

# Australian Bananas



Issue 41, Autumn Winter 2014

## House calls

New Senators in farm visits



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Capital idea for Congress



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New quarantine glasshouse



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Hot campaign: Billy boils



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editorial & advertising  
Rhyll Cronin  
07 3278 4786  
[rhyll.cronin@abgc.org.au](mailto:rhyll.cronin@abgc.org.au)

art direction & design  
ToadShow  
2 Eton Street, Toowong  
07 3335 4000  
[www.toadshow.com.au](http://www.toadshow.com.au)

publisher  
Australian Banana Growers' Council Inc.  
ABN: 60 381 740 734

chief executive officer  
Jim Pekin

research and development manager  
Jay Anderson

office manager  
Alix Perry

administration assistant  
Kaylar Packer

### BOARD OF DIRECTORS

chairman  
Doug Phillips

vice-chairman  
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treasurer  
Paul Johnston

directors  
Marc Darveniza  
Steve Lizzio  
Peter Molenaar  
Stephen Spear

all mail to  
PO Box 309  
BRISBANE MARKET QLD 4106

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Cover: Senators-elect Barry O'Sullivan and Matt Canavan, both from southern Queensland, visited banana farms in January to gain first-hand information about the industry. Photographer: Brian Cassey.



# Outbreaks a lasting reminder we need unity



**The Australian banana industry has just been given a very important reminder about how vulnerable we are to the threats that come from outside our farms.**

Those threats are the biosecurity risks that can stop an industry in its tracks.

Everyone in Australian bananas knows the importance of biosecurity and quarantine in preventing the emergence and spread of damaging pests and diseases.

However, with the day-to-day demands of farming, sometimes the urgency of these issues gets pushed into the background.

That's why we now need to heed the reminder we've just been given. That reminder comes in the form of an outbreak of Banana Freckle (*Phyllosticta cavendishii*) in the Northern Territory and the extensive effort to eradicate it.

Banana Freckle is an extremely serious pathogen and we must make sure we stay focused not only on successfully managing this outbreak but on the ever-present threat of other diseases.

Included, of course, is Panama disease Tropical Race 4, also present in the Northern Territory. In parts of our east coast growing regions we continue to

manage the non-Cavendish-affecting Panama strain of Race 1, the leaf diseases yellow Sigatoka and leaf speckle and, in parts of southern Queensland and northern New South Wales, Banana Bunchy Top Virus.

## Working for growers

So, over the years, there have been plenty of reminders that biosecurity is still one of the single most important issues to the long-term success of the Australian banana industry.

Growers – as individuals – can feel limited in what we can do to respond to threats that often come from outside our growing regions or even from outside Australia. That's why it's so important that we have our peak industry body, the Australian Banana Growers' Council (ABGC), working on our behalf.

In the case of Banana Freckle, since the pathogen was first detected ABGC has been working with various State and Federal biosecurity agencies to formulate and implement the plan to eradicate this pathogen from Australia.

This has involved the enactment of the "Emergency Plant Pest Response Deed" which determines the cost sharing principles and also provides a mechanism for industry to repay its portion over time.

Whilst ABGC had been a signatory to the deed for some time, it was only in early 2013 that a formal mechanism was established for collecting any monies necessary under an incursion response. This response, whilst challenging at times, is continuing with the intent of eradicating Banana Freckle from Australia.

Another significant biosecurity challenge for the industry has been the change in classification of Panama Disease Tropical Race 4 (TR4) within the Northern Territory from exotic to endemic.

## TR4 containment

That decision, made almost two years ago in July 2012, lifted quarantines on Territory properties where TR4 is present. Once again, ABGC has been working extensively with the relevant state biosecurity agencies to ensure TR4 is contained to the NT. At the same time, evaluation of alternative cultivars has been prioritised so that if containment is unsuccessful alternative bananas and production techniques may be available (see stories Pages 14, 20, 24, 26).

These issues are significant to the Australian banana industry and cannot be ignored. Their management places significant pressure on ABGC resources. It is worth noting that when ABGC acts on these, and many other issues, it is doing so on behalf of **all** banana growers – not just paying ABGC members.

All that growers need do is apply to join and then pay a 3 cent / carton membership fee. This fee is what allows ABGC to represent the interests of all banana growers on biosecurity and other issues.

To those who are ABGC members, I thank you on behalf of our industry for your continued support. To all other banana growers, I would encourage you to make your contribution and become an ABGC member.

Surely we've all had enough reminders that working together is the best way to protect our industry.

**Doug Phillips**  
ABGC Chairman

**Lasting reminder: The industry must take a unified approach to biosecurity risks such as Banana Freckle.**



# HAL Review must protect levy benefits



**Communication avenues for the banana industry include the ABGC website, media releases, the Australian Bananas magazine, the Australia Bananas newsletter and the Banana Growers' e-bulletins.**

**These communications are part of a project mostly funded by Horticulture Australia Limited (HAL).**

That is, growers' levy funds are matched by the Federal Government and provided to HAL for banana projects such as the Communications one, ably led by Ms Rhyll Cronin.

Similarly, most other projects that are run by ABGC staff are funded by your matched levies.

This includes the work of our R&D Manager, Dr Jay Anderson. She was employed to develop and coordinate projects and to provide technical advice.

Jay's advice has been invaluable in regard to Panama Tropical Race 4 and the current Freckle incursion in the NT.

All North Queensland growers know Louis Lardi, the ABGC Yellow Sigatoka Liaison Officer. He and the ABGC Bunchy Top staff, Ms Samantha Stringer and Mr Barry Sullivan, are also supported by HAL funds.

## Industry levy

The 1.7 cents per kilogram national levy, that all banana growers pay, funds all 29 banana-specific R&D projects that are currently being delivered by a range of service providers, as well as the Banana Marketing program.

The levy does not fund ABGC membership, nor the advocacy work we do.

The majority of banana growers voted in favour of the national levy in 2007. In the five years since the industry has had access to the levy funds the results are significant benefits in productivity, supply-chain management, sustainable resource management and protection from biosecurity threats.

It has also resulted in excellent gains on the marketing side; driving banana consumption particularly with the primary audience of those aged 18-39.

The model under which this R&D and marketing work is done is being reviewed.

ABGC's comprehensive submission to the HAL review (available in the



Important Notices section on the ABGC website, [www.abgc.org.au](http://www.abgc.org.au)) noted a variety of facts in relation to the banana industry and that such a review was appropriate.

The reviewers, ACIL Allen, were asked to listen to growers' perspectives, to reflect on the effectiveness of the model and to propose improvements to it.

ABGC noted the current HAL model was effective in delivering good returns on investments and suggested any major changes to the model should be backed up by evidence.

While, legally, HAL is owned by industry (through peak industry bodies), the Federal Government is the single largest contributor. In 2012/13, HAL's expenditure (within and across all 41 industries) was \$103 million. \$40 million of this was from the Federal Government, by way of matched R&D funding.

## Future HAL model

Consequently, the Federal Department of Agriculture and the former Minister have expressed views about what a future HAL model should have.

In my 4th March discussions with the Department on this Review, they were keen for constitutional change to address conflicts of interest in regard to ownership of HAL and influence over how it operates. They were also keen on improved transparency in the management of funds.

ABGC's submission noted that perceived conflicts of interest should be

**Jim Pekin (centre) with Doug Phillips (left) and Cowley grower Mark Nucifora.**

addressed by corporate governance, not structural change.

## Grower involvement

The result of this Review must not reduce the effectiveness of the dollars invested by banana growers. While some independent expert membership on the Banana Industry Advisory Committee (IAC) is valuable, we would not want to see a model where grower leaders are not allowed to be members of the advisory structure as well.

Also, the banana levy was voted on for the use of the banana industry, so we would also not want to see support for one Review submission which advocates for half of the levies to go to cross-industry issues, many of which are not relevant to bananas.

ACIL Allen's draft report on the Review is to be provided to the HAL Board and Government by 4th April. Members of the company (the horticultural industries) are expected to be provided with the final report in mid-May 2014.

The ABGC has encouraged all growers to be involved in the Review's consultation process and we would ask you to remain engaged with this important review.

**Jim Pekin**  
ABGC Chief Executive Officer



# From packing house to Upper House

Before taking their Upper House seats, two newly-elected senators have made a tour of the north Queensland growing region at the invitation of the Australian Banana Growers' Council (ABGC).

Queensland Liberal National Party Senators-elect Barry O'Sullivan and Matt Canavan, both from southern Queensland, visited banana farms in January to gain first-hand information about the industry.

The senators-elect spoke with growers during the familiarisation over two full days which visited a range of farms at Innisfail, Cowley, Silkwood, Mission Beach and both sides of the Tully River.

They were hosted by ABGC north Queensland Directors and Chief Executive Officer Jim Pekin.

Senator O'Sullivan, who took up his role just after the visit, on February 11, said the exercise had been very informative allowing him to meet some of the hard-working people who make up the banana industry.

Senator-elect Matt Canavan, who takes up his Senate position on July 1 this year, thanked the ABGC and all the growers he met for informing him about the industry.

Mr Pekin said the ABGC looks forward to keeping the two, and other Federal politicians, up-to-date with all the latest information on banana issues.

Below: Barry O'Sullivan (left) with Matt Canavan. Top right: At Fiorito Bananas with Mark Nucifora. Centre and bottom right: At Liverpool River Bananas with Steve Lizzio, ABGC Chairman Doug Phillips and CEO Jim Pekin and the Lizzio family.



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# New regulations to support Qld Act

**Queensland has streamlined its biosecurity legislation, passing a new Biosecurity Act in March.**

Regulations are now being developed to support the Act. State Agriculture, Fisheries and Forestry Minister John McVeigh said the new Biosecurity Act combined multiple Acts, some dating back decades, into one.

"This legislation will provide an important safeguard for our primary industries for future generations," Mr McVeigh said.

Mr McVeigh said the new Act would cut red tape and allow stakeholders to share the responsibility for prevention,

management and responses across the diverse range of biosecurity risks.

"This new legislation provides comprehensive regulatory powers and tools that can be tailored to address the unique challenges presented by individual biosecurity threats," he said.

"It will also enhance flexibility for frontline staff and ensure that Queensland continues to innovate and lead the nation in prevention, responses and recovery from pests and diseases.

I acknowledge the significant contribution made by agriculture peak bodies, councils, natural resource management

groups and other stakeholders in developing the legislation.

"Our next step will be to develop the regulations that support the Act.

"This process will involve significant consultation and I encourage all industry bodies and stakeholders to play an active role during the development process."

The Australian Banana Growers' Council (ABGC) Executive Committee met with Minister McVeigh on the draft regulations on February 23. Meanwhile ABGC CEO Jim Pekin and R&D Manager Jay Anderson continue to meet with agency staff on the development of those regulations.

## NT Freckle eradication continues

**Surveillance work as part of the Banana Freckle eradication is continuing in the Northern Territory.**

By late March, visits had been made to more than 9000 properties. Freckle (*Phyllosticta cavendishii*) was found on Cavendish plants at 22 with some further finds expected to be confirmed.

The infected properties are to the south of Darwin and off the coast at an indigenous community on Melville Island.

Quarantine and eradication work began after the disease was identified last August. The Chief Plant Health Manager for the NT Department of Primary Industry and Fisheries, Stephen West,

said surveillance had been underway seven-days-a-week.

"So far in the response we have removed over 15,200 banana plant stems and over 700 samples have been sent to the Berrimah agricultural laboratory for testing," he said.

"Banana freckle is a fungal pest that spreads slowly in wet conditions but it now appears that some spread of the pest may be attributed to people moving plant material."

He said restrictions on the movement of plant material and home-grown fruit had been introduced.

The eradication is being managed under the Emergency Plant Pest Response

Deed in a joint government and industry response.

The Australian Banana Growers' Council (ABGC) chairman and staff continue to work closely with incursion response authorities, as part of the National Management Group (NMG), Consultative Committee on Emergency Plant Pests (CCEPP) and Scientific Advisory Panel (SAP).

ABGC CEO Jim Pekin said the banana industry was committed to eventually repaying its share of the cost-shared portion of the response. How this occurs and the extent of the cost to each levy payer will be determined at the end of the response, when expenditure is known.

### HAL Review's report due May 4

**A final report on the review of Horticulture Australia Ltd (HAL) is expected by May 4 with HAL to discuss the report at its member forums later that month.**

In an update on the review process, HAL CEO John Lloyd has thanked all stakeholders for their participation.

There were 47 submissions made to the review and 120 people attended 12 consultation forums held across Australia.

The review is being conducted by consultants ACIL Allen and is considering the future structure of HAL, the industry-owned group managing research and development and marketing projects for more than 40 horticulture industries, including bananas. Key recommendations will be discussed at HAL member forums in Brisbane on May 27 and Melbourne

on May 28. In a media statement on the review process, ACIL Allen outlined five options for the future:

- Keep HAL much as it is but streamlined and more efficient with fewer industry bodies
- Strip back HAL to be a fund administrator with responsibility for projects resting directly with peak industry bodies
- Have a single horticultural levy rather than the many that now exist
- A combined option with elements of options one and three
- Abolish HAL altogether.

The Australian Banana Growers' Council (ABGC) has made a submission to the review. The submission and a media statement are at [www.abgc.org.au](http://www.abgc.org.au)

### \$30 million plan moves ahead

**The development of the banana industry's plan for the investment of about \$30 million in levy and matched funds over the next five years is nearing completion.**

Consultant Jenny Margetts presented the Strategic Investment Plan (SIP) to the Banana Industry Advisory Committee (IAC) at its February 13 meeting in Cairns.

The IAC will give further consideration to the plan and its stated objectives at its May 5 meeting and then finalise it for the approval of the Board of Horticulture Australia Ltd (HAL).

The SIP has been developed during months of discussions with industry stakeholders, including at workshops held in tropical and subtropical growing regions last August.

# Record annual production tipped

**Australia's banana production for the year to June 30, 2014 is expected to be the largest ever, exceeding the previous year's result of 341,000 tonnes.**

The latest banana industry research, released prior to the latest estimates, has found the industry contributes \$1.1 billion annually to the economy and generates almost 10,000 full-time jobs.

The research, based on banana industry levy information and landmark industry analysis, shows strong levels of banana production.

The banana industry currently has an estimated farm gate gross value of production (GVP) of \$480 million annually. This compares with \$450 million in the 2010 financial year, just before Tropical Cyclone Yasi destroyed about 80 per cent of Australia's banana crop in February 2011.

Based on production in the 2013 financial year, Australia has produced 341,000 tonnes of bananas annually, up from 310,000 tonnes in the pre-Cyclone Yasi 2010 financial year. Production is estimated to rise further for the current June year.

Peak industry body, the Australian Banana Growers' Council (ABGC), said the research was the first in depth analysis of the important economic contribution being made by the banana industry to local and national economies.

ABGC Chief Executive Officer Jim Pekin said it showed bananas was a leading Australian horticultural industry and growers had worked hard to rebuild the industry's position as a major contributor to Australia's economy following Cyclone Yasi.

"The latest research shows the banana industry continues to be a significant contributor to local and national economies," Mr Pekin said. "Cyclone Yasi was a devastating event and it is a major achievement for all involved, including our consumers, to have rebuilt the banana industry to be a major generator of economic activity and jobs.

"The challenge now for the industry is to ensure that there is sustainable and profitable production for growers."

The research into the value of the Australian banana industry to local and national economies found that the banana industry's contribution of \$1.1 billion each year to the Australian economy was driven by the three main banana growing regions of far north Queensland, northern New South Wales and Carnarvon in Western Australia.

Total full-time equivalent jobs were estimated at 9,598, of which 3,826 are within the banana industry. Notably, 59 per cent of the industry's workforce were backpackers, estimated to spend \$30

million annually in the local areas where they are employed.

The information is from industry research conducted for the 2010 and 2011 financial years. It was then followed by a further analysis conducted in 2013 - more than a year after the banana industry had returned to full production following Cyclone Yasi.

The research was funded by Horticulture Australia Limited (HAL) using levies from banana growers. It was prepared by Howard Hall of CDI Pinnacle Management Pty Ltd and Joan Gleeson of Street Ryan and Associates Pty Ltd.

Mr Hall said the research showed the banana industry made a significant economic contribution locally and nationally and had been able to quickly return to pre-Cyclone Yasi levels of economic activity.

"All our information sources indicate that the main banana growing region of north Queensland had returned to pre-Yasi production levels in 2012, indicating that the national industry is once again making robust economic contributions," Mr Hall said.

"The banana industry is particularly important to the local economies of banana-growing regions, as shown by the high level of farm expenditure and the number of jobs generated."

## Australia's banana industry:

- is expecting record production in 2013-14
- produced 341,000 tonnes of bananas in 2012-13 with a farm gate value of \$480 million
- makes a \$1.1 billion annual contribution in direct and indirect farm expenditure to the Australian economy, particularly the three main banana growing regions of far north Queensland, northern New South Wales and Carnarvon in Western Australia
- has direct farm expenditure into local economies estimated at \$573 million annually
- provides 9,598 full-time equivalent jobs, directly and indirectly
- jobs include 3,826 full-time equivalents within the banana industry
- full-time equivalents include 2,250 jobs for backpackers estimated to spend \$30 million annually in the local areas where they are employed
- represents 9.5 per cent of total private business turnover and 8.24 per cent of full-time-equivalent jobs across the three main banana growing regions
- generates 33 per cent of the total fruit production in Queensland.



# 2015 Banana Congress heads to Melbourne

Sponsors and exhibitors are coming on board for the 11th Banana Industry Congress to be held at Melbourne's Southbank from June 17 to 20 in 2015.

In an exciting change for the event, it was announced in February that it will be held in a capital city location for the first time.

The Banana Industry Congress 2015 will be at the Crown Promenade Hotel, one of the Crown properties at Southbank. The venue offers excellent conference, exhibition and meeting room facilities, all on the one level.

It also offers great opportunities for sponsors and exhibitors to showcase their involvement in the banana industry and will be an exciting venue for delegates, their partners and families.

Banana Industry Congress  
June 17 – 20, 2015  
Crown Promenade,  
Southbank, Melbourne  
[www.bananacongress.org.au](http://www.bananacongress.org.au)

## Change Challenge Opportunity

Chairman of the event's management committee, Silkwood grower and Australian Banana Growers' Council (ABGC) director Steve Lizzio, said attending the event would be a must for all growers.

In keeping with the new approach to the event, its theme will be *Change Challenge Opportunity*.

The program will have a format focused on opportunities for ensuring a profitable future for Australia's banana industry.

"Holding the Banana Industry Congress in Melbourne provides us with fantastic opportunities to show growers the latest in fresh produce marketing and retailing," Steve said.

"We are planning a more interactive program that will include site visits as well as conference sessions featuring industry experts, a great exhibition and trade display and fantastic social events.

"The event will again be the most important gathering for growers and industry partners to discuss banana industry issues."

## Event prospectus

Event organisers ICMSA, who have offices throughout Australia, are now in contact with sponsors and exhibitors and have so far received an enthusiastic response. A Congress prospectus, detailing all sponsorship and exhibition opportunities, has been produced and, at

time of writing, was about to be circulated to banana industry partners.

All the latest details are at the website [www.bananacongress.org.au](http://www.bananacongress.org.au)

For more details contact Sponsorship and Exhibition Director Fallon Beatty of ICMSA on 02 9254 5000 or email [fallonb@icmsaust.com.au](mailto:fallonb@icmsaust.com.au) and, for event information, Suellen Holland on 07 3255 1002 or email [suellenh@icmsaust.com.au](mailto:suellenh@icmsaust.com.au)

## Venue

Crown Promenade has five-star accommodation as well as restaurant and bar areas, with space already reserved for the event's Banana Bar. Accommodation will be available at a special Congress rate.

Banana Industry Congress 2015 will be held on the Crown Promenade's mezzanine-level conference and exhibition area.

The Banana Industry Ball will be held on Saturday, June 20, 2015 at neighbouring Crown property, Crown Towers, in one of Australia's finest ballroom venues, Palladium at Crown.

## New Melbourne markets

Steve said the Melbourne venue would give growers many more opportunities for site visits where they could see the latest trends in supply chain and retail.

Included would be an opportunity to see a major new infrastructure project in operation, the new Wholesale Fruit, Vegetable and Flower Market at Epping in north Melbourne.

The markets will be opening shortly before our industry event.

## Partners' Program

The venue will also provide excellent opportunities for partners and families to enjoy activities in Melbourne and the surrounding region with a Partners' Program to be part of the Banana Industry Congress.

"Crown Promenade has excellent conference and exhibition facilities as well as great accommodation, restaurant facilities and a special networking space for our Banana Bar," Steve said. "Our industry Ball will be held in one of the ballroom areas at Palladium at Crown, a venue which hosts events such as the Logies and the Brownlow Medal."

Steve said there had already been strong support from sponsors and exhibitors and delegates would enjoy an informative and social event that would again offer excellent value for delegates.

## Check the website

More information is available at [www.bananacongress.org.au](http://www.bananacongress.org.au).

Along with Steve Lizzio, other members of the Congress Management Committee are Australian Banana Growers' Council (ABGC) directors Paul Johnston and Peter Molenaar, ABGC CEO Jim Pekin and Communications Manager Rhyl Cronin.

Below: Congress venue, Crown Promenade has excellent conference and networking facilities.



**"Attending the event will be a must for all growers."**

Steve Lizzio

## Bananas in global hort event

Scientific advances in developing better banana varieties will be one of the topics discussed at the International Horticulture Congress (IHC2014) being held in Brisbane August 17 – 22 this year.

A symposium entitled Unravelling the Banana's Genomic Potential will look at the potential for improving varieties using ground-breaking work on genome sequencing. Special attention will be given to Fusarium wilt tropical race 4 (TR4), as well as the contribution of bananas to human health and nutrition and a focus on Pacific bananas.

Global speakers include the Queensland Department of Agriculture, Fisheries and Forestry's Mike Smith and Jeff Daniells and the Queensland University of Technology's James Dale.

Held every four years, it is only the second time the global event has been held in the southern hemisphere.

There will be 43 symposia at the event covering all aspects of horticulture.

For more information go to: [www.ihc2014.org](http://www.ihc2014.org)



Right: Venue for the Banana Industry Ball - Palladium at Crown



# Banana extension project hits the road

Growers will find out how the latest industry research can improve their farms when a three-State roadshow visits banana growing regions in July and August.

Day-long information sessions will be held at six locations in Australia's banana-growing regions.

The roadshow is part of the banana industry's new National Banana Development and Extension Project.

Plans for the roadshow have been discussed at Banana Growers' Association meetings held this year in NSW and Queensland. The roadshow also plans to visit the West Australian growing region of Carnarvon. Banana Development and Extension Project leader, Queensland Department of Agriculture, Fisheries and Forestry Development Horticulturist Naomi King, said the roadshow would give growers access to current information and provide a forum for sharing ideas and discussing issues.

"The banana industry is investing in a broad range of projects and the roadshow will provide a great opportunity for industry members to stay informed," Naomi said.

"Updates and outcomes of both existing and recently completed industry projects will be discussed. We aim to make these days as interactive as possible and encourage all banana industry members to attend."

Planned venues and dates for the roadshow are:

- Tweed/Lismore - Tuesday 15 July
- Coffs Harbour/Woolgoolga - Thursday 17 July
- Carnarvon - Wednesday 23 July
- Tully - Thursday 31 July
- Innisfail - Friday 1 August
- Tablelands - Thursday 7 August.

More information on venues will be provided as soon as it is available. For details, watch upcoming industry publications and the ABGC website [www.abgc.org.au](http://www.abgc.org.au)



On the road: Growers will get updates on the latest research.

## Bananas fund \$30,000 Nuffield scholarship

The banana industry will part fund a \$30,000 Nuffield Australia scholarship, giving a banana grower the opportunity to travel the globe researching banana topics. The Banana Industry Advisory Committee (IAC) has endorsed matched

levy funds to support the 2015 banana scholar.

Nuffield Australia is offering a total of 25 scholarships for Australian farmers aged between 28 and 40 years. Applications are open until June 30 this year with the travel to take place in 2015.

Successful applicants firstly travel on a Global Focus Program (GFP) – six weeks of group travel with fellow Nuffield scholarship winners through the global powerhouses of agriculture. Included are visits to China, Brazil, India, USA and Canada as well as Europe, Africa and the Middle East.

The itinerary is set by Nuffield Australia and is designed to educate, challenge and inspire participants with exposure to all levels of the agricultural supply chain. The cultural impact of the program is also significant as participants tour a wide range of countries.

Scholars then have a further period of individual travel allowing them to set their own itineraries and research priorities. For more information, [www.nuffield.com.au](http://www.nuffield.com.au).

2014 Nuffield scholar Paul Inderbitzin with ABGC CEO Jim Pekin.



For more information contact: **Alf Canino** Tully Manager  
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# New glasshouse saves banana variety research

International banana varieties can again be imported for essential industry research. Sharon Hamill, Senior Principal Scientist with Queensland's Department of Agriculture, Fisheries and Forestry, reports on the successful effort to secure a new quarantine glasshouse and upgrade the quarantine process for importation of banana.

Tissue culture banana varieties can again be imported into Australia after the establishment of a rooftop glasshouse at Brisbane's EcoSciences Precinct.

The new facility has been secured after a 17-month effort and provides industry with safeguards to import new banana varieties. It is required for the future of essential research work.

The search for new facilities began in 2012 when it was announced the quarantine glasshouse at Brisbane's Eagle Farm was closing.

The announcement had a big impact on many horticulture industries but particularly the banana industry. The glasshouse was the only approved quarantine glasshouse for banana in Australia and is required for an essential and compulsory step in the banana post-entry disease screening process. Safe access to new banana varieties is required as part of a disease screening strategy the industry uses to look for solutions to current and threatening banana diseases and is needed to protect industry for safe import of banana generally.

New varieties are needed to survive the potential impact from easily spread soil diseases, such as Tropical Race 4 (TR4) of Fusarium wilt. The disease is widespread in the Northern Territory and threatens our major industry in Queensland.

