

GROW NT



A publication from the Northern Territory Farmers Association
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October 2019

The only thing that tastes sweeter than a Territory Mango is knowing that every bite supports the people and the earth that brought it to you - today and far into the future.

*Paul Burke,
NT Farmers CEO
(See page 7 for more)*



Airport Biosecurity

Like many others I have watched the ramping up of 'border security' at the Darwin Airport in recent weeks with some interest.

It took the threat to our pork industry posed by African Swine Fever to expose the inadequacies of biosecurity measures at the Darwin Airport.

Anyone who has travelled overseas through Darwin over the last decade will have seen inbound scrutiny deteriorate to little more than an honesty system. Tired and grumpy you are relieved/amazed when you are waved through despite ticking boxes that should have triggered at least some further investigation. Scrutiny had become piecemeal at best. At least when sniffer dogs were previously stationed here, you sensed there was some level of deterrence.

Plant material? She'll be right...we really only care about threats to the livestock trade... Citrus Canker? Don't worry about that, hope you enjoyed your holiday... Banana Freckle? No worries straight through the exit on your right...Citrus Greening? Mango Malformation? Not sure what they are mate but doesn't sound like they kill pigs so straight through to baggage claim...

The dogs are back now but for how long? Greater scrutiny of travellers from high risk locations is also happening - but for how long? It has always been a case of when not if, the next incursion occurs that affects our members.

Halting trade in the NT is apparently acceptable collateral damage for Federal Ministers as they cut costs and corners. I don't get the maths here. At what point does prevention become more expensive than eradication? How many millions did we spend on Citrus Canker and how much did it cost our growers compared to the cost of a couple of well trained Beagles and staff?

I understand there is no failsafe system or an open cheque book but surely, we should be prioritising high risk entry points like Darwin?

Given our similar climate to South East Asia, the commonality of host plants and the thousands of tourists and family members arriving weekly wouldn't you imagine Darwin lights up the risk matrix? Apparently not...sorry ... unless a livestock industry is at risk.

We will be writing to Agriculture Minister McKenzie to express in the strongest terms our view that the current heightened alert level should be the norm when it comes to both animal and plant border protection.

At the local level our relationship with NT DPIR Plant Biosecurity has probably never been stronger and more cooperative. The handling of Citrus Canker was far more industry focused and contrasted starkly with the dark days of CGMMV and Banana Freckle.

Whilst growers still have legitimate concerns around the length of time trade was disrupted the reality is this was achieved at warp speed compared to most responses across the country.

I chair the National Nursery Industry Biosecurity and Accreditation Committee and have seen firsthand the complexity of addressing idiosyncrasies within individual state requirements and with multiple industry stakeholders to achieve national movement protocols. We can be thankful for the efforts of Greg Owens, DPIR's Executive Director Biosecurity Sarah Corcoran and Chief Plant Health Officer Dr Anne Walters.

Interesting to also note that three years after I floated the idea of a simulated incursion for the mango industry it looks like something is in the pipeline for 2020.

Another biosecurity risk factor that needs addressing is the movement into the Territory of vehicles and machinery associated with fracking and down the track, the cotton industry.

Whether it's weed species or unwanted pests and diseases there needs to be a process to ensure cleanliness. Paul Burke has suggested wash down stations at three points in the Territory and has written to other primary producer groups to seek their support.



Continued page 12



The Northern Territory agricultural industry has long grappled with its right to farm. The agriculture sector as a whole is pushing back against a plethora of issues. Mining companies want access to high value agricultural land, activists do not want to see any development for any purpose (least of all agriculture), the urban sprawl of Darwin is pushing into traditional farming lands, and bureaucratic pushes to change legislation or impose regulation can make it harder to farm in the way which best suits farmers.

My experience of these issues, or similar, is that it makes farmers feel marginalized.

They are farmers all day, every day for 365 days of the year. They have no control over how much money they make due to the variability of the seasons, and then they are often criticised for how they farm by people who have limited experience of the industry. It is understandable farmers might feel angry and frustrated.

Farmers feel the impacts of an industry that is misunderstood through increases in regulation. Unnecessary regulation affects competitiveness, which then affects profitability. If farmers are not profitable, then they are not going to continue farming, which means not feeding people, not contributing to the Territories economy nor supporting rural and regional communities.

This trend is not unique to The Northern Territory and similar problems are faced in many regions across Australia.

The resourcefulness of farmers is to be admired — they tend to put their heads down and get on with the job, rarely complaining or seeking accolades. At the same time, they do not talk enough about what they do.

With an increasing gap between city and country and increasing scrutiny of farming, it is not a question of whether society should determine the right to farm - society is already determining the right to farm.

The agriculture industry needs to realise the major role society is playing, accept that this reality is not going away, and then understand how to work with and take advantage of the situation, if and where possible.

NT Farmers Association is the unifying voice for plant-based industries and work hard and proactively to counter these arguments.

We are engaging with broader society and reaching out to environmental groups to work with these organisations so they can better understand what we, as farmers do to protect our land and our people.

In order to do this NT Farmers, need a strong membership base. Recently NT Farmers updated our strategic plan and have a goal to reach 200 members. Each and every member can play a role in encouraging their neighbors, suppliers and industry colleagues to get involved and join an organisation that has their best interests front and centre in all decisions made.

NT Farmers does not support large scale dams on iconic rivers and believe these should be protected for the enjoyment of all Territorians. But we are working hard with Department of Environment Resource Management to develop a framework for the capture and storage of water in off stream facilities. This sensible and responsible approach of capturing water in high rainfall events should increase availability of water to grow our industry.

Food Futures will be held in Darwin in April 2020, the key focus of this year's event is the legislative frameworks for agriculture development. A considerable focus will also be unpacking the balancing of priorities between environmental requirements and agriculture development requirements. This will be more critical moving into the future and will give a really good understanding for producers who may be considering a new development or expansion into the future.

NT Farmers approach to our membership is different. We consider our members as partners in industry and work with individual members to work through issues and to work collectively towards better legislative outcomes that foster development opportunities for our industry.

Our local staff have knowledge and expertise in assisting growers in a myriad of areas, please contact us to find out more.

This means you can be confident that your business will have someone working to protect your interests, in the right places, at the right times.

Our AGM is coming up in late November 2019, I would like to urge members to come along and get involved in setting the direction for your industry body.



From the Minister

I'm pleased to be writing again for GROW NT, and have the opportunity to talk about our strong primary industries in the Northern Territory.

In this edition I want to focus on our current mango season and the highs and lows being experienced there, but not before recognising our recent record international export figures.

While these figures are bolstered by our resources sector, we cannot overlook our primary industries contribution to these numbers. In particular, live export. I had the pleasure of attending the Chief Ministers Live Export and Industry Awards and it was fantastic to recognise many of our industry exporters including Monsoon Aquatic, South East Asian Livestock Services, and Australian Blue Cypress.

Congratulations to all who were nominated and those who took home awards.

Our mango season is in full swing here in the Top End! Things started in fantastic fashion with a tray of Territory mangoes which went under the auction hammer in Queensland for charity ultimately raising \$25,000!

Locally though, several farmers were severely impacted by bushfires in the rural area. With NT Farmers Paul Burke and Camilla Philip, I visited Muy and Va of KKV Produce to examine the extent of the damage to their tree's and hear about the impact the fires are likely to have both in the short term and over the next few years.

While for the most part, the trees themselves are still standing, the fruit and trees suffered extensive damage from the wind, essentially cooking the fruit and limbs from the inside out. It's been a tough few weeks for those impacted in the fires and my thoughts are with those who have been affected.

Our mango season, overall, is still its usual high standard aside from the setbacks from the fires and as well as some extended cool weather during the Dry Season, with well over four and a half million trays expected to be exported domestically across Australia and some going international.

The Territory should be proud to be the Australia's largest grower of mangoes, and our growers should be proud to produce the Territories largest horticultural product.

From the Department of Primary Industry and Resources (DPIR), a new joint DPIR-CSIRO-NT mango industry project has been developed to provide and support the application of climate change projections to the NT mango industry.

This will assist growers to better understand the precise effects of minimum and maximum temperatures that will affect flower induction in line with climate change.

Ultimately, the program aims to familiarise growers with climate drivers and processes and projections of the future climate, and show them how they can use science-based climate change information to help make better business decisions.

I look forward to sharing more in due course.



The Hon. Paul Kirby
Minister for Primary Industry and Resources

Notice is hereby given that the

Annual General Meeting

of

The Northern Territory Farmers Association

will be held

5pm, Friday November 29, 2019

at the office of the NT Farmers Association

Shop 15A, Coolalinga Shopping Centre, Stuart Hwy, Coolalinga

All members and interested industry partners are invited to attend

Business:

- To approve the minutes of the Annual General Meeting held November 20, 2019 as true and correct record of proceedings
- To receive, consider and adopt the financial statements of the Association for the year ended June 30, 2019, and the reports by Auditors and Directors
- To appoint an auditor for the year 2019/20
- To elect Directors for the ensuing year
- Any other business

Please note that only Financial Members are entitled to a vote

If you would like to:

- Nominate as a Director - *to be received no later than close of business 22 November 2019*
- Nominate a proxy vote
- Receive Agenda
- Receive 2018 Minutes
- Advise your attendance

Please contact Robyn Purtill - admin@ntfarmers.org.au



Central Australia Food Futures Roadshow 19-21 November, 2019

Welcome Reception

5pm
Tuesday,
19th November 2019
Arid Zone Research Institute
Alice Springs

Roadshow Farm Tour

Wednesday to Thursday,
20 - 21 November 2019 - Bus Trip
Property visits Alice Springs, Ti Tree,
Ali-Curung with overnight function at
Devil's Marbles Hotel

Transport, meals and refreshments provided

Numbers are strictly limited

Free for NT Farmers financial members, \$110 inc gst for non members

For attendance or for further information, please contact

Andrew Philip: kido@ntfarmers.org.au or 0428798014



Build Up to Mango Season

By Paul Burke

Around the Top End, marking the beginning of the build-up, the mango tree gifts its precious cargo to all Territorians to enjoy. Come October, mangoes - the ultimate saving grace of the build-up - start rolling into the markets and supermarkets across the country.

Mango has been the flavour of home these holidays. The sight of mangoes in the fridge gives my seven-year-old daughter the motivation to help out round the house. It seems a fair currency of payment to get those household chores done without an argument!

Mango makes an appearance in varied forms throughout the day within our household. Chilled Cheeks of raw mango, mango smoothies, mango cake, chicken & mango curry and a Friday night mango daiquiri laced with Bacardi remind us how special it is to live here!



For mango producers the season is vastly different; the year of work getting ready to pick the first fruit is a culmination of meticulous planning, hard work and years of trial and error. Early indications were for a bumper year, but continued cooler weather reduced expectations and current forecasts put the season in the average year category. To date fruit has been of a high quality and has been well received in our key markets.

Last season, 10 million trays were packed from Queensland, Western Australia and the Northern Territory, and sent to markets in southern Australia or exported overseas. This season has the potential for similar outcomes.

Not long ago, mangoes were considered a luxury item, now they are a staple of most families in Australia.

The Northern Territory is now not only the largest mango growing area in Australia but also a consumer favourite with our fruit being sought all over the Country.

The mango industry is a significant contributor to the overall Territory economy and a major employer during the peak season. The challenges of recruiting, retaining and training staff is pivotal to a successful harvest. To this end NT Farmers have been advocating hard for the development and piloting of an agricultural visa for the Northern Territory, a key beneficiary of this visa would be the mango industry.

Other challenges this season has been the lack of water. Some growers' bores have been under pressure to maintain flows and NT Farmers are in the process of developing a water project to assist growers create water efficiencies within the production process. Water will continue to be a challenge and with the development of rural urban communities our aquifers will be under more pressure. As an industry we need to be vigilant and ensure we have Best Management Practices in place for our water use.

Mango Dieback remains a looming threat and NT Farmers, NTMIA and the Department of Primary Industries are working together to map a pathway forward to understanding this blight on our industry in greater detail and to find a solution. NT Farmers will continue to keep growers informed of the progress we are making with dieback.

NT Farmers see the future for the mango industry to be strong, with increased infrastructure at the airport in the form of a cold storage facility and VHT plant the opportunity for efficient export supply chains is imminent.

By the beginning of the 2020 season this facility should be up and running, this will create new opportunities for growers.

NT Farmers are keen to engage with growers to understand their aspirations in the export space and how your association may be able to assist.

The Federal Government has invested \$20 million into the upgrade of some roads in the Litchfield Council area. This project aptly named the Mango Roads project was a joint initiative between Litchfield Council and NT Farmers, the upgrades to these roads should commence early next year.

The only thing that tastes sweeter than a Territory Mango is knowing that every bite supports the people and the earth that brought it to you—today and far into the future.



To all the mango producers, workers and supply chain partners thank you for all your hard work.

The 3-year VegNet project commenced in 2017 and has now come to a finish. I'd like to take the opportunity to thank everyone who has collaborated or assisted in some way with VegNet over the duration of the project. Your participation has helped challenge and change growers thinking, enabling positive uptake through practice change.

This project was implemented for the purpose of regional capacity building to grow vegetable industry businesses in the NT. Industry concerns around heavy handed chemical use impacting the environment, growers economic sustainability and resistance issues prompted the project trials held at the DPIR research facility at Middle Point, Coastal Plains Research Station.



Beneficial bug - photographed at Coastal Plains Research Station

The trials were based around a practice called Integrated Pest Management, which is gaining interest around the world due to contributions such as ours.

The trials have found that introducing beneficial bugs to farming systems to eat pests can be much more effective than heavy chemical use and in turn increase quality and yield of product produced.

This practice is also a more environmentally sustainable way to manage pests and to produce quality product which benefits both growers and consumers.

IPM isn't about banning chemical use, just reducing it to help prevent pests becoming resistant to them and decreasing producer input costs to be more economically viable and sustainable into the future .

Out of the project, solid evidence has been produced to substantiate these practices can and do work. The most effective way we found to convey outcomes to our growers was with the use of our demonstration plot. Growers could see the results for themselves, backed by scientifically based data. Growers gained the confidence needed to adopt practice change at a farm level.



Kevin Hoang shows off his Okra crop after using IPM

Kevin Hoang who is one of our champions of the program, adopted the IPM practices 2 years ago and has reduced his chemical use by 70% and is yielding 30% more produce of increased quality.

Overall, the VegNet trials have shown a 40% increase in total yields compared to conventional practices and a 72% increase in quality.

Weed Management Branch

Siam Weed Advice

Native to the Americas, Siam weed has become a major land management issue across tropical areas of Asia and Africa. In 1994 it was detected in the Tully area of Far North Queensland and until recently was confined to that region. An incursion of Siam weed has recently been detected on two properties in the greater Darwin region.

Siam weed has high nitrate levels and in some countries has led to cattle deaths and abortions when stock have been accidentally fed contaminated fodder. Its rapid rate of growth means that it has the potential to outcompete crops, pastures and native vegetation. In addition to this, Siam weed may cause skin complaints and asthma in allergy prone people.

These potential environmental, economic and health impacts, when combined with the costs associated with its control mean that it is considered one of the world's worst weeds.

The Weed Management Branch has notified the National Biosecurity Management Consultative Committee of this most recent incursion of Siam weed. We are working closely with the landholders and other government departments to contain and control the current known infestation and conducting surveys to determine how far it may have spread.

As with any weed management, the early reporting of a suspected Siam weed infestation is essential to successful control and eradication efforts.



Siam weed can look similar to other weed species but there are a few outstanding features that help in identification.

The pungent smelling leaves of this scrambling climber are soft, green, hairy and roughly triangular in shape. They also have a very distinctive three-vein 'pitchfork' pattern running the length of each leaf. Pale pink-mauve tubular flowers are held in clusters at the end of the branches. The flowers can appear white if seen from a distance but will usually turn darker lilac when mature.

Siam weed flowering is triggered in mid-year by shorter day lengths and they produce enormous numbers of seeds within 8-10 weeks after flowering. Each seed has a tuft of white or brown hairs that act as a little parachute, allowing it to be easily transported by wind or water.

Preventing weed spread through biosecurity measures is as important to Siam weed management as early detection. The hairs on the seed help it attach to vehicles, clothing, footwear and animal fur. It is very important that travel through known areas of infestation is controlled and that vehicles, machinery and any personal gear used in an infested area be cleaned thoroughly before leaving an infected area.

Let's work together to stop the spread of Siam weed. If you have seen Siam weed, or think you may have it on your property please contact the Weed Management Branch on (08) 89 99 45 67 or at weedinfo@nt.gov.au.



In September we farewelled Chris Pham who has left NT Farmers and gone back to his career in the Finance Industry.

Thank you Chris for your hard work and dedication to your project. A special thanks for your support of growers, especially those with English as a second language.

Your cheerful disposition is missed around the office and throughout the industry.

We wish you all the best and look forward to seeing you at industry events where we know you will continue to support the Vietnamese community.



Chris on site at Coastal Plains Research Station

Many thanks to Greg Owens, NT Farmers Industry Development Manager for temporarily taking on the bio-security role and adding it to his many duties until a replacement officer was found.



In October, we were very pleased to welcome Simone Cameron on board to the NT Farmers Team!

Simone moved to the Katherine region in 2011 with her husband and 2 sons. They were looking for some adventure and it looks like that is what they found when they purchased their 1200 acre pastoral property just north of Katherine.

Simone will be based out of our Katherine office in Chardon St, but will spend most of her time out and about addressing grower concerns and working on her project. We will regularly see her in the Darwin area as well.

Simone has a degree in Agricultural Science and a Diploma in Education (Agriculture). She has worked as a Science and Agriculture High School Teacher as well as with Katherine School of the Air.

More recently, she has been working as an Agronomist, providing service and advice to growers in the Top End.

She is passionate about the potential of the north for the future of Australian Agriculture and Horticulture production and is very excited to be working with us to represent farmers through out the North.



Simone enjoys spending her free time riding and competing her horses

The importance of managing safety in agriculture

Agriculture is recognised by Safe Work Australia as being the most dangerous industry to work in due to the combination of hazards as well as the fact many farmers work alone or in remote locations. More than one in five workers who died at work, worked in Agriculture. It has the highest fatality rate of any Australian industry (14.8 fatalities per 100,000 workers).

What is being done about this?

Sadly, statistics show that a very low percentage of Australian agribusinesses have a current safety management system in place, but this is changing. By becoming more aware of the risks and penalties associated with not having a safety system, business owners are starting to change their attitudes and increase acceptance when it comes to safety.

What is a safety management system?

A safety management system is a process that is put in place by an employer to minimise the risk of injury and illness. When implemented correctly, it becomes part of the culture and impacts the way people carry out their jobs.

Why do I need a safety system?

As a business owner, there are legal requirements that you must comply with to ensure your workplace meets WHS obligations. This may include the health and safety of your customers, employees, visitors, contractors, volunteers and suppliers.

The principal WHS law in the Northern Territory consists of the Work Health and Safety (National Uniform

Legislation) Act, supported by the Work Health and Safety (National Uniform Legislation) Regulations.

Do I need a safety system if I don't employ anyone?

WHS legislation does not differentiate between an employee, contractor or a family member working on your farm. If you have any worker coming onto your farm, you hold the same legal obligations to provide them with a safe work environment and safe systems of work as you would an employee.

What happens in an investigation?

Record keeping is the key to protecting your business against any unfair claims or disputes. If a regulator was to come onto your property, they will request to see your safety management system. They are likely to:

- conduct interviews with any person who was present or who may know about the incident/workplace
- take photographs
- ask to see appropriate documentation such as inductions, maintenance records, training records, safe work procedures and policies as well as any other evidence that demonstrates the business has an active attitude to safety in the workplace
- any associated Contractor and Partners will be contacted related to the investigation.

What can I do?

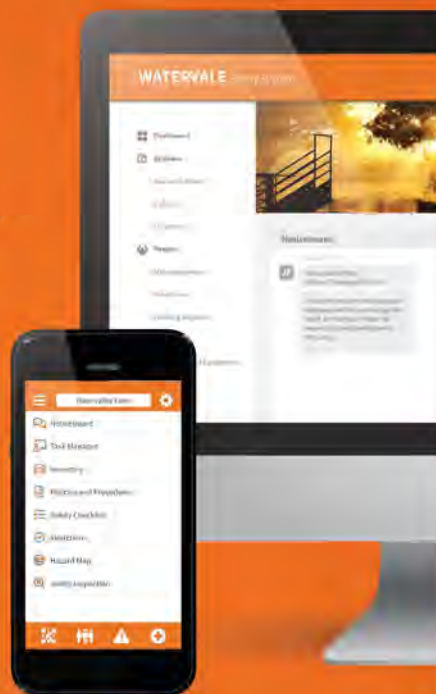
Agribusiness owners are urged to improve their processes to help make their workplaces safer and their businesses prosper. We understand this task can seem unattainable when faced with a hefty workload and an insurmountable amount of paperwork.

Being prepared without compromising productivity can be achieved by using a system that meets your obligations and is tailored to your specific needs.

Forget the paperwork – go digital.

A digital safety system for your agribusiness.

For businesses that want to get rid of the paperwork, improve efficiencies and keep their workers safe.



T: (08) 8490 0939 | safeagsystems.com

NT FARMERS would like to congratulate



Tammy Kruckow on being awarded a **Nuffield Australia Farming Scholarship**

Nuffield Australia awards Scholarships each year to farmers in Australia and this year we have been very fortunate to have a scholarship awarded in the Northern Territory to Tammy Kruckow from Consolidated Pastoral Company.

Tammy and her husband Cameron manage 'Manbulloo' Station and Northern Agistment properties in Northern Australia, a large-scale breeding, background and finishing properties comprising 16 staff that oversee the export of 25,000 head of cattle.

Tammy will use her scholarship to research how the northern pastoral industry can successfully retain and develop its workforce. *"Australia's northern beef industry faces major challenges around attracting and retaining the right staff, especially at the middle management level. With younger people looking elsewhere, on top of an ageing workforce, we need to promote the industry as a long-term career choice."*

Tammy previously coordinated CPC's recruitment and training programs across all of its sixteen properties located in the NT, QLD and WA. During that time, she observed the narrow pipeline of talent coming through and the need to have adequate succession plans in place.

Tammy's study program will be focussed on identifying successful retention and development strategies from around the world, with a goal to apply those learnings to an Australian context and help build a more skilled and sustainable workforce for northern beef enterprises.

Tammy's Nuffield scholarship is supported collectively by Australian Agricultural Company, Consolidated Pastoral Company, Elders and S. Kidman & Co.

For further information on Nuffield Agricultural Scholarships please visit www.nuffield.com.au



Continued from page 2—Simon Smith editorial

The cotton grower group meeting in Katherine on 17 September was an outstanding success with over 50 people in attendance including some significant players from the Ord. It's a great credit to our IDO Andrew Philip, that things have progressed rapidly to this point and some very productive discussions were had regarding the fledgling cotton/cropping group, possible gin sites and ownership models.

The feasibility study for a gin has been completed and I'm told by Andrew there are over a dozen NT growers looking to plant cotton next wet season and many other interstate and international operations looking for opportunities to get a foothold in the NT.

With land availability in mind I met with NTCA President Chris Nott recently to discuss our position on NPU's and to open up a dialogue between our organisations on working more closely to drive the development of plant based industries on pastoral leases.

With legislation now in place for sub leasing, the opportunities for share-farming or other mutually beneficial arrangements are huge and present one solution to the shortage of freehold land suitable for cropping and horticulture. Many of our current and future members have expertise for hire or need land so Paul will continue to work closely with NTCA CEO Ashley Manicaros in this area.

We are working towards a joint Board/Executive meeting in the future.

In early October I met with the Central Land Council's CEO Joe Martin-Jard and General Manager Legal, James Nugent. Similar to my meeting with the NTCA the intention was to open discussions around opportunities and mechanisms to see more farming on traditionally owned land. I wanted to understand costs and obstacles associated with NPU's and ILUA's and seek the CLC's position regarding the Strategic Aboriginal Water Reserve and how this may be accessed in the future to benefit farming in areas of full water allocation.

The meeting was extremely positive, and Paul and I will meet again with Joe and James in November and hopefully present to the CLC Executive early next year.

I will brief the Board on both meetings at our November meeting.

It's been a tough month weather and fire wise across the Territory, so I hope there's been some rain relief by the time you read this.

Learning from the Past, Looking to the Future

There has been successful Agricultural production in the Northern Territory since the early 1820's, unfortunately there has not been continuity in many production systems until recently with the successes of mangoes, melons, Asian vegetables along with grapes in Central Australia. The Northern Territory has showed promise in developing many times, often for the wrong reasons.

Ten years ago, CSIRO released a report 'Northern Australia Land and Water Science Review' in October 2009. As you can read not much has changed, at the same time I can see this time being different.

http://test.regional.gov.au/regional/ona/nalwt_files/Chapter_06-Historical_perspectives_on_land_use_development_in_north.pdf

"In Australia, the recent drought and its impact on irrigation areas of southern Australia has brought a new focus on the potential for development of currently marginal cropping lands in Australia's monsoonal north. Northern Australia has long been targeted by proponents of agricultural development, but these efforts have an equally long history of failure. Land use is currently dominated by low-intensity grazing of beef cattle on extensive properties often more than 10 000 km² in area. Indigenous land holdings are also extensive. Although the direct impacts of climate change on rangeland enterprises in Australia have been canvassed, the impact of changing external development pressures has not received the same attention. Generations of politicians, scientists, agriculturalists and land developers have written their hopes and dreams on the seemingly blank slate of the vast expanses of northern Australia that lie to the west of coastal Queensland. In the perceptions of many this was an immense, empty but well-watered land that contrasted starkly with other tropical lands with similar landscapes and climates that are home to millions of people. To many, the land has promised so much but, with few exceptions, the great hopes for agricultural development have not been realised. To the drought-ravaged south of Australia, northern Australia is again offering hope for agricultural industries through its seasonally abundant water. There are new calls for "governments, communities and industries [to] work together to develop clear principles that allow for the sustainable developments of water resources in northern Australia".

Such principles must now account for not only food security, but also Indigenous land rights, biodiversity conservation, carbon footprints and the sustainable use of water and soil. The history of land development visions in the monsoonal north of Australia indicates that changing scientific and social paradigms and external pressures are likely to have as great or even greater impact on this region than climate change itself. These changes have been driven by a wide range of political, social, environmental and security developments. It can be expected that paradigms will continue to alter in the future, and climate change will simply be an additional driver of such changes.

*From 1985 -2005 Agricultural research continued through this era and culminated in the last major review of the outcomes of decades of research into farming systems for northern Australia. This concluded that a mixed agriculture system with ley pastures and minimum or no-tillage cropping was the best way for dryland farming areas to overcome the limitations of the environment and markets. Recently (2009) Chris Chilcott argued that **small patches of irrigation judiciously distributed throughout the landscape could provide opportunities for diversification by existing land managers** of mainly pastoral enterprises and may be a better model for much of the north than large contiguous irrigation precincts.*

More than a century of agricultural research in northern Australia has shown that there are real and substantial resource limitations that affect the region. The low fertility of soils and the high risks of climatic adversity are major constraints to crop production. Management systems to prevent soil erosion are critical due to the high intensity of rainfall. Minimal or no-tillage systems have transformed the ability to integrate dryland cropping with grazing.

Political imperatives from southern Australia have long driven the push for agricultural development of the north. Single issue policy making dominated the decision-making processes and research directions for much of the past century. For agricultural researchers, working towards mixed farming, where cropping was integrated with cattle raised on ley pastures, represented a high degree of cross-disciplinary research.

Continued over page

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Research into land use now needs to integrate widely disparate disciplines including cross-cultural social science, economics, climate change, governance, