years and can be easily spread through planting material.

Yield loss from this prevalent disease would be much greater if not for the efforts put in by MAPS staff giving advice during plant inspections.



**Figure 10: Chlorotic Streak leaf symptoms**

### Ratoon Stunting Disease (RSD)

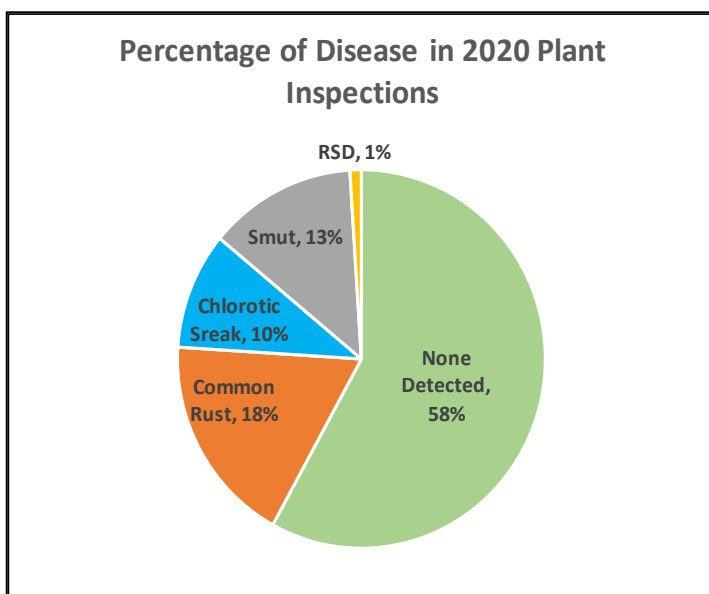
This disease is managed closely by the Productivity Officers who check the majority of plant sources. Incidences of RSD are very low in the Mackay Sugar region compared to other cane growing districts. Regardless of the effort put in by MAPS, some growers still give little notice of planting intentions or have poor sterilisation practices. Some harvesting contractors could also do with more care and attention to clean down and sterilise machinery between farms. Eleven farms have been recorded as having RSD infection.

Staff have completed the RSD survey of the Mackay Sugar region, which targeted inspecting older blocks of ratoons. Each Productivity Officer surveyed approximately 25% of their farms and the older ratoon blocks were selected because if RSD is present, it is more likely to be found in these blocks. No new detections of RSD were found with over 300 farms inspected. These results reinforce the good work MAPS does to keep the RSD levels at the current low levels throughout the Mackay Sugar region. Currently RSD is only found on 1.1% of Mackay Sugar farms. The survey will be conducted again in 2021.

### Plant Inspections

58% of the plant inspections conducted in 2020 have resulted in no disease detected (Figure 11). With over 4,000 plant inspections conducted by the MAPS staff, it is very encouraging to see the major diseases such as RSD, Smut and Chlorotic Streak are being recorded at the lower levels. Where diseases are found, an alternative plant source is found to ensure the best possible crop is achieved.

While plant inspections are vital to combat a disease outbreak, the task provides an ideal opportunity for staff to assist growers in developing a variety management plan for the upcoming planting season.



**Figure 11: 2020 Plant inspections**

### Approved Seed Use

One of MAPS' most important, yet time consuming and expensive activities is the provision of Approved Seed sources. MAPS maintains its Victoria Plains farm plus Finch Hatton and Calen lease plots for this sole purpose. Once a seed source gets GREATER than 4 years away from hot water treatment (HWT), it is deemed to be high risk in terms of potential disease infection.

About 76% of cane planted in 2020 came from a seed source LESS than 4 years away from HWT. A major focus from MAPS is to encourage growers to regularly collect a clean source of a variety on a yearly basis. Clean seed collection is the foundation to building and improving productivity.

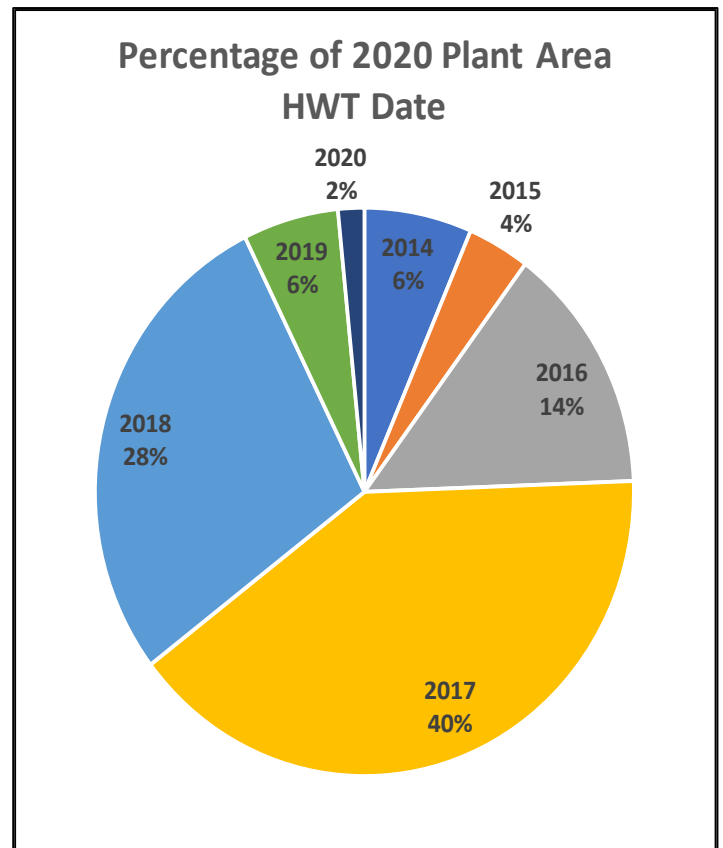


Figure 12: 2020 plant area HWT dates

### Sugarcane Smut

This disease is largely under control because most of our recommended varieties are Smut-resistant. Resistant and intermediate varieties will show the occasional Smut whip, which does not cause any yield losses. While SRA9 has a relatively high Smut rating, very little or no Smut is being found in the field, which is very encouraging, considering the hot and dry conditions throughout the 2020 season.

Although medium levels of Smut were recorded in blocks of intermediate and susceptible varieties, such as Q138, Q242, Q252, Q208 and SRA 13, no major yield losses were recorded. MAPS observation plots provide an ideal opportunity to observe how the promising SRA seedlings react to Smut under field conditions.

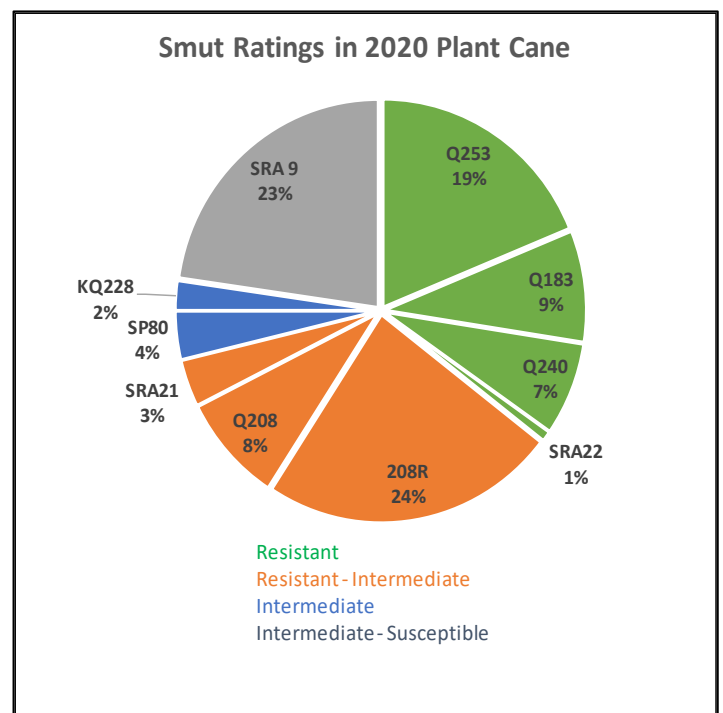
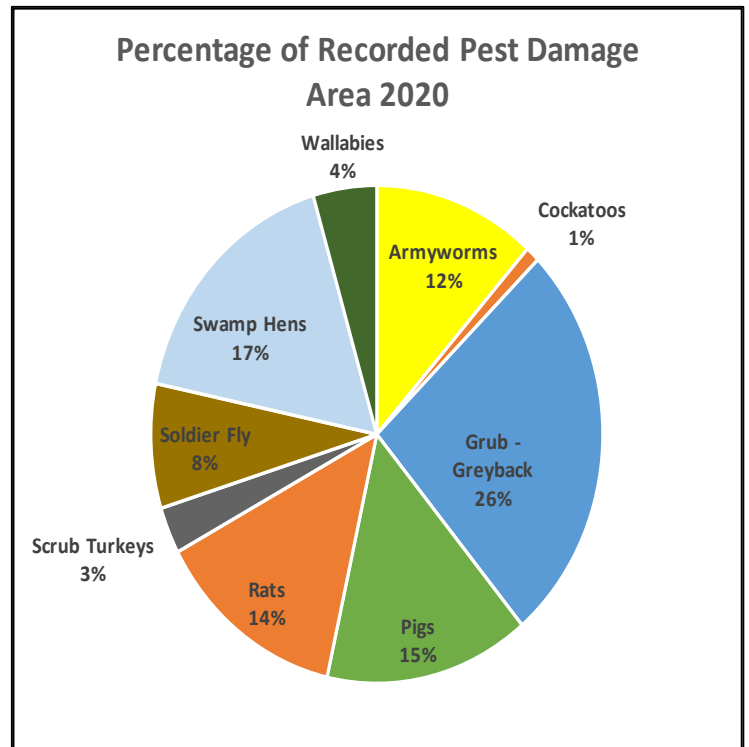


Figure 13: 2020 plant Cane Smut ratings

## PESTS

MAPS data suggests that over 36,000 tonnes of cane were lost due to pest activity in 2020. Again the three major pests that cause the most damage are cane grubs, feral pigs and rats. Soldier fly is of concern because of the increasing occurrences of the pest throughout the Mackay Sugar region. In comparison to the other major pests, Soldier Fly damage is much lower, however where the damage is on individual farms, the yield losses are quite significant. MAPS is collaborating with SRA in establishing a variety trial on a soldier fly-infected farm to trial several seedlings and new varieties against the pest.



**Figure 14: 2020 recorded pest damage**

### Cane Grubs

Cane grub damage has remained relatively the same compared to the previous year. The recorded grub damage was a result of growers not applying Imidacloprid (grub control chemical) or not correctly applying the chemical. Several growers applied the chemical treatment during the dry periods and could not apply the treatment deep enough and the treatments were not effective resulting in grub damage.



**Figure 15: Cane grub damage**



**Figure 16: Soldier fly larvae**

## Feral Pigs & Rats

Both feral pig and rat damage has slightly reduced from the previous year. Both feral pig and rat damage increases during the latter part of the year when dry conditions become more prominent. The dry period during the crush forces the pest out of their natural harbourage and into cane crops for a food source and shelter. Also growers were much more active in rat baiting and pig trapping and shooting.



*Figure 17: Ground rat damage*



*Figure 18: Climbing rat damage*

## WEEDS

### Red Witchweed

MAPS, through Steve Garrad, provides liaison between affected growers and Biosecurity Queensland (BQ). They continue working toward eradication using hygiene practices, false host fallow crops, ethylene injection and other means. Funding has been sought for an extra four years with the expectation, the weed will be eradicated and the affected farmers can resume full production on their properties.

## OTHER SIGNIFICANT ACTIVITIES/EVENTS

### MAPS Strategic Plan and Budget 2020/2021

In May 2020, MAPS implemented a 5 year Strategic Plan (Figure 19) with the aim of increasing the focus on improving farm productivity. While core activities such as Clean Seed, Pest and Disease and Grower Extension are vital to productivity, other activities such as BMP, Agtrix Farming and Fallow Management were identified as opportunities to improve sustainability and productivity.

The CEO, Company Secretary and Board reviewed the 2021/2022 Budget. The Budget was adjusted and approved by the Board.

<b>MAPS 5 Year Strategic Plan</b>		<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
<b>Clean Seed</b>	1.25% plant source is Clean Seed	1.5% plant source is Clean Seed	2% plant source is Clean Seed	2.5% plant source is Clean Seed	3% plant source is Clean Seed	
<b>RSD</b>	Target 1% RSD Survey	Target <1% RSD Survey	Maintain <1% RSD Survey	Maintain <1%	Target 0.5%	
<b>BMP</b>	20% Growers Accredited	35% Growers Accredited	45% Growers Accredited	55% Growers Accredited	65% Growers Accredited	
<b>Agtrix</b>	20% Growers registered & active	30% Growers registered & active	40% Growers registered & active	50% Growers registered & active	65% Growers registered & active	
<b>Fallow Management/ Soil Health</b>	25% fallow (hectares) under break crop	30% fallow (hectares) under break crop	35% fallow (hectares) under break crop	40% fallow (hectares) under break crop	50% fallow (hectares) under break crop	
<b>Grower Extension/ Profiling</b>	76tc/ha 100% Growers surveyed. Analysis data & target productivity gains/zones. 10% Grower Profile/ Assessment	77tc/ha 20% Grower Profile/ Assessment	78tc/ha 30% Grower Profile/ Assessment	79tc/ha 40% Grower Profile/ Assessment	80tc/ha 100% grower surveyed 50% Grower Profile/ Assessment	

**Figure 19: MAPS 5 Year Strategic Plan**

## **ACKNOWLEDGEMENTS**

MAPS is the main on-farm provider of quality advice and extension for all Mackay cane growers. By helping growers to be more productive and profitable we are also helping Mackay Sugar to crush more quality cane.

Thanks to those farmers and harvester crews who have cooperated with MAPS to organise various trials. A good relationship with Mackay Sugar means we can communicate with each other's needs when it comes to harvesting and cane quality issues.

We rely on good partnerships and relationships with individuals and several organisations including CANEGROWERS Mackay, Mackay Sugar Ltd, SRA, Reef Catchments, Queensland Department of Agriculture and Fisheries (DAF), Department of Science (DES) and the agribusiness companies.

No one should take for granted MAPS' hard-working, dedicated and loyal staff. The Board and I are lucky to have such a great bunch of people.

Thanks to the MAPS Board for their support and for their efforts throughout the year.



**Anthony Schembri**