While we have found varieties with some tolerance, we have not identified a commercial variety resistant to this aggressive and persistent pathogen. New varieties also may enable us to reduce the impact from other expensive-to-control diseases such as yellow Sigatoka and Race 1 and subtropical Race 4 of Fusarium wilt. As soon as the pending closure of the quarantine glasshouse was announced the process began to obtain accreditation for a replacement quarantine glasshouse specifically to support the banana industry.

Due to the wide range of exotic pests and diseases found in banana overseas, the risk category for imported banana plants has been increased to high risk. This meant the application to obtain accreditation of a new post-entry quarantine glasshouse required the writing



of new, and far more detailed, standard operating procedures, protocols and disease assays to satisfy the requirements for tighter post-entry banana quarantine processes.

These were required not only for the new quarantine glasshouse but also for the existing quarantine tissue culture laboratory at the Maroochy Research Facility on the Sunshine Coast and the quarantine diagnostics laboratory at the EcoSciences Precinct. Neither of these facilities could be used for banana quarantine and screening work until they received new upgraded accreditation and there was a banana accredited quarantine glasshouse in which to undertake post-entry screening.

In February this year, the post-entry quarantine glasshouse was accredited and operations were also authorised to recommence for banana at Maroochy's quarantine tissue culture laboratory and the diagnostics laboratory at the EcoSciences Precinct.

These facilities are supported by the banana industry's Banana Plant Protection Program (BPPP) and are part of that program's subprogram 2, Safeguarding Production and Markets.

Within days of receiving final approval of the new banana quarantine system, subsets of plants from banana varieties imported into Australia just prior to the closure of the Eagle Farm quarantine

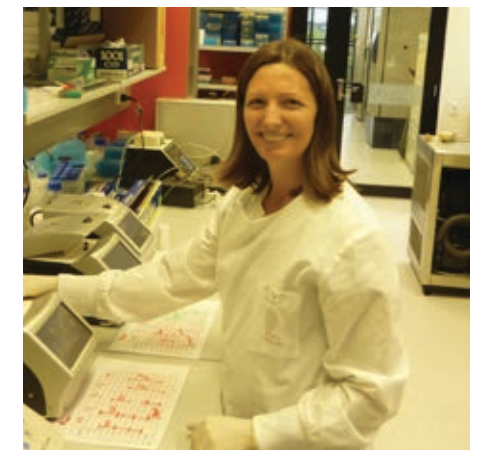
glasshouse were moved into the new post-entry quarantine glasshouse.

Finally, after 17 months, new varieties can again be sourced from our international research partners in the search for disease resistant and/or improved banana varieties.

While the unexpected closure of the Eagle Farm quarantine glasshouse delayed our access to new varieties it has resulted in a more thorough process with dedicated quarantine facilities and more stringent testing by qualified staff working for the banana industry.

Above: Sharon Hamill with plants for the new quarantine facility and Kathy Parmenter with the official paperwork.

Below: Kathy Parmenter working on virus indexing in the quarantine-approved molecular lab at the EcoSciences Precinct.





# Agencies take action on TR4

It's almost two years since the Northern Territory Government lifted quarantine restrictions on Panama Tropical Race 4 (TR4) affected properties.

**The change, made in July 2012, sparked increased concerns about the potential for the devastating soil-borne fungal disease to spread from the Territory to other banana growing regions.**

Since then, the banana industry and Federal and State agencies have continued their work in the effort to prevent the spread of TR4.

Central to the effort is a National Tropical Race 4 management plan put in place by peak industry body, the Australian Banana Growers' Council (ABGC) and State and Territory Biosecurity agencies.

Included is a TR4 action plan identifying ways to block the potential pathways for the disease to move beyond the Territory's borders. It also recognises that TR4 could also enter major Australian banana growing regions from overseas, including via Indonesia or Papua New Guinea.

**Surveillance for banana disease threats: QLD Department of Agriculture, Fisheries and Forestry scientist Rebecca Sapuppo inspecting a plant north of the Daintree River for banana stem weevil *Odoiporus longicollis*.**



The action plan has already assisted in activities lessening the risk of spreading the disease. Actions in Territory neighbour States Queensland and Western Australia are outlined here.

## Action in Queensland

As Australia's major banana-growing region, Queensland has led TR4-prevention initiatives. The other banana-growing state neighbouring the Territory, Western Australia, also has measures in place to minimise the risk of a TR4 incursion.

Biosecurity Queensland (BQ) has:

- made special legislative provisions recognising the seriousness of TR4
- upgraded signage on the NT/QLD border to increase public awareness of the Panama threat
- provided specific information to buyers and sellers of banana plants throughout Queensland
- provided website and social media information
- included information in a booklet produced by the Subcommittee on Domestic Quarantine and Market

Access (SDQMA) providing interstate plant quarantine information, including the new TR4 provisions, to the travelling public, including "grey nomads"

- talked to growers at events such as agricultural field days
- provided information through the Coen Information and Inspection Centre on Cape York Peninsula, recognising the risk of TR4 entering Australia from overseas.

## Legislative amendment

In a win for banana growers, an important legislative amendment was made by the Queensland Government last year recognising the seriousness of TR4. Particularly TR4's seriousness compared to other strains of Panama disease.

Queensland's plant quarantine controls are set by the Plant Protection Act 1989 and the Plant Protection Regulation 2002, (the Regulation). This now declares the whole State of Queensland a Pest Quarantine Area for TR4. The Regulation also explicitly states the purpose for the declaration is to prevent the introduction of TR4 into Queensland.

The Regulation also restricts the movement of any soil, equipment or materials that have been in contact with banana plants elsewhere into Queensland.

The amended Regulation now states that a person must not, without an Inspector's Approval, move soil, appliances, clothing, footwear, packing material and banana bunch covers that have been in contact with banana plants into Queensland (a Pest Quarantine Area for TR4).

The changes also mean that Biosecurity Officers would not be limited to using only "prescribed methods" to manage an outbreak of TR4, but can utilise the latest methods and knowledge available.

## Border signage

Border signage has been updated over the past six to twelve months and plays an important role in public education and awareness activities. The information on the signage is supported by other information on the Department of Agriculture,

Fisheries and Forestry (DAFF) website and via BQ social media channels.

Panama disease information is available at the Coen Information and Inspection Centre on Cape York, recognising the potential for pest and disease entry through the Torres Strait.

BQ Officers emphasise the need for people not to move certain fruit and plants across borders and other intrastate Pest Quarantine Areas.

## Banana info

An information pack is provided to those enquiring about purchasing and moving banana plants. Queensland suppliers of banana plant material to the Northern Territory have also been contacted. The DAFF Customer Service Centre (call centre) information has been updated to address TR4 and another important pest present in the Territory, Banana Freckle.

A domestic awareness program for the travelling public includes a new national quarantine booklet. Quarantine information can be found on the website [www.quarantinedomestic.gov.au](http://www.quarantinedomestic.gov.au). The website is updated whenever a change to entry conditions occurs and updates are also made through media releases and social media updates.

BQ also distributes information on Panama disease at events such as agricultural shows.

## Machinery inspections

All machinery entering Queensland can be inspected for compliance with quarantine regulations. For TR4, this means machinery coming from the Territory can be inspected for the presence of plant material or soil.

The machinery cannot enter Queensland if plant material and/or soil are found in areas such as wheel arches, footwells and pedals. Contact has also been made with utility companies, resources companies and the defence forces about requirements for the movement of their equipment.

## Western Australia

In Western Australia, bananas are grown at Kununurra near the Territory border and on the coast at Carnarvon, about 1000km north of Perth.



Currently, any fruit from the Northern Territory requires an import permit to enter Western Australia.

To control a range of pests and diseases, banana fruit from the Territory cannot be brought within a 50km radius of the Carnarvon and Kununurra Post Offices. There are also restrictions on the movement of banana plants and soil from within these two 50km zones.

Western Australia has other restrictions on plants entering the State, with import permits required. These permits are only issued if the Department of Agriculture and Food, Western Australia (DAFWA) is satisfied that their Accepted Level of Protection from pests and diseases, including TR4, has been met.

## Prohibited organism

Banana tissue culture plants are permitted to be brought into Western Australia provided they are certified as produced under an approved scheme, from tested mother stock certified free of Bunchy Top and Panama disease (all races).

TR4 is a prohibited organism for Western Australia. There is a requirement under the State's quarantine legislation, the Biosecurity and Agriculture Management Act 2007, for anyone finding, or suspecting, the presence of pests listed in the Act to report them to the State's Pest and Disease Information Service.

**Above: Quarantine signage is part of the public awareness campaign on biosecurity.**

**Below: Panama disease shuts down the plant's vascular system. Tropical Race 4 affects Australia's major variety, Cavendish.**





# Bunchy Top team pursues Phase 2 target

The National Bunchy Top Project reached its mid-point at the end of 2013 and is working towards its target for Phase 2 - to eradicate the disease from commercial plantations by the project's end in mid-2015.

National Project Manager David Peasley said he is pleased with the results being achieved.

"Since our benchmarks were established in April 2010, we have had major progress in both New South Wales and south east Queensland in controlling Bunchy Top in our commercial plantations," Mr Peasley said.

"With considerably more plantations in New South Wales to monitor - 230 as opposed to 44 in south east Queensland - our operations approach has been different in the two States but, with Queensland Government approval, our NSW inspectors have been able to work in Queensland to assist there when required."

## NSW improves

In New South Wales, the number of two-year provisionally free plantations (Category B) has risen by nearly 70 per cent from 52 to 88 of the 230 plantations.

There are 172 without Bunchy Top and now provisionally free, covering around

70 per cent of the hectares grown in northern NSW. At the same time, those with Bunchy Top have dropped from 92 to 58.

"The higher-infection categories have also decreased but we still have high infection Category E properties occurring, which is disappointing," Mr Peasley said.

"One was too weedy to inspect for more than 12 months, another was severely infected by a nearby abandoned plantation and another, which had been Bunchy Top free for three years, recorded an infection count of 21."

Remedial actions are taken when infections are found in both NSW and south east Queensland plantations. Infected plants and likely nearby infection sources are destroyed and there is an increased frequency of follow-up inspections.

## Fewer Qld infections

In south east Queensland, the number of plantations free of Bunchy Top (A & B) has increased from 28 to 34, leaving only 10 with Bunchy Top.

There has been a decrease in the number of plantations that have had more than 10 Bunchy Top infections in the past 12 months (Category E), from six to three.

"On an area basis, the Bunchy Top-free area increased from 90 hectares to 106 hectares since our work began in south east Queensland," Mr Peasley said.

On the non-commercial or 'backyard' front, challenges have existed in both State areas.

## New Order gazetted

In NSW, infections in Multiple Occupancy properties pose a threat to commercial plantations but through good communications, progress is being made.

"We realise that it is the food source that these communities want to protect and when we point out that unless we destroy the diseased plants there will be no bananas, they understand."

In NSW a new order has been gazetted to support the control of the virus, along with a fact sheet by the NSW Department of Primary Industries.

## Backyarders

In south east Queensland, backyard inspections are a critical part of the project with more than 7,300 inspections conducted since it began. More than 1,900 infected clumps have been detected and destroyed.

"Still very few people are aware of Bunchy Top and the regulations regarding the movement of planting material," said south east Queensland inspector Ms Samantha Stringer.

The second half of Phase 2 has now begun with a focus on communications to make more backyarders aware of Bunchy Top, while at the same time working towards the eradication of the disease in commercial plantations.

"We are pointing out to people that our aim is not just about protecting our Australian banana industry, but also ensuring that home growers have healthy plants so that they can grow bananas and help prevent the spread of the disease," Mr Peasley said.

## BT categories

- A: None recorded
- B: None for 2 years
- C: 1 in past year
- D: >1 in past year
- E: >10 in past year

Story by Neville Sloss

Bunchy Top team members inspect a Tallebudgera Valley site. From left, Joshua Chapman, Samantha Stringer, Barry Sullivan, David Peasley, Grant East, Wayne Shoobridge and Tom Maher.



# Wayne on home soil in banana paddocks

Plant pathologist Wayne O'Neill knows bananas are grown in some pretty nice places making field work just one job bonus. The home-renovating, motorcycling enthusiast is based at Brisbane's EcoSciences Precinct, working on Panama diagnostics, soil health and nematode projects.



**What's one of your favourite things about working in the banana industry?**

Subtropical bananas are grown in some pretty nice places, so getting out in the paddock for field work is always a bonus.

**When you tell people you are a banana scientist they usually say?**

It's better than telling them that I work on nematodes...

**What's one of the things most people don't know about bananas?**

That Panama disease was first documented in Brisbane. Also people in the area where I live, in the Samford Valley, aren't aware that all of the hillsides there used to be covered in bananas. At one stage Samford railway station was the busiest depot in the whole country for bananas.

**From a science perspective, what's a current hot topic about banana production?**

The need for continued vigilance to keep Tropical Race 4 Panama disease out of Queensland has to be right up there with the most important issues.

**How do you like your bananas – fresh or cooked, what's your favourite banana recipe and how often do you make it?**

I've cooked a few banana dishes, but you can't beat fresh bananas.

I love Lady Fingers but I've got to try plenty of other great tasting varieties through our research projects and my travels such as Pisang Ceylan, Pisang Mas, Gros Michel, etc.

**When you've got time off, what are some of your favourite pastimes?**

I enjoy photography and riding motorcycles but don't have much time for either as I've got young kids and there's always lots of work to work to do around home.

I just finished building an extension on our house so maybe I'll have a little more spare time now (or maybe there'll just be more projects...).

**Tell us what got you interested in the banana industry?**

I was employed casually for many years with the then Department of Primary Industries (DPI) and in that time I got to work on projects in a whole variety of crops including bananas.

I then worked on Fusarium wilt of cotton and Panama disease in bananas for about ten years before getting a full-time position based in Nematology. I still do a bit of work on Panama but our group is mainly focused on soil health and nematode projects in bananas and other crops.

**Where did you do your training, both academic and in the field?**

I did my Bachelor of Science at Queensland University but have learned all of my Plant Pathology through hands-on experience at DPI/DEEDI/DAFF.

I used to do a lot of field work in the cotton industry and the flat plains of the Darling Downs are a big contrast to the coastal ranges where most of the subtropical bananas are grown.

**What happens on a good day in banana research? And on a not-so-good day?**

On a good day you can get to the bottom of a problem which makes a difference to a grower.

On a bad day you can process dozens and dozens of samples and not come up with any clear result.

**How does your work help the industry and tell us about a breakthrough moment you've had on a project.**

I provide diagnostic support for Panama disease and plant-parasitic nematodes and contribute to soil-health research. Unfortunately breakthrough moments are few and far between for Panama disease, although our group has made some good progress with learning how to manage the disease through improved soil health and plant stress management. Research I did for the cotton industry played a large part in allowing a \$60 million per annum export industry to continue after the United States halted imports of Australian cotton seed over fears of seed-borne disease.



# Bananas, good coffee push André's pedals

**With a family background in mixed cropping, André Drenth knows his way around a paddock – and the odd vintage tractor. The leader of the industry's Banana Plant Protection Program takes our ten-question quiz and talks about science, mountain biking and the importance of good fruit and fresh coffee.**

## Tell us what got you interested in the banana industry.

I always had an interest in the banana industry as I like eating bananas.

In January 2001 I became program Leader of the disease and pest prevention program of the CRC for Tropical Plant Protection at the University of Queensland. We had a lot of interesting and novel banana projects in that program and in April 2001, when Black Sigatoka was identified in Tully, we sent Juliane Henderson and Julie Pattemore up north to help with the diagnostics in the eradication campaign. After that we leveraged unmatched overseas industry funds we had in the CRC to further boost pathogen population biology and diagnostics and bananas was a major focus. My involvement grew further when Mark Fegan, John Irwin and I decided to put out a press release outlining serious mistakes made by Biosecurity Australia in the Bananas from the Philippines IRA which in the end gave rise to a Senate Inquiry. This made me realise how fragile a horticultural industry can be to the vagaries of Trade Agreements.

## Where did you do your training, both academic and in the field?

I studied plant breeding and Genetics at Wageningen University in the Netherlands and worked as a student on cereal rusts at the University of Sydney.

I did my PhD in Plant Pathology at Wageningen and Cornell USA working on late blight in potatoes. We found out that a new population of this pathogen had spread from Mexico and was causing major disease problems, fungicide resistance and new sources of infection. I have always enjoyed the combination of rigorous science with practical outcomes. Coming from a mixed cropping family farm with potatoes, sugar beet and cereals and having worked on farms in the USA and Africa I am very familiar with field work and all things farming. A common hobby in our family is collecting and restoring vintage tractors.

## What happens on a good day in banana research? And on a not-so-good day?

On a good day, interesting data is coming in, trial work is going according

to plan and good progress is made on a range of fronts.

Not so good days typically involve going around in circles. Sometimes there can be frustrating situations, such as the closing of the Eagle Farm post-entry Quarantine facility and the associated time, effort and money required to establish a replacement facility. However, it is satisfying to know that we have a banana program and a team in place to work through difficult issues such as this and ultimately find solutions that help the banana industry.

## How does your work help the industry and tell us about a breakthrough moment you've had on a project.

I see very low levels of profitability in agriculture in general, so cost-effective disease and pest control and keeping diseases out is very important and this is the aim of our research.

Breakthrough moments are very rare in biology but they do happen and I have had several in my research work on Phytophthora. But as they say, luck favours the prepared mind, so work hard



and have a sensible long-term plan. To succeed in science you have to work out where you want to go and then keep moving in that direction and not be distracted too easily by the ever changing daily noise.

## What's one of your favourite things about working in the banana industry?

Bananas are Australia's favourite fruit and it is one of the few industries where most growers realise the relevance of pests and diseases.

In other crops I have worked on there was more scope for breeding and genetics to stay ahead of disease issues. In order to keep Cavendish and Lady Finger for the foreseeable future, keeping pest and diseases controlled or out of the production areas is vital. The banana industry has chosen a proactive approach to deal with endemic and exotic disease issues that has paid dividends over a long period of time.

## When you tell people you are a banana scientist they usually say...?

When they find out we are working on different banana varieties they want to know when and where they can get the smaller sweeter bananas.

They typically want the same banana as they got on their holiday in Asia. The question is what are they willing to pay for it?

## What's one of the things most people don't know about bananas?

Which side to start to peel a banana so you do not get the strands! Most people are also not aware of the unique situation Australia is in when it comes to the presence or absence of pests and diseases.

There is also a lack of awareness about the efforts growers have to make to get a perfect product on the shelf. When it comes to produce, it's quality fresh fruit and fresh coffee that I enjoy. But this view is not shared by most as amazingly 80 per cent of all coffee consumed in the home in Australia is instant coffee. This means 20 per cent is bought by those willing to pay more for good coffee - is the same percentage willing to pay more for other high quality fresh products?

## From a science perspective, what's a current hot topic about banana production?

Panama TR4 is the big issue internationally at present and for some time to come, unfortunately.

The impact of TR4 is huge in Southeast Asia and reports of the recent incursions in Africa and the Middle East are still to play out.

## How do you like your bananas – fresh or cooked, what's your favourite banana recipe and how often do you make it?

Short, small and sweet. I eat a fair few bananas and have them with cereal in the morning or at morning tea with coffee.

I also eat them when I go for long mountain bike rides as they are the ideal snack for that. If I see how many bananas our teenage kids eat it is hard to understand why the market is not a lot bigger!

## When you've got time off, what are some of your favourite pastimes?

I am an avid reader and I enjoy travel, the outdoors and I do a fair bit of mountain biking.

Our kids are very sporty, being active in rowing and mountain biking, so I have to work very hard to try and keep up with them. I also enjoy gardening and I grow my own bananas and other fruit at home.





# New varieties face TR4 test in NT trial

A TR4-infested site in the Northern Territory will soon be part of Banana Plant Protection Program (BPPP) research into new banana varieties. The Program's Mike Smith, Jeff Daniells and David Peasley provide this update.

It's now just over two years since the industry's Banana Plant Protection Program (BPPP) began planting its first trial block to test new varieties.

So far, the planting has provided valuable information on the agronomic performance of the new varieties in tropical conditions and their disease resistance and agronomic performance in Panama Race 1-infested subtropical conditions.

The trial expanded into the dry tropics, at Ayr, in 2013 as part of plans to establish a clean tissue-culture block.

Now, in an important advance for research work into the soil-borne fungus, screening work has begun at a Tropical Race 4 (TR4)-infested Northern Territory trial site.

The trials are some of the most important initiatives the banana industry has made in new-variety research so it's worthwhile for growers to know the results so far and the upcoming plans.

## Trial update

About 20 banana varieties, including Cavendish, Gros Michel and improved local selections and hybrids, are being grown at the South Johnstone Research Station in north Queensland and at a Panama Race 1-infested site at Duranbah in northern New South Wales.

These two trials were both planted out in 2012 and are well advanced.

As part of the industry's efforts to identify plants resistant to TR4, a secure TR4 Panama Disease screening site at the Coastal Plains Research Station near

Darwin was planted on 11 December last year.

The site has been planted with Williams plants which act as sentinels so we can determine how virulent and widespread the pathogen is within the block. Once these TR4 disease assessments are completed, the site can be used to screen a range of local and imported varieties for their resistance to TR4.

Finally, disease assessments of a planting of sentinel Ducasse plants at Ayr Research Station has shown that the site is free of Panama Disease.

Plans are underway to plant with a range of varieties so that industry can have a clean variety source block from which to initiate tissue cultured plants.

This site will provide advantages to industry since it is isolated, not in a production zone and in an area less frequented by cyclones.

These field trials are supported by industry and are being coordinated through the BPPP with the different varieties provided from the Australian tissue culture banana collection maintained at Maroochy Research Station.

The tropical and subtropical sites have been operating for two years and highlights from the trial work are as follows:

## South Johnstone, QLD

Jeff Daniells, Principal Horticulturist with the Queensland Department of Agriculture, Fisheries and Forestry, is the trial manager.

The trial was planted in August 2012 and for the first phase of evaluation work it is being managed as a commercial crop to obtain agronomic information about each of the varieties.

Some additional plants of each variety are being grown concurrently, without pesticides being applied to the bunch. David Astridge (DAFF, South Johnstone) is determining from these if any varieties have resistance to bunch pests.

Jeff and his team have completed the harvest of the plant crop and are starting to harvest the first ratoon from some of the faster-cycling varieties.

One of the Cavendish selections resistant to TR4 from Taiwan, GCTCV-217, is performing well and there has also been interest shown in the varieties Highgate and Hom Thong Mokho.



After completing the ratoon harvest, the next phase of investigations is to stop the fungicide program and screen the varieties for resistance to yellow Sigatoka.

A New Varieties Field Day was held at South Johnstone Research Station on 14 June 2013 to view bunches in the plant crop.

## Duranbah, NSW

David Peasley, BPPP Program Leader (subtropics) is the trial manager.

The trial was planted in February 2012 into an area that had previously grown Lady Finger but had been abandoned due to Race 1 Panama Disease.

Because the focus was on screening varieties for resistance to Race 1, the same strain of the pathogen that was recovered from the site was reintroduced with each plant on the day of planting.

After conducting disease assessments with the plant crop, the trial has found that the various Cavendish selections from Australia and overseas, as well as

new local AAAB selections, including LG-1 and FLF-1 are resistant to Race 1.

Others such as High Noon and Hom Thong Mokho, a Thai Gros Michel selection, have partial resistance.

Some of the varieties also showed sensitivity to the cool subtropical growing conditions at Duranbah, which may have further contributed to their susceptibility to Panama Disease.

A final disease assessment from the ratoon crop is currently being completed. Those plants showing promise from the above trial were planted at a nearby, uninoculated site in January 2014 to assess their agronomic potential in the cool subtropics. > See story, Page 23.

A New Varieties Field Day and Farm Walk was held on 9 May 2013 and a New Varieties Field Day and Variety Tasting was held on 23 October where the results of screening for Race 1 resistance were communicated. > See varieties table, Page 22.

Above: David Peasley with a bunch cut at Duranbah.

## Resistance and tolerance

What do these terms mean in relation to TR4?

Plants essentially have a range of reactions to disease from highly resistant through to susceptible.

The goal is to find varieties highly resistant to TR4. However, varieties that are partially resistant should also prove useful provided environmental conditions, which includes climate, soil and crop management practices, are favourable. Those partially resistant plants can also be termed as being tolerant.

Jeff Daniells at the South Johnstone trial block.





# Varieties under field evaluation

This table shows varieties under field evaluation at South Johnstone Research Station and Duranbah

Variety	Purpose	Comments
DPM25	DAFF Cavendish selection	Good productivity (cf. Williams); Partial resistance to TR4 <sup>†</sup> ; undergoing evaluation for agronomic performance in subtropics <sup>#</sup>
Formosana	TBRI Giant Cavendish selection	Slower cycling (cf. Williams); Partial resistance to TR4 <sup>†</sup> ; undergoing evaluation for agronomic performance in subtropics <sup>#</sup>
GCTCV-119	TBRI Giant Cavendish selection	Partial resistance to TR4 <sup>†</sup>
CJ-19	Sumatran Cavendish selection	Partial resistance to TR4 <sup>†</sup> ; undergoing evaluation for agronomic performance in subtropics <sup>#</sup>
Fa'i Palagi	Samoan Cavendish selection – reported to be drought tolerant	Thin stem, small bunch (cf. Williams); undergoing evaluation for agronomic performance in subtropics <sup>#</sup>
GCTCV-105	TBRI Giant Cavendish selection	Slow cycling; susceptible to cold
GCTCV-217	TBRI Giant Cavendish selection	More productive than GCTCV-105; showing more potential for wet tropics
Williams	Control/industry standard and susceptible reaction leaf spot check; resistant to FocR1	Cavendish Control
High Noon	A promising AAAB hybrid from FHIA, Honduras	Tall but sturdy plant (cf. Williams); good eating quality; more resistant to FocR1 than Lady Finger but susceptible in ratoon
Highgate	Semi-dwarf Gros Michel selection	Most productive of Gros Michel types; susceptible to FocR1
Cocos	Semi-dwarf Gros Michel selection	Offtype plants; susceptible to FocR1 and cold
IBP 5-61	Cuban Gros Michel selection	Susceptible to FocR1 and cold
IBP 5-B	Cuban Gros Michel selection	Susceptible to FocR1 and cold
IBP 12	Cuban Gros Michel selection	Susceptible to FocR1 and cold
Hom Thong Mokho	Thai Gros Michel selection	Partial resistance to FocR1 and cold; showing more potential for wet tropics
Gros Michel	Control comparison for new Gros Michel selections	Control
Pisang Ceylan	Popular Mysore-type dessert banana from India; free of BSV	More productive than Lady Finger; good eating quality; susceptible to FocR1
Lady Finger	Control/industry standard and susceptible to FocR1	Control
SH-3748	Hybrid from FHIA, Honduras – cooking type with similarities to East African Highland bananas	Not planted at Duranbah
Tonga	Tongan cooking banana	Not planted at Duranbah
Dwarf French Plantain	Intermediate reaction leaf spot check	Control; not planted at Duranbah
Dwarf Ducasse	Resistant reaction leaf spot check; very susceptible to FocR1	Control

Abbreviations: BSV – Banana Streak Virus; DPM – Dwarf Parfitt Mutant; SH – Selected Hybrid; GCTCV – Giant Cavendish Tissue Culture Variant; IBP – Instituto de Biotecnología de las Plantas, Cuba; FHIA – Fundación Hondureña de Investigación Agrícola, Honduras; TBRI – Taiwan Banana Research Institute; FocR1 – Panama Disease Race 1; TR4 – Panama Disease Tropical Race 4

<sup>†</sup>Plants need to be re-evaluated at the Coastal Plains TR4 screening site in Northern Territory to confirm their TR4 status; <sup>#</sup>Planted in new trial site at Duranbah, January 2014; Note that three local selections were included in the Duranbah FocR1 screening trial in 2012 and all showed resistance; two (FC-1 and FLF-1) have been planted in the new trial site at Duranbah, January 2014.

# Commercial trial begins at Duranbah

A commercial trial block dubbed the “growing fields” has been planted with the top-surviving varieties from the neighbouring “killing fields”. The new block is the second phase of the Banana Plant Protection Program’s subtropical trial at Duranbah in northern New South Wales.

The first phase was the “killing fields”, a block where planting holes were inoculated with Panama Race 1, a disease already present on the site.

The new block was planted in January. Trial assessments on first-ratoon plants from the initial block were conducted during February.



Mike Smith (left) and David Peasley at the new commercial block, next to the first trial block.



David Peasley with an LG-1 bunch. No chemical treatments or covers were used on the trial bunches.

## TISSUE CULTURE BANANAS

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# French connection for plant trials

Six new banana hybrids from the French breeding program are on their way to Australia for evaluation as part of the Banana Plant Protection Program (BPPP). This report is from the Queensland Department of Agriculture, Fisheries and Forestry's (QDAFF's) Jeff Daniells, and Jean-Pierre Horry, Frederic Bakry and Kodjo Tomekpe of French research centre CIRAD.

**When a radical new approach to banana plant breeding was first published almost 30 years ago it soon formed the basis of a new breeding program.**

That program came from French research centre CIRAD and its major aim was to develop plants with resistance to Sigatoka leaf disease to reduce the need for fungicide application.

Now six new banana hybrids are to be evaluated in Australia. The research aims to identify varieties that can be more readily grown without pesticide/fungicide application and that will provide marketplace supply advantages.

## Initial drawbacks

The development of these new hybrids is part of 90 years of innovation.

Since the inception of modern day, conventional banana breeding in the 1920s in Trinidad the basic approach had been the same.

Wild species, or fertile diploid cultivars (male parent), were crossed onto existing popular triploid cultivars (female parent) to produce hybrids. These hopefully combined disease resistance with acceptable agronomic and organoleptic qualities.

However, this had a number of drawbacks including inefficient production of hybrids, the poor agronomic, organoleptic and postharvest qualities of the end

product tetraploids and, most importantly, it precluded recurrent selection.

## Radical approach

In 1986, Harry Stover and Ivan Buddenhagen published a radical paper on banana breeding (see *Fruits* Vol 41 pp 175-191).

They suggested resynthesizing new triploids by first doubling the chromosome number of suitable diploids, using the chemical colchicine, followed by crossing with other diploids.

Successful breeding is a numbers game. The beauty of this approach was it meant that highly fertile diploid parents could be utilised ensuring many progeny for assessment and the incorporation of disease resistance genes from several sources to promote the durability of the disease resistance.

This approach formed the basis of the CIRAD program which commenced breeding in the late 1980s. The main emphasis of the breeding program was to develop hybrids with Sigatoka leaf-disease resistance to reduce the need for fungicide application.

Within a few years several interesting disease resistant hybrids had been developed. CIRAD needed to know their reaction to subtropical race 4 Fusarium wilt so the hybrids were sent to Australia in the late 1990s.

## Virus shock

Some may remember that unusual symptoms were detected in the hybrids in the late 90s by the then Queensland Department of Primary Industries during field trials in southern Queensland.

These were confirmed to be due to Banana Streak Virus (BSV).

Everybody was astonished as quarantine inspections and lab tests indicated the material received was disease free. What was eventually discovered, for the first time in science, was that the BSV strain present was actually integrated into the DNA of the hybrids and was activated by stresses including the tissue culturing process.

Fortunately it was found not all parents used in the breeding program were carriers of this latent form of BSV so CIRAD regrouped, confining its activities to the 'clean' parents.

**"The main emphasis of the breeding program was to develop hybrids with Sigatoka leaf-disease resistance to reduce the need for fungicide application."**

## New hybrid

Subsequently a group of BSV-free hybrids were developed with the best of these, CIRAD 01 (see photos), being advanced to six multi-locational grower evaluations in Guadeloupe and nearby Martinique.

Currently the French West Indies growers are not fully satisfied with CIRAD 01. They desire a hybrid less prone to wind damage and have concerns about the smaller bunches which increases costs of production/tonne of fruit produced.

Nevertheless cooperating growers see that it has potential, with one Guadeloupe grower increasing his planting to more than five hectares. The grower has received positive support from the local market regarding smaller fruit size (more suitable for children) and its overall taste.

Also CIRAD 01 can more readily be grown without pesticide/fungicide application. CIRAD 01 is included in the six hybrids Queensland DAFF is about to receive from CIRAD which will be evaluated in a range of Australian environments.

Major emphasis is now being placed at several stages in the breeding program on the development of dwarf selections. This includes the tissue culture multiplication of several thousand plants of CIRAD 01 seeking somaclonal variants that are dwarf in stature.

## Preparing for change

While we don't know what the future holds we can be certain it will involve changes likely to include incursions of exotic pests and diseases, further restrictions on chemicals and how they can be applied and increased competition in the marketplace.

Sourcing a range of germplasm that is resistant to pests and diseases for evaluation is an important component of being

prepared. New varieties may also offer the opportunity for managing supply in the marketplace.

Collaboration between Queensland DAFF and CIRAD should continue to be fostered for the synergies it brings to the R&D efforts and the associated benefits to the respective banana industries.

*Jeff Daniells, Jean-Pierre Horry and Kodjo Tomekpe attended an international banana workshop held in Guadeloupe, French West Indies in December 2013.*

**Right: Kodjo Tomekpe, with a CIRAD hybrid. Below: a CIRAD 01 bunch and the ripe fruit - a good performer in European consumer taste tests.**



## A LOOK AT FRENCH VARIETY CIRAD 01

- Moderate sized bunches (about 30 per cent lighter than Williams Cavendish) but is quicker cycling in ratoons. The quicker cycling makes up for most of the difference in bunch size. Smaller bunches are also a potential advantage from a workplace health and safety perspective
- Resistant to yellow and black Sigatoka
- Resistant to burrowing nematodes and lesion nematodes
- Intermediate in height (about a metre taller than Williams Cavendish). Associated with this, it is more susceptible to wind damage. To offset this, more attention may be needed to crop management that lessens plant height (e.g. plant crops and nurse suckering) as well as ensuring bunch support is in place.
- Well appreciated by consumer panels in metropolitan France – the same as Cavendish in many respects
- Slightly shorter fruit than Williams
- Longer fruit shelf life than Williams (6-8 days versus 4-5 days)
- Requires screening for Fusarium wilt in Australia. If it has any tolerance of Tropical Race 4 this would be a real plus.

**Below: Jean-Pierre Horry inspects a commercial-scale planting of CIRAD 01.**





# TR4 trio tops Tully try out



In a first for on-farm trials into the performance of Tropical Race 4 (TR4)-tolerant banana varieties in north Queensland growing conditions, four varieties have been assessed in Tully. Three of the four Cavendish varieties have shown promise in the year-long study of plants grown on a trial block at Leahy's Bananas. The fourth variety has been flagged as potentially having slower production cycles. The plant crop assessments are the first completed on-farm in north Queensland where growers are keenly interested in varieties tolerant to TR4, a devastating soil-borne fungus.

Story by Naomi King



Field trials are also being conducted for the agronomic performance of varieties in north Queensland at the South Johnstone Research Station and for agronomic performance and Race 1 susceptibility, in the subtropics, at Duranbah.

The global spread of TR4, found in parts of Asia, in the Northern Territory in Australia, and recently found in parts of the Middle East and Africa, has been of major concern to the Australian banana industry.

As TR4 is not present in north Queensland, the bananas trialled at Tully were assessed for production traits only. At Leahy's Bananas, the varieties were planted on a block not previously planted with bananas or any other crop.

The varieties assessed were two Taiwanese Giant Cavendish selections, Formosana and GCTCV-119, Queensland's DPM25 and Sumatran variety CJ-19. Williams plants were also grown on the trial block to provide a comparison with the industry's standard variety.

Based on the observations of the plant crop, Formosana, DPM25 and CJ-19 show promise. GCTCV-119 does not appear to be a favourable alternative variety based on undesirable production traits. However assessments will continue on this variety.

The mean (average) for each variety is shown in the following information and table. The information cannot be

considered as statistically valid but rather as observational data.

Queensland Department of Agriculture, Fisheries and Forestry Senior Development Horticulturist Stewart Lindsay and Development Horticulturist Naomi King, collected the data over six months and will continue to follow these plants through subsequent ratoon cycles.

Ms King said the findings were useful for providing an indication of how the varieties performed on-farm.

"Obviously we can only assess these plants for their agronomic performance in the absence of TR4 but it's really important for the industry to have an idea of how these plants perform, just in case we ever need a Plan B."

The Leahys were among the first growers to obtain the TR4-tolerant varieties by applying for the plants supplied through the quarantine program conducted at the Maroochy Research Facility on the Sunshine Coast.

## Cycle time

There was little difference in the average time from planting to bell emergence between the Williams, DPM25 and CJ-19. Formosana and GCTCV-119 were 10 and 20 weeks slower respectively. By the time the last of the GCTCV-119 bunches was harvested, the Williams, DPM25 and CJ-19 had all commenced belling in their first ratoon crop, therefore GCTCV-119 had a much longer cycle time.



GCTCV-119: False fingers and variable fruit size throughout the bunch was a common problem.

## Plant height

CJ-19 were the shortest plants, belling at two metres while there was no difference between Williams and DPM25 at 2.2 metres. Formosana averaged 2.4 metres while the GCTCV-119 were very tall with an average plant height of 3.1 metres in the plant crop.

## Bunch weight

The longer cropping cycle of the GCTCV-119 was not compensated for by a heavier bunch. There was little variation in bunch weight between the varieties with average bunch weights ranging from 17.3kg to 19.5kg.

## Ripening

Observations of ripened fruit from a single week of harvest indicated that the varieties ripen at different rates and therefore could not be packed in the same carton. Sample boxes of CJ-19, DPM25 and Formosana were ripened at the South Johnstone research facility and showed there were up to two days difference between ripening times.

On day eight from harvest, the CJ-19 were advanced colour Stage 6 (fully ripe but no spots), DPM25 were colour Stage 5 (mainly yellow with green tips and necks) and the Formosana were colour Stages 4 to 5. Table 1 provides a summary of the production data for the plant crop.



GCTCV-119 bunches were, on average, the lightest with smaller fruit.



CJ-19: an average bunch weight of 18.7kgs and some interesting off-types that may also have potential.



Formosana: Averaging both the heaviest bunch weight, at 19.5kgs and longest fruit length.



DPM25: The quickest cyler of the TR4-tolerant varieties with an average 34 weeks to bell emergence.

Table 1. TR4 tolerant Cavendish variety plant crop assessments

	Planting to bell emergence	Plant height at bell emergence	Hands per bunch	Bunch weight	Hand 1 fruit length	Hand 2 fruit length	Hand 3 fruit length
Williams	33 weeks	2.2m	9.0	19.1kg	238mm	239mm	236mm
DPM25	34 weeks	2.2m	8.4	17.6kg	245mm	250mm	241mm
CJ-19	37 weeks	2.0m	8.9	18.7kg	248mm	247mm	232mm
Formosana	43 weeks	2.4m	8.3	19.5kg	258mm	258mm	246mm
GCTCV-119	53 weeks	3.1m	7.1	17.3kg	218mm	220mm	216mm

Above: A bunched Formosana row on the left, a harvested DPM25 row in the middle with the GCTCV-119 plants on the right yet to bell.



# Grower survey – how we manage yellow Sigatoka

Are growers using the best strategies to manage the leaf disease yellow Sigatoka?

Dr Suren Samuelian, Senior Plant Pathologist with Queensland's Department of Agriculture, Fisheries and Forestry conducted a survey to find out.

**“Are growers in different regions using the most effective disease controls?”**

Below: Suren Samuelian at the South Johnstone trial block.



**Yellow Sigatoka is currently the most important foliar disease to the banana industry in Australia.**

The fungus can be troublesome during the rainy season as it favours wet conditions and production losses can exceed 50 per cent if the disease is not properly managed.

In addition to lower production, the development of the disease also often affects bunch weight, fruit dimensions and quality (green life) leading to down-grading of the fruit.

Control is largely based on the integration of cultural practices and fungicide applications as the members of the Cavendish subgroup are particularly susceptible to the disease.

## Fungicide resistance

Cultural practices aim at reducing disease inoculum levels by removing infected plant parts through de-leafing. Chemical control is achieved with the alternation of protectant fungicides, such as mancozeb and chlorothalonil, and systemic fungicides belonging to the strobilurin (QoI) as well as the sterol demethylation inhibitor (DMI) fungicides from the triazole group.

The goal of this strategy is to delay fungicide resistance, but international research has shown that a shift in sensitivity or appearance of resistant leafspot strains occurs within five years of commercial introduction of a systemic fungicide. Such shifts have been documented for all Qo inhibitors and recently for the triazoles propiconazole and tebuconazole.

Monitoring of sensitivity and timely detection of resistance levels in leafspot populations will allow growers to make informed decisions on their management practices.

## Grower survey

A survey questionnaire was developed to assess grower management practices of yellow Sigatoka, as well as understanding growers' views in relation to other diseases important to the banana industry nationally.

The aim was to answer the important question - whether growers in different growing regions are using the most effective ways to control diseases in their

plantations and to assist the coronary aim of discovering potential improvements to current practices and how they could be implemented by the industry in order to increase profitability and avoid build-up of fungicide resistance.

The questionnaire consisted of two parts - chemical applications, and cultural management practices.

Information was gathered in regard to chemicals and chemical programs that are being used, the number of chemical sprays per season, reasons for using a particular program or the lack of one, application type (aerial, ground, combination), frequency of de-leafing, cultural practices, the decisions driving changes in management practices, and whether the industry is satisfied with the current practices.

## Regional differences

Growers from the Wet Tropical Coast of Queensland (which includes the regions of Kennedy, Tully, Mission Beach, Innisfail, Babinda and Cairns), the Atherton Tablelands, south east Queensland, and northern New South Wales participated in this survey (see Table 1).

Our findings indicated that until late 2012, the surveyed growers have relied predominantly on management programs including systemic fungicides in the strobilurin and triazole groups in mixes with Biopest oil®, as well as the protectant fungicide mancozeb with Biopest oil®.

Currently growers from Mission Beach, Innisfail, Babinda, Cairns, and the Tablelands seem to be more inclined to have chlorothalonil-based programs.

The change has been largely due to the perception of a rising price of Biopest oil®, the belief that the product is ineffective against yellow Sigatoka, the assumption of reduced productivity and a higher risk of fruit damage in hot weather, as well as on the bases of consultants' recommendations.

However, although chlorothalonil is a protectant fungicide that is effective against yellow Sigatoka under low-disease pressure, it is yet unclear how this fungicide will perform when the conditions are optimal for the development of the disease.

## In Kennedy and Tully

Interviewed growers from Kennedy and Tully either rely on Biopest oil®-based programs or are following a stepwise program of chlorothalonil during the summer wet period and Biopest oil®-based program during the cooler and drier months of the year.

The growers from Kennedy are spraying only four times per year on average based on visual observation of yellow Sigatoka symptoms. The lower frequency of fungicide applications in that area is probably due to the lower disease pressure which is attributed to the drier climatic conditions experienced in that area.

## Contractor use

It was also found that more than half of the conventional growers with smaller-to-average-size farms were using contractors to conduct aerial application of chemicals without having a clear understanding of the fungicide program being applied.

One disadvantage of the aerial application is that there are parts of the farm, for example in the vicinity of power lines or forests, that cannot be reached by airplanes. Such areas have to be deleafed more frequently or sprayed with ground equipment as they comprise a major source of inoculum for the rest of the farm, as well as for neighbouring plantations.

Yellow Sigatoka levels on farm are monitored by the banana industry's Yellow Sigatoka Liaison Officer in the Wet Tropical Coast of Queensland and the Tablelands.

## Subtropics & organics

The interviewed growers from south east Queensland and northern New South Wales stated they either do not apply fungicides at all or only up to four times per year.

This is due to the cost of the products and low profit margins. The farms in these areas are small, ranging from one or two hectares up to 20 hectares. Bananas are grown on slopes which makes the use of machinery difficult.

Furthermore, fast development of nearby residential areas limits the use of aerial spraying.

The fruit is sold mostly to local fresh markets. Major problems are in fact Fusarium wilt and Bunchy Top. The latter is monitored by inspectors in northern New South Wales and south east Queensland. Panama wilt has limited disease management options outside of growing varieties resistant to Race 1.

All organic growers interviewed rely on Biopest oil® at rates of 2-5 L/ha or do not provide information and the frequency of application is based on visible yellow Sigatoka symptoms.

## De-leafing practices

For all growers surveyed, removal of diseased material by de-leafing is the most important cultural practice to manage yellow Sigatoka.

The interviewed growers revealed three types of pruning approaches. The most common is when a program is being followed where de-leafing is conducted every four weeks during the warm and humid months, and every six weeks during the cooler and drier months of the year.

Other growers are conducting heavy pruning when the plants are young (approximately 1.5 to 2 months after removal of the mother plant) as the plants are left with only five to six leaves and a second de-leafing takes place at bunch emergence as active leaves are reduced to nine.

The third type of management is when plants are pruned when there are four to five leaf spot lesions on a leaf and leaves with visible lesions and the two leaves above are removed. Smaller growers (production area >20 ha) undertake the procedure themselves while larger growers hire either professional teams (75 per cent of interviewed growers) or

backpackers (13 per cent of interviewed growers).

The main disadvantage of hiring backpackers is that they are inexperienced and have to be trained.

Another important point for consideration is the labour cost due to asynchronous development of bananas as labour have to be used in multiple passes. Thus, frequency of de-leafing in many cases depends on the cash flow into the farm as well as labour availability and it is one of the first procedures to be overlooked.

The problem with this scenario is that leaving yellow Sigatoka populations on the leaves for prolonged periods of time increases the risk of fungicide resistance build-up.

## New developments

Development of predictive tools to inform banana producers in regard to the timing, frequency and type of fungicide applications could present an option for the reduction of chemical spray numbers.

Furthermore, new regulatory developments related to environmental issues and the restriction of broad spectrum chemistry is likely to have an important influence on chemical disease control in the near future.

Therefore, studies to better understand the efficacy of different and novel chemical, biological and cultural practices are some of the main issues currently being addressed with funding from the Banana Plant Protection Program at the Centre for Wet Tropics Agriculture at South Johnstone in north Queensland.

**> New leaf-disease poster launched, Page 39**

**Table 1. Demographics of the surveyed growers**

Region	Growers		Production area range, ha	
	Conventional	Organic & minimal input	Min	Max
Tully	4	0	60	>1000
Innisfail - Cairns	16	4	11	65
Kennedy	1	1	20	160
The Tablelands	3	0	55	610
South east QLD	2	2	2.5	16
Northern NSW	0	3	2.8	6



# WORKING ROUND THE CLOCK

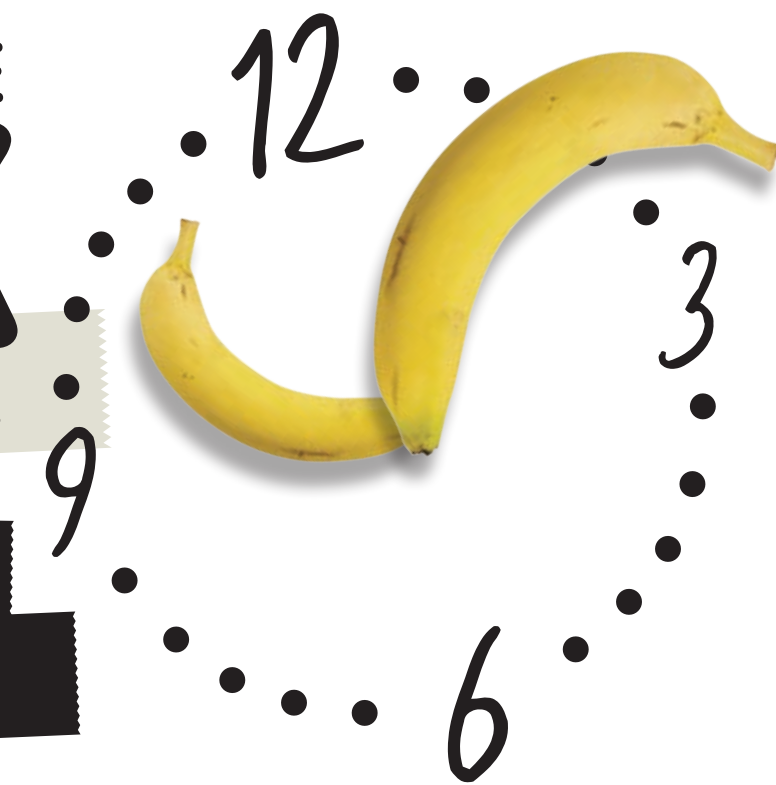
to make bananas No. 1.

## AUSSIE BANANAS MARKETING UPDATE

Two years since its launch, the Australian Bananas "long lasting energy snack" marketing campaign continues to make a big impression on consumers. The quality of the fruit has been tremendous and demand has remained strong despite the abundance of supply in the market. The retail prices (highlighted by an average price of \$2.92 per kg over the last 12 months at Woolworths, Australia's largest supermarket) have been satisfactory indeed. Already, 15 million cartons have been shifted from July to January – an encouraging sign that we're on track to beat previous years' production levels.

Our hard work looks like it's paying off!

STRONG  
DEMAND  
+  
HEALTHY  
PRICES  
=



## ENCOURAGING RESEARCH

Nielsen Research for the 12 months to January 2014 showed that the total sales volume of bananas has increased 3.5% from 17.9kg per household to 18.5kg. In the same period, the average sales value has risen 2.7% from \$56.60 to \$58.80. Consumers are also spending more on average on each shopping trip – up from \$2.50 to \$2.60. Big numbers when you consider this is +10 cents for every banana shopping trip over the year, nationally. Much of this growth has been led by Woolworths and Coles.



The number of households purchasing bananas has declined slightly, however this was driven by relatively high price and poor fruit quality in the first quarter. The good news is penetration has recovered and it is trending positively in the second half of the year, especially for our 18-39 year old target audience.

In other positive news, both our primary and secondary audience groups are buying bananas more frequently compared to last year. Young Transitionals have grown from 14.9 times per year on average to 15.8 times while Independent Singles have grown from 19.9 times to 20.2 times.

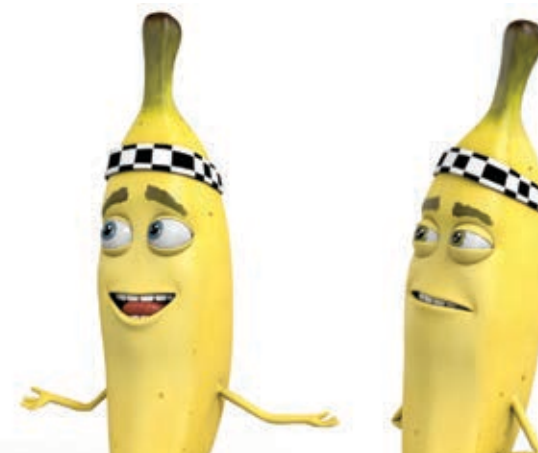
Brand tracking consumer research is equally encouraging. Bananas continue to be Australia's most preferred energy snack, with half of the respondents ranking them as #1 preferred energy snack and 75% ranking them in their Top 5 preferred energy snacks.

Specifically:



Bananas has the highest proportion of planned purchases among all fruits, with 69% of people planning to buy bananas before visiting the shop. This figure has grown consistently from 57% in January 2013.

These are encouraging results but there's still plenty of work to do and this year's schedule is justifiably full.



## ON TV AND MORE

Our 2013/2014 marketing campaign, still built on our "longer lasting energy" platform, will continue to reinforce our position as Australia's No.1 snack.

A major advertising burst, spearheaded by our highly successful "No-No Na-Na" TV commercial, was to be launched in August 2013 but was held back due to the Federal Election dominating the media. To avoid clutter, we moved to the sales-driving medium of radio.



The campaign proper kicked off in October and was boosted by an IAC-approved increase in marketing spend to drive retail sales during this period of increased production.

These extra funds allowed us to add a 3 week burst of radio in October, increase TV in February and March, and gain an additional burst of TV in April. They also allowed us to increase online pre-roll video advertising (pre-rolls) from February to June.

## Getting Social.

In social media, we're continuing to create fun and interesting content. This includes recipe ideas, nutritional information and reactive content based on topical news stories. Our social media approach will focus on the sustained energy message through a series of videos featuring our ever-popular brand ambassador, Billy Slater.



**Launching on March 13, the "Get Fit with Billy Slater" videos will see the Two Bananas join Billy in some very interesting fitness sessions with hilarious results. Billy will be launching the campaign on The Footy Show where he'll be appearing and talking about his love of bananas and the national Facebook promotion.**

Outdoor advertising billboards will continue to play a role this year, with the "longer lasting energy" message appearing on bus and tram backs around the country, on digital screens within shopping centres as well as on office lobby screens promoting bananas to office workers at key snacking times.

Meanwhile, our other marketing activity continues to drive our message out into the community. The Australian Bananas Facebook fan base has grown to over 200,000 with over 13.2 million people reached since July 2013, while our Community, Schools and Sponsorship program continues to support and inspire banana lovers with 47 events nationally. We're also partnering with Sanitarium for the Weet-Bix Kids TRYathlon, a series of 12 events spread across the country aimed at keeping kids healthy and active. We are excited about this partnership and the new audience we will reach.

Of course, the goal of all this activity is to push consumers in-store to buy more bananas – which is where our retail support program kicks in.

Woolworths has already confirmed an Aussie bananas campaign, including TV, radio, booklet and point-of-sale, will start in May. And following the success of its December/January Australian Bananas point-of-sale promotion, Aldi has extended its support from February to April. A similar promotion, including national catalogue support, has also been locked in for October.



**"We have been very pleased with the sales results delivered through the exclusive Banana point of sale partnership with Australian Bananas. Point-of-sale was erected in all 320 stores in Nov/Dec 2013 after a successful trial with the objective of leveraging the national Australian Bananas ABT activity. We saw sales volume increases across our store network during the period that defies historical category trends which was an excellent result. The point-of-sale was also very well received by Store Managers and customers alike. We look forward to working with HAL in the first half 2014 to drive national point-of-sale activity at Aldi Stores with the inclusion of catalogue activity to drive greater awareness."**

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### Aldi spokesperson

Exciting discussions are also underway with 7-Eleven, who are looking to champion bananas in the convenience store format.

It's a busy time for bananas with a comprehensive 'Always on' marketing program planned for the next 12 months. This means the campaign will be seen by consumers on a daily basis and will ensure bananas are always top of mind. In the next article, we will cover off detailed plans for 2014/15.

Coming off the back of strong demand and healthy prices, it all points to a year of continued growth for Australian Bananas.

### Marketing Program update provided by

*David Weisz*  
Marketing Manager  
Horticulture Australia



# Smoothie talk takes out the trashy chat

**Australians eat about five million bananas a day – or, I should say, we eat AND drink all those bananas.**

As I'll be discussing later, the banana smoothie is a great way to consume bananas. The mix of bananas and milk can actually outperform expensive protein drinks for athletes chasing a post-exercise boost.

And, of course, the smoothie also gives consumers another great way to enjoy Australia's number one fruit.

But whether bananas are eaten fresh, blended into smoothies or cooked, Australia's favourite fruit still suffers the backlash of sugar paranoia. There would surely be more than five million bananas consumed daily in Australia if not for this paranoia.

### WHO guidelines

The anti-sugar debate returned in March when the World Health Organisation (WHO) made new comment on its sugar guidelines. When set in 2002, the guidelines stated sugar should be less than 10 per cent of total daily energy intake. WHO now says half that, or five per cent, would be preferable.

While many understand the health benefits of bananas, there are still those who hear this type of anti-sugar debate and wrongly say "don't eat a banana because it has lots of sugar".

This type of trash talk drives me crazy! They don't appreciate that the WHO are referring to excess added sugar, not the natural sugar present in whole fruit, root vegetables and dairy.

So let's look at some facts about the banana and sugar.

Yes, the banana does contain sugar. During ripening, the starch levels drop as they get converted to sugar and the banana sweetens.

All of this sugar is found inside the cells of the banana flesh. When you eat the banana it takes some time for the digestive system to breakdown the cell walls to release the sugar, meaning that blood sugar (blood glucose) levels rise slowly.

That makes the banana a low GI food, suitable for everyone, including those with diabetes.

### Sugar's sweet friends

If you look at the Nutrition Information Panel on a carton of milk you will see that it has six to seven grams of



carbohydrate per 100 millilitres. All of that carbohydrate is in the form of a sugar called lactose. This is the same sugar in all mammalian milk, including mothers' milk.

Now, if you take this sugar phobia to extremes, and some do, then you would avoid milk, yogurt and all fruit. In the meantime you would have forgotten all about nutrition.

When you focus on sugar alone you will miss the company it keeps. Milk comes with protein, calcium and riboflavin and the banana comes with fibre, potassium, vitamin C, folate and vitamin B6.

### Smoothie boost

That brings me to the famous banana smoothie. We at Banana Central have been encouraging them for years. I work with cyclists and I tell them that a banana smoothie after a long ride is better value, and better tasting, than an expensive protein drink.

The banana smoothie has carbohydrate to replace muscle fuel, protein to fix minor muscle damage as well as all the nutrients mentioned previously.

As the banana is blended some of the cellular structure will be broken down so it may be quicker to digest, but this is offset by the protein in milk. The end result is that the banana smoothie has a lower GI than the banana alone.

You can even blend the banana with yogurt or other fruits. However, if you blend just a mix of fruits, please note two things:

- the fruit mixture will be quicker to digest so is likely to have a higher GI than whole fruit – this will be relevant to folk with diabetes
- If you only drink the liquid and don't eat the residual fibre, don't throw it away. This important fibre can be used in muffins, mixed with yogurt or even spread on your breakfast cereal – it's yet another great way to enjoy bananas.

### Quality is king

In summary, the important thing when considering nutrition is, never just focus on sugar. Always look at the company it keeps.

All fruits, milk, yogurt and most root vegetables contain sugar, while being nutritious. Even many breakfast cereals will have some added sugar, but this is not a problem if they also have fibre, B vitamins, iron, zinc and are low in salt.

Nutrition is about the quality of the food, not whether it has sugar or not.



Glenn Cardwell  
Accredited Practising Dietitian



# Larssons look beyond bananas

Since 1884, Larssons have farmed small crops in the rolling green hills around Lismore, in northern NSW.

For the past century, at least one of those crops has been bananas. Richmond Banana Growers' Association president Jeff Larsson and his brother Tim have been farming the family holdings all their lives. "We've had five generations farming this land," said Jeff. "And we still haven't learned our lesson!" chimed in Tim.

**As all growers are well aware, these are challenging times for the subtropical banana industry.**

Twenty years ago, the Larssons had 40 hectares under bananas. Today they have eight - and a strategy to move on within five years.

"The local industry had its heyday in the 50s," said Jeff. "Those were my parents' years. There'd be dances and social fun days.

"There was a big Italian community here - bananas gave a lot of families their start in the area.

"There used to be bananas from Nimbin to Broken Head!"

Today, they said, the Richmond Banana Growers Association was down from nine branches to one.

Jeff and Tim's parents, Jill and Ken, remain shareholders in the family business. At 90, Ken still heads up to the packing shed every Monday to help out with the bananas.

About 20 years ago, the Larssons began converting from Cavendish to Lady Fingers, and then 15 years ago Panama disease forced them to reassess their strategy.

But disease has been just one of the challenges faced by subtropical growers in recent years. Others include supply chain issues that can place unrealistic demands on subtropical growers. The Larssons have been slowly converting their holdings to macadamias and custard apples.

"We were competitive with the fingers and we did our best to avoid Panama, but it was probably here in the soil all along," said Jeff.

"It's time to diversify again."

The Larssons have chosen macadamias for the crop's high mechanisation - the nuts don't require as much physical labour. The custard apples, on the other hand, present an opportunity to apply their considerable horticultural skills across the production process, from growing to marketing.

The deep green leaves of the macadamias are now shooting up between the Larssons' bananas, as the farm slowly converts to the new industries. Some of the new trees are well established.

As we roam around the farm, the Larsson brothers agree - they don't enjoy macadamias as much as bananas.

"The high mechanisation of the macadamias is not nearly as satisfying as

standing back at the end of a long day and looking at newly planted rows of bananas," said Tim.

Custard apples enable the Larssons to put their skills and know-how to work.

"Custards are the markets' flavour of the month," said Tim. "They're similar to what we're already doing, they're hard to mechanise, small operations can still make money - and we enjoy the challenges of producing high quality fruit for the market.

"The custards mean we can aim to supply premium branded product, like we've done in the banana industry for years - product we can be proud of."

Larssons have been embedded in the Australian banana industry for decades. Ken Larsson was on the ABGC board and the BGF board.

All Larssons have had a turn on the local growers' association, including their uncles, Gordon and Allan. Jeff has been president for nearly 30 years. There are now just three families who are still members of the Richmond branch.

"We look on the industry fondly," said Jeff. "We've enjoyed many years friendship, help and camaraderie from other growers, from North Queensland to Macksville, from the DPI, the agents and the merchants.

"We look forward to maintaining these relationships."

Generational issues are also influencing the Larssons' decision to diversify.

The Larssons' offspring are all professionals, and the only one among the fifth generation who was interested in farming bananas is in WA, taking advantage of the big money on offer in the mining industry.

"You've got high-cost production, high-cost land and an uncertain future for the local industry - it's hard for the next generation to envisage making a livelihood in bananas right now," said Jeff.

"We can't compete with the wages on offer in semi-skilled mining jobs. I have one son who's a teacher who makes more than we do in bananas - most jobs pay better than bananas."

Tim said the ageing demographic of farmers was an issue for the industry.

"Most banana growers are our age or older," he said. "If we were 21 again, discover the elixir of life sometime soon, then maybe we'd stay with bananas!"

Story by Stephanie Dale

Tim Larsson (back left) and brother Jeff, with their parents Jill and Ken



# Farming just one role for Robert

**As many growers know, there's more than one way to be involved in the banana industry.**

**That's certainly the case for Bartle Frere grower Robert Mayers. A banana grower for more than 25 years, Robert has a number of other roles in the industry.**

He is the president of the Cassowary Coast Banana Growers' Association and, until recently, he was also member of the Industry Advisory Committee's Scientific Sub Committee.

Robert stepped down from that position earlier this year after taking up another banana industry role last December, as a Reef Rescue Grants Officer working with the Australian Banana Growers' Council (ABGC).

He's also active elsewhere in agriculture sector, with wife Christine he owns an Innisfail business retailing farm equipment. In addition to his banana industry and business roles, Robert is also a member of the Babinda Lions Club. It makes for a busy life.

"I enjoy it," Robert said of his banana industry and community roles. "It can get a bit hectic but it's just a matter of time management. I always say 'if you want something done, give it to a busy person to do.'"

Robert grows bananas and cane at Bartle Frere, north of Innisfail, and has been president of the Cassowary Coast Banana Growers' Association (BGA) for the past two years, taking over the role from Cowley grower, Mark Nucifora.

As BGA president, Robert says the association's monthly meetings continue to play a big part in uniting growers and advancing north Queensland's coastal banana industry.

The Cassowary Coast BGA was formed after changes to the former standalone Tully and Innisfail groups.

"The Cassowary Coast BGA has done a lot to bring together growers to address the issues facing the industry.

"I've always thought of us not as Tully or Innisfail but as banana growers," he said.

Robert farms at Bartle Frere. He currently has 55 acres of bananas and 15 acres of cane on his property which has been in the Mayers family since the early



1900s. It was originally all planted with cane.

He got his start in bananas thanks to Tully grower the late Mort Johnston who helped Robert source the bits for his first planting of bananas in 1986.

"I really owe my start as a banana grower to Mort," Robert said.

As BGA president, Robert has carried on the tradition of utilising monthly meetings to discuss issues and to hear from guest speakers.

Finding guests who want to talk to banana growers has never been a problem.

Whether it be scientists, government agencies, industry partners or business people - all realise the value of speaking with growers at a BGA meeting.

"I rarely have to look around to find somebody to come along and speak," Robert said.

"There's always someone ready to share information, and a lot of relevant topics to discuss." Story by Rhyll Cronin

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# Changing times for global banana trade

After selling bananas for nearly 150 years, export powerhouse Costa Rica is preparing for changes in the global market. Tony Pattison, Principal Nematologist at Queensland's Department of Agriculture, Fisheries and Forestry in South Johnstone, reports from the 2014 International Banana Congress.

**“Over the next 10 years, significant change is expected to take place in the global banana market.”**

More than 600 delegates from 25 countries attended the event.



**Bananas are big business in Costa Rica – the Central American nation exports more than 107 million cartons each year – about four times Australia's annual production.**

**The fruit is one of the nation's key agricultural industries, representing about 20 per cent of all national agricultural exports; there are about 40,000 hectares under banana production.**

Those figures, combined with Costa Rica's track record of nearly 150 years as a banana exporter, means there are few nations more attuned to global market trends.

Every two years, the national banana corporation, Corbana, presents the International Banana Congress. This year's event, held in February, offered insights into global challenges – challenges also significant to Australian banana production and marketing.

At the Congress, these insights were themed as challenges in the areas of:

- Supermarkets and consumers
- Global export markets
- Climate change
- Disease management and
- Soils.

## Consumer demands

Most exported bananas are purchased by consumers at supermarket retail chains.

The supermarkets realise that consumers have increasing purchasing power and have been offering them “more for less”, particularly following the Global Financial Crisis of 2008.

In today's supermarket, the banana category competes against other fresh food lines. Supermarkets are conscious of the floor space occupied by banana displays and there is increased competition for that space from other fruits, like pineapples.

Consumer convenience in purchasing bananas, through innovations such as vending machines, also presents new challenges for supermarkets.

A further challenge is the category's ageing demographic. Most consumers of bananas are more than 40 years old with those consuming most bananas being the over 60s.

Consumers also expect food producers to meet standards of environmental and social responsibility. This is leading to the large supermarket chains, like Walmart in the United States and the United Kingdom's Tesco's, using third party certifiers, such as the sustainability consortium ([www.sustainabilityconsortium.org](http://www.sustainabilityconsortium.org)) to ensure all products in their stores comply with consumers' expectations.

## Global export markets

Over the next 10 years, significant change is expected to take place in the global banana market, driven by factors including the world's most heavily-populated nations, China and India, increasing the size of their middle classes by 150 million and 99 million people respectively.

The new middle classes in these countries tend to spend their extra income on different food items, like bananas, rather than solely staples, such as rice.

The traditional markets of the United States of America and Western Europe have stagnated in their demand for bananas, with only a slow increase from an ageing population.

Branding of products is becoming increasingly important in the banana industry. For example, Costa Rica differentiates its produce through branding - a sticker featuring a toucan and the slogan “the best of the world”.

Shipment and transport of bananas is becoming more efficient, with the opening of a new channel for super-freighters in the Panama Canal.

At the International Banana Congress, there was some discussion about the large multi-national banana companies compared with smaller national companies, the latter being viewed as more flexible in trade and market negotiations.

This discussion suggested the multi-nationals were not expanding, but protecting their traditional markets such as the USA. New banana production areas were also being developed as a result of traditional producing nations facing economic and disease challenges.

## Climate change impacts

Climate change is taken very seriously by the Costa Rican banana industry, due to its reliance on rainfall, with

little supplementary irrigation on most plantations.

Changes in rainfall and temperature patterns, such as prolonged dry spells, are not only impacting on banana production but also the economy of Costa Rica. Greater emphasis is being placed on understanding crop physiological responses to temperature and rainfall changes.

## Black Sigatoka

Of the pest and disease challenges, black Sigatoka is currently the major limitation for banana production in Costa Rica.

It was reported plantations were receiving up to 70 or 80 applications of fungicide per year due to the development of fungicide resistance.

Alternative strategies and programs are being offered, but as yet nothing has been successful. However, a visit to Costa Rica's EARTH University organic farm suggested that black Sigatoka could be managed without the need for the extreme fungicide inputs, using an integrated cropping approach with tree legumes, leaf pruning and plant oils.

## Panama screening

The Panama disease threat is of concern globally and particularly to banana exporting nations.

While there is no Tropical Race 4 (TR4) in Costa Rica or elsewhere in Latin America, a contingency plan has been developed through international banana research group Bioversity International.

Similar to Australia, there is work being done screening banana lines for resistance to Panama disease race 1, which should provide more information about managing the disease in the absence of TR4.

Banana breeding programs exist in both Honduras and Brazil, with the Brazilian breeding program very keen to partner with Australian institutions to screen advanced lines against TR4.

## Biological controls

Corbana has invested heavily into research for biological control into nematodes and insect pests of bananas.

The program for biological control for banana weevil borer was the most advanced, achieving 70 per cent of the



control of chemicals. A biological control based on the fungus *Beauveria bassiana* is expected to be released in the next two years.

The development of biological controls for plant-parasitic nematodes had stalled due to poor control in the field. Plant-parasitic nematode management in Costa Rica remains reliant on chemical control, with Bayer releasing a new nematocide Verango®.

## Soil challenges

Maintaining the soil resource has been a priority for banana production in Costa Rica over the past 10 years. Improved crop nutrition was being investigated to determine its impact on black Sigatoka.

Reduced leaf disease only occurred where mineral deficiencies were corrected but additional nutrient applications could not be demonstrated to have a preventative effect.

Considerable changes in ground cover management has occurred over the past 10 years in Costa Rican plantations, with vegetated ground covers now a standard practice, replacing bare soils.

A guide to desirable and undesirable ground cover plants had been produced by Corbana for producers. There was also increased emphasis on correcting pH imbalances with lime applications twice per year.

## Final impressions

The Corbana International Banana Congress is a prime event for gaining a global perspective of the international banana trade.

The quality of the trade displays, event organisation and presenters was world

class and very relevant to banana producers in Australia. Given the location of the event, some Spanish-language skills can be a big help!

Much innovation is being used to overcome the challenges being faced by the banana industry in Costa Rica. Innovation is occurring in the larger plantations, the research conducted by Corbana and with small holder-growers in their agro-forestry systems and organic production systems.

For those interested in gaining an increased global view of banana production and trade, the next event, being held in 2016, should be on the agenda.

Note: Dr Pattison's travel to the 5th International Banana Congress was funded by Corbana (Corporación Bananera Nacional) and, in part, by the Australian industry's Banana Plant Protection Program (BA10020).

**Above: Vegetated ground covers such as sour grass (*Paspalum conjugatum*) are now standard practice throughout banana plantations in Costa Rica.**

**Below: Organic banana production at EARTH University with *Erythrina* spp. leaves cut three times a year to provide an additional 80 kg of nitrogen per hectare annually.**





# Next-generation grower

In our series on the new generation of bananas growers, third-generation Tully grower Cameron Flegler answers our 10 questions

## How long has your family been farming bananas?

My Grandfather on the Flegler's side grew bananas in the fifties. My uncle and then my father grew bananas, now I and my brother do and so does my cousin. Another cousin sells bananas - we try to influence him to use his talents for good and not for evil but he is still a marketer!

## When did you start working in bananas and tell us about any other jobs you've had?

As I grew up, I went with my father to the farm and worked on the odd holidays. I worked in hospitality, in a few restaurants and pubs. Once that was out of my system I worked as an apprentice mechanic on the farm and later went into a farm partnership with my father. After he fell ill with cancer, I and my brother began managing his business and I am still doing that today. Our business has grown to an 800-acre (on two properties) banana farm, 44,000 tons of sugarcane and 200 head of cattle with land yet to be developed into more horticulture.

## What are some of the main jobs you do on the farm and what do you like about banana farming?

I manage a 400-acre banana farm and 40,000 ton cane farm. I enjoy the breakup of duties between both. I try to keep my hand in on all of the jobs on the farm.

**Cameron Flegler: husband, father, farmer and occasional fisherman.**



I like watching the crop grow and the little changes that you have to deal with every day to keep it growing - no year is the same. I get personal reward out of growing a good crop and trying my luck in the shows. It is always more bearable to have good fruit, even when the price of it is the opposite of gold. I like how the banana industry is full of great characters that can have a good time with little encouragement.

## What don't you like about banana farming?

I don't like cyclones and the destruction and despair they bring. The worst times in my farming career are to look at the farm, bent, in a twisted mess, smelling the rank stench of rotting matter and knowing you have to go in there to clean up. The feeling of insecurity and helplessness because you don't know the best way to kick start your recovery is the heaviest mental burden I have had as a grower. Then there is the added slug of having to tell staff there are no bananas and no banana jobs.

## What are your other interests and past times?

I am a husband and father of four children and then I am a farmer and occasionally a fisherman. My wife will argue that things don't follow in that order. I enjoy fishing trips to the Territory and, locally, trips to the reef, crabbing and oystering.

## What do you see for your future in the industry?

I am all over the place with my views of the future. When the price is high I think I'll plant more and when the price is the opposite of gold I think my fellow growers have planted too much.

## And what do you see for the future of the overall industry?

Stopping exotic pests and diseases from entering any one major growing area is the most critical thing. "Alternative" and "more resistant" variety development worries me in that it takes the focus off quarantine and destroying crops to ensure control of outbreaks. The old adage of

prevention is better than cure is the cheapest and least heart breaking system of all. Otherwise, the future in bananas is ensured as we are professional business people. Banana farmers have the amazing ability to jump through all the hoops that we need to. The banana industry looks to have a strong future with the calibre of the young people who are entering into it with a passion. The industry has dynamic people taking up the challenge to be involved in its direction. There are also experienced legends of the industry to call upon. If they had not faced and beaten past challenges I doubt there would be a banana growing industry today.

## What would you like to see happening in the banana industry?

I would like the public to understand that any good quality banana is cheap at \$3kg, that farmers are not environmental vandals and that we need to appreciate employers. I am concerned about practices in the retail market, such as predatory pricing, and the possible effect they have on banana retailing options.

## Are you looking to introduce new or different methods to your farming practices?

I have limited the use of four-wheel motorbikes and use modified tractors for bell injecting. I have a little block where I try different things to keep me interested. I would like to try planting tissue culture into a weed mat that dissolves after a period of time, but it is expensive and I don't know if the advantages will add up. Unfortunately my tinkering has not led me to any major breakthroughs, but that hasn't kept me from dabbling.

## Where do you see yourself in 10 years' time?

I hope my wife and I are proudly watching our children happily growing into adults with qualities that will make them a welcome member of any community. I will tell them to do their own thing knowing that the family business will always be here. I hope I still have a few secret spots to catch fish and other sea creatures. In between all that, still getting up early to get wet, to see what disasters are happening for the day and still thinking people are mad for planting so many bananas!

# Poster helps workers spot leaf disease

The banana industry's yellow Sigatoka project, managed by the ABGC, has launched a new information resource to help growers manage leaf disease.

A full-size colour poster, it is perfect for displaying in the packing shed and assisting less-experienced workers to identify leaf diseases yellow Sigatoka (leaf spot) and leaf speckle.

Included are full-leaf images showing the regulatory levels for the leaf diseases in north Queensland quarantine areas.

The poster also shows the five development stages of yellow Sigatoka and provides information on actions to take.

Yellow Sigatoka Liaison Officer Louis Lardi launched the poster at the ABGC stand at the Innisfail Agricultural Field Day, held at the Innisfail Showgrounds on March 20.

He is now distributing the poster to north Queensland farms.

"The new poster is a very good tool for showing less experienced workers what yellow Sigatoka and leaf speckle look like and helping them to be vigilant when they're out in the paddock," Louis said.

Louis worked with Queensland Department of Agriculture, Fisheries and Forestry (QDAFF) scientists from South Johnstone on images and information for the poster.

North Queensland ABGC directors Doug Phillips, Steve Lizzio and Marc Darveniza and Communications Manager Rhyl Cronin also attended the Innisfail field day. The ABGC, QDAFF and Biosecurity Queensland had neighbouring stands at the event to provide growers with information on a range of industry issues.



Yellow Sigatoka Liaison Officer Louis Lardi with one of the new posters at the Innisfail Ag Day.

# Strong interest in reef grants

The banana industry has been well represented in applications for grants worth up to \$30,000 each aimed at improving water quality in the Great Barrier Reef lagoon.

Growers in the catchment areas of Tully Murray, Johnstone, Russell and Upper Barron have made applications for projects in the current and next financial years.

Banana growers are among a number of types of farmers eligible to apply for grants with others being cane, dairy and multicropping.

The ABGC's Reef Rescue Officer Robert Mayers assisted banana growers with registering for the grants in February and then going on to complete applications by the March deadline.

Applications are now being assessed for the Federal Government grants with decisions expected by early June. Robert will assist with extension work on successful projects.

He said the interest shown by growers in the projects had been very encouraging.

"I'd like to thank all growers for their interest in the projects - it's a great indicator of growers support for farming practices that minimise impacts on the environment."

The matched-funding grants are provided by the government's Caring for our Country initiative and Robert is working with Terrain NRM on the program. The grants are valued at up to \$30,000 for a single farm and up to \$150,000 for multiple farms.



Mission Beach grower Ian Barnes' project was a winner at the 2013 Reef Rescue Awards.

The next round of grants will open in January 2015. Information is available on the Terrain website, [www.terrain.org.au](http://www.terrain.org.au)

## Membership

ABGC is the peak industry body for bananas. We advance the interests of Australian banana growers through effective leadership and representation that ensures a strong industry future.

Growers pay a membership fee of three cents per 13kg carton produced. Affiliate memberships are also available. For further information visit [www.abgc.org.au](http://www.abgc.org.au) or contact CEO Jim Pekin on 07 3278 4786.

# CEO Jim Pekin has policy input

In the past two months, ABGC CEO, Jim Pekin has contributed to policy development and met with a range of Federal politicians and their advisors in Canberra on the following:

- Horticulture Australia Ltd (HAL) Review

- Import Risk Assessment process
- Employment costs
- AgVet Chemicals Regulation Reform
- APVMA Red Tape Review (minor use chemicals)
- Agricultural Competitiveness White Paper.





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