NORTH QUEENSLAND/CENTRAL QUEENSLAND PINEAPPLE STUDY GROUP

Mackay

Thursday 7th and Friday 8th October 2021

Take Home Messages

There are multiple benefits from better communication between growers and their market agents, especially to give ample warning of things like a large amount of small fruit, lower or larger crops than expected etc. With sufficient warning market agents can take steps to deal with the situation in a mutually beneficial way.

The first Fact Sheet has been put together from demonstration trial results. It focusses on rigs to spray the walkway only, avoiding the bed. For a relatively low cost, it can roughly halve the amount of chemical used and allow weedicides to be used that can't be sprayed on pineapples.

Carter & Spencer pointed out the importance of selecting the appropriate market for quality or grade of the fruit. E.g. Costco requires small fruit.

Steve McKeering warned growers that they should retain ownership of data collected by remote sensing from their farms, otherwise it could be sold by the collecting company to entities such as banks and insurance companies and potentially used against them e.g. when seeking loans and insurance cover.

There are multiple benefits from adopting farming practices that use low till, controlled traffic and rotations.

Autonomous farm equipment is expected to be the next big development in precision farming.

Golden Circle is committed to significantly increasing their fruit intake.

Detailed information on the demonstration trials alongside results and pictures is on the grower website, as well as covered in the quarterly pineapple press. If you require any assistance with accessing these trials on the website, please contact Natalie Brady or Bridie Carr who can assist with your login. Growers are encouraged to leave comments on any of the trials for Tim Wolens to answer/discuss, or simply call Tim.



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Present (14 + 6 = 20)

Growers (14): Ryan Pace, Robert Pratt, Ronan White, John Zelenka, Peter & Phillipa Camilleri, Barry Field, Cheryl Zunker, Steve and Sandra Said, John Cranny, Steve Black, Chris and Jenny Williams.

Non-growers (6): Doug Jones (Kraft Heinz Golden Circle), Tim Wolens (Agri Supply Global), Vic Millward (AgriPower), Adam Kennedy & Matt Spencer (Carter & Spencer), Simon Newett (DAF Qld).

Apologies: Ben Clifton, Bridie Carr

AGENDA

Thursday 7th October

12 midday – Lunch at Koumala Hotel

1.00pm MEETING

- Welcome and introductions especially of new growers
- Overview of pineapple ICP project mainly for awareness for new growers mainly about deliverables e.g. workshops, demo trials, Pineapple Press, website (handout), videos (next is training video on planting), demo trials, BPM & Problem Solver (supplied to new growers), minutes, field day harvester and maturity stickers) etc
- News from around the regions NQ, Mackay & Yeppoon
- Changes in some regional representatives on 'Australian Pineapples'
- Fruit quality in the markets Adam Kennedy & Matt Spencer
- Results from interow weedicide trial

2:30pm Visit Doug Petersen's cane farm to learn about his minimal till and soybean rotation

3:30pm – Visit John Zelenka's pineapple farm at 503 Hatfield Rd, Koumala.

7pm - Dinner at Austral Hotel, Mackay.

Stay at The Mid-City Motel.

Friday 8th October

8:30am – Meet at 177 Nicholsons Crossing Rd, near Mirani in Pioneer Valley. Explanation by cane growers Steve and Brett McKeering of their controlled traffic cane/soybean rotation.

10:30am – Visit Peter & Phillippa Camilleri's cane and pineapple farm at 645 Sugarshed Rd, Farleigh.

12:30 pm - Finish



Rough leaf pineapple

NEWS FROM AROUND THE REGIONS

Cawarral & Yeppoon

Steven Black and John Cranny – Conditions and moisture have been good were able to plant all winter. Some Mealybug Wilt creeping in.

North Queensland

Ryan Pace – Good soil moisture but getting enough good staff has been a problem.

Mackay

John Zelenka – A level of natural flowering up to 50% - so have held off gassing for 6 weeks. Phytophthora root rot in low lying areas. Received 120mm rain about a month ago and was too wet to plant for a month. John sells as much of his fruit as possible locally because of very poor prices in the Brisbane market. Shoppers at local farmers markets insist on local produce.

Australian Pineapples changes - stepping down are Stephen Pace (NQ) and John Steemson (WB).

Courtney Thiess takes over NQ, Sam Pike (SEQ) takes over chairmanship and Ben Stokes (SEQ) joins the group.

COMMENT ON FRUIT QUALITY - ADAM KENNEDY & MATT SPENCER FROM CARTER & SPENCER

In addition to being market agents, Carter and Spencer are now pineapple growers and packers (having taken over Bill Embrey's farm in Bundaberg about 4 years ago).

They agreed that prices have been low (at least partly caused by the COVID crisis – so little or no demand from airlines, cruise ships, restaurants etc), saying that even when supply has been low prices have been low.

Adam pointed out the importance of matching the right fruit to each market, e.g. small fruit to Costco etc.

He pointed out that citrus competes with pineapple and citrus prices have been low.

A lot of fruit these days goes directly to supermarkets from farms but of the fruit that is consigned to the central city markets, 45% is purchased by provedores (suppliers to restaurants).

There needs to be better communication between growers and their market agents, especially to give them ample warning of things like a large amount of small fruit, lower or larger crops than expected, with sufficient warning market agents can take steps to deal with the situation in a mutually beneficial way.

The quality of pineapple fruit over the last 12 months has been 'phenomenal'.

John Zelenka pointed out that large melon growers, Rapisardas in the Burdekin, only sell perfect fruit and this results in them throwing out 1/3 of their fruit. The pineapple industry has the benefit, in Golden Circle, of having a market for non-perfect fruit.

John Cranny asked if it made a difference having a fancy carton compared with a plain carton. Carter & Spencer replied that yes it definitely did.

GOLDEN CIRCLE UPDATE – DOUG JONES

Doug said that GC hopes to accept 40% more fruit this year. They are also accepting more 73-50 and MD2 but this requires working closely with growers because it needs to be harvested green – if fruit has some colour then it gets a fluorescent appearance when cooked.

GC closes for maintenance over the December/January period and again in July. Tim pointed out that there could be a lot of natural fruit that will be harvested over the December/January period. Doug said that GC has been experimenting with cold storing fruit (10°C was too cold, 12°C is better) during shut down periods.

Doug said that a few years ago inventory was building up so there was a push to reduce intake, however there are now new CEOs globally and in Australia and they have a different philosophy that is directed to selling more and not cutting costs. The intention is to increase intake from 12,000 tonnes in 2020 up to 27,000 tonnes in 2021 if possible.

In summary, GC is forging ahead with building ability and capacity.

VIDEO

The next training video will be on the correct practices associated with planting pineapples. It will be completed next year and will complement the planter sticker already released. If you have any specific points you'd like covered in this video please contact Bridie Carr or Simon Newett.

DEMONSTRATION TRIALS – TIM WOLENS

A handout put together by Bridie Carr was distributed (see Appendix I). This handout highlights rigs set up to spray walkways whilst avoiding the bed. This directed spray allows weedicides such as Basta (glufosinate ammonium) to be sprayed on blue top and not on the pineapple plants. It also has the advantage of reducing the amount of chemical that needs to be used, benefitting the environment, and reducing the cost. Typical cost of modifying an existing sprayer is from \$500 - \$1000.

John Cranny commented that driving in the walkway to apply the spray would disturb the pre-emergent weedicide layer but you would only be conducting the inter-row spray if there was a weed problem which means that the layer of pre-emergents would have already failed.

Tim also said the compaction and wheel track from the tractor tyres in the walkway make it less prone to erosion. In addition, geopolymers are being trialled to stablise the inter-row including maintaining the tyre trend pattern of the tractors to minimise water velocity.

The meeting finished with a word of thanks from Cheryl Zunker on behalf of herself and late husband David to fellow growers and organisers for the many years of pineapple study group meetings that they have attended. Cheryl also commended the study group meetings to new growers and hoped they would get as much out of them as she and David had. Thanks Cheryl! We wish you all the best too!



Cheryl Zunker bids the pineapple study groups farewell

DOUG PETERSEN'S MINIMUM TILL CANE FARM



Left: 'Rippler' prepares the ground for seeding soybeans. Right: Minimum till cane stick planter.

Doug Petersen uses a minimum till system for a sugar cane/soybean rotation. It involves spraying out the previous crop (cane or soybean) with weedicide (usually Roundup and Verdict) then using a 'rippler' implement followed by the seeder for soybeans, or a ripper followed by a stick planter for cane. Doug claims to achieve yields as good or better than growers using many more cultivation passes (e.g. with disc harrows and rotary hoes) and to also have the benefit of much lower tractor fuel, labour and machinery maintenance costs. In addition, minimum till doesn't stir up the weed bank in the field, and the rotation with soybeans lowers his nitrogen fertiliser bill. He "drives less and works less". Also, there are less weeds in the fallow and less rocks are brought to the surface. His minimum till system ticks the environmental boxes and also results in less erosion. If he decides to keep the soybeans through to grain production, it does dry the ground out more and result in more weeds.



Doug Petersen operating his remote-controlled cane billet tipper

JOHN ZELENKA'S PINEAPPLE FARM

The farm covers 53 ha (130 acres). Last year John planted about 50% hybrids, 40% Smooths and 10% Roughs however due to the demand for Roughs he is planting more of them this year. Roughs are sold "tops on" because they produce heaps of slips. His main harvest occurs between November and May/June and the main focus is on the local market because the prices in the city markets have been so poor during COVID.



Roughs produce many slips

One of the major issues on the farm is blue top and this is worst in areas planted just before Christmas probably because it coincides with the wet season. There is some root rot but using the deep rippers during ground preparation has helped improve drainage and this has been coupled with the use of phosphorous acid. Nitrophoska and DAP are used.



Left: John Zelenka addressing the visitors. Right: John's deep ripper which has improved soil drainage & thus root rot

Ground preparation consists of two passes with the disk harrow to chop up and bury the old crop which is then left to rot away for several months. This is followed by the deep rippers, a few passes of the disk harrows then bedding up and planting. Planting material is generally graded into large, medium and small sizes.

During drought the wallabies, pigs and scrub turkeys can attack the pineapple plants.



Left: Gully repair following 2,000 mm of rain in 16 hours in 2017. Right: New planting

STEVE & BRETT MCKEERING'S CONTROLLED TRAFFIC SUGARCANE/SOYBEAN ROTATION

Steve and Brett are first generation cane farmers from a cattle background. They have worked with Tony Crowley (0409 475 317) from 'Farmacist' to establish a GPS guided system to plant a cane/soybean rotation on exactly the same beds year after year. Bed centres are 1.8m, single row cane is planted and the whole farm is now on the same A-B line. Annual rainfall is about 1500mm (60").



Steve and Brett McKeering explaining the benefits of GPS planting and the sugarcane/soybean rotation

After 6 – 7 years under cane the crop is cultivated out in three passes (disk harrowing known locally as "bumping") then soybeans are planted. In the first sugarcane fields to be harvested in the season (June), two crops of soybeans can be grown in quick succession. The first soybean crop is planted in July and harvested in November, then immediately replanted with the second crop of soy. In the fields of cane harvested later in the crushing season only one crop of soybean can be grown. After soybeans the land goes back into sugarcane for the next 6 or 7 years. Steve and Brett said it was good knowing that they had a viable alternative crop to sugarcane. A crop of soybeans requires 6-7 ML water/ha. Soybean can also handle wet conditions well.

Cotton, rice, peanuts and corn are alternative crops, but each has disadvantages, these are - being susceptible to cloudy weather, needing a lot of water, being wiped out by rain at harvest time and poor returns respectively.

After a few years under the controlled traffic sugarcane/soybean rotation they have found the following advantages:

- Sugarcane yields now reaching 105 t/ha/yr compared with about 75 t under conventional tillage
- Ground much easier to till now using 140 HP tractors compared with 280 HP previously
- Massive fuel savings only using 1/6th what they used to use
- Soybeans make the soil more porous and friable as well as supplying nitrogen
- After rain they are able to get back into the paddock sooner than before



Left: Good nitrogen nodulation on soybean plant. Right: Friable, uncompacted and porous soil in the bed.

Generally, only pre-emergent weedicides are needed for the soybean crop and no fertiliser is applied. Soybean yields are typically 4 to 5 t/ha. Nitrogen produced by the soybean crop usually lasts for 7 to 8 weeks after the crop is incorporated and this has reduced fertiliser bill for the subsequent sugarcane crop. However, the soil is still tested regularly to determine how much fertiliser needs to be applied.

Weedicides used include a Sumitomo knock down of some grasses and broadleaves called 'Valor®' (active ingredient flumioxazin). It is sometimes mixed with other weedicides including glyphosate. It is quite a toxic chemical to handle.

Tony Crowley was asked what the likely next development would be with precision farming. Without hesitation he said it would be the development and use of autonomous vehicles, however he said that they were currently very expensive and there were too many different ideas being thrown about. He thinks that the autonomous rigs would be much smaller machines than conventional machines, they would have very accurate GPS capabilities and would need longer lasting batteries. They are also likely to be able to collect a lot of information when out in the field which would help the farmer with things like yield estimation. Satellite coverage can be a problem but having a local base station will get around this. He said we are currently inundated with satellite imagery.

Steve McKeering said that he is a grower representative on the local cane board and is warning growers to keep data to themselves. When another company collects the data, they can on-sell it to organisations such as banks and insurance companies and can be used against you. He warned that in South Africa there are companies that offer to collect satellite images and other remote sensing data, but the grower does not own it and it is being sold to institutions for large sums.

PETER AND PHILLIPA CAMILLERI'S FARM AT FARLEIGH

Peter and Phillipa got their first planting material from David and Cheryl Zunker a few years ago. They mainly grow Roughs, but also have a few 73-50 and Smooth Cayenne (F180).

Fertiliser for the second planting was direct drilled into the bed. Tim felt that the nitrogen / potassium ratio rate has been a bit high and could be causing the long narrow leaves and the odd tapered pineapple fruit, however the Rough fruit size was impressive. The red leaves and bleached leaves in full sunlight suggest that more phosphorus and magnesium respectively may be needed. A common foliar spray applied by Peter is urea and solubor. Growers were cautioned about applying too much boron as there is a narrow margin between boron deficiency and toxicity.



Good crop of large rough leaf pineapples at the Camilleri's farm near Farleigh

Large slips were planted in about September 2020 to produce the crop in the above photographs.

Astral (active ingredient bifenthrin) is used to control symphylids. Some of these pests were found during our visit.



Root system showing signs of symphylid damage – short, stubby branching roots with a witches' broom appearance. Live symphylids were found in the soil.

AGRI-SILICA – Vic Millward

Vic (0438 954 500) represents Agri-Power and sells a type of silica fertiliser which comes in different grades – granules, powder and liquid form. It is mined near Charters Towers and is a type of diatomaceous earth. Tim is trialling three rates of the product in pineapples on John Steemson's farm near Bundaberg, the trial was established just before the annual field day last year.

Vic claims that Agri-silica contains a plant available silicon which makes crops more tolerant of drought as well as pest and disease attack by strengthening cell walls. Claims are also made that the 'sharps' component of the product deters pests such as mites and makes the crop less attractive to pests. The granulated product sells for around \$700/tonne.

INDUSTRY WEBSITE

Also see Appendix II.

The Australian Pineapple industry website continues to be updated regularly providing growers with a central point for information.

How do I register? Visit: www.australianpineapples.com.au/members

- 1. Enter your details on the right under 'Register'.
- 2. Please note: Because the industry section of the website is attached to the consumer website, all registrants need to be approved before you are granted access. This could take a couple of days to occur.

Please note, this site is intended for use by Australian pineapple growers only and therefore agricultural supply chain members will not be granted access.

What will I find on the website?

- Information about Tim's research & development trials.
- All videos including the ones that will be developed under the project.
- Study Group meeting minutes.
- An electronic copy of the Pineapple Best Practice Manual.
- Past editions of the Pineapple Press newsletter.
- A list of upcoming industry events.

Need help? If you are having issues accessing or using the website, please contact:

Natalie Brady -Growcom 07 3620 3844 <u>nbrady@growcom.com.au</u> (please note working days are Monday - Thursday)

Bridie Carr - DAF 07 5381 1327 0436 675 740 bridie.carr@daf.qld.gov.au

ACKNOWLEDGEMENTS

Very many thanks to John Zelenka for hosting the visit to his pineapple farm at Koumala, organising the visit to Doug Petersen's cane farm and making arrangements with the Koumala Hotel, to Bruce Drysdale and Steve & Brett McKeering for organising and hosting the visit to the cane farm on Friday and to Peter and Philippa Camilleri for hosting the pineapple farm visit on Friday. Also, thanks to Adam Kennedy and Matt Spencer from Carter & Spences for making the trip from Brisbane and sponsoring the drinks on Thursday.

Simon Newett, Bridie Carr and Tim Wolens



These workshops are part of the project "Improved viability and sustainability of the Australian pineapple industry" (PI17001) which is a strategic levy investment under the Hort Innovation Pineapple Fund. The project is delivered by the Department of Agriculture and Fisheries, Agri Supply Global and Growcom and funded by Hort Innovation using the pineapple industry research and development levy, with coinvestment from the Queensland Department of Agriculture and Fisheries, and contributions from the Australian Government.



View of Farleigh sugar mill from the Camilleri's pineapple fields

INTER-ROW SPRAYING



RETROFITTED SPRAYERS TARGETING THE INTER-ROW ARE GIVING GROWERS MORE WEED CONTROL OPTIONS



Simple adaptions have been made by multiple growers to pre-existing machinery enabling them to target their herbicide applications into the inter-row.

These growers have access to a wider selection of herbicide options because they can avoid direct spray contact with the plant crop.

The registered chemical for controlling bluetop/billygoat weed is Glufosinateammonium 200g/L (like Basta or Beast 200) which causes damage to the crop.

Growers are successfully using this product by localising the spray to the inter-row and avoiding plant contact - one grower has seen up to a 75% reduction in their bluetop/billygoat weed population.

The estimated cost of setting up an inter-row sprayer is \$500-\$1000.

Potential savings can be made by growers with 50% less inputs being required compared to broadacre spraying.

FOR MORE INFORMATION OR FREE ADVICE ON HOW TO SET UP YOUR SPRAYER CONTACT:



BRIDIE CARR - 0436 675 740 OR TIM WOLENS - 0409 848 076



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Contact Natalie Brady: 07 3620 3863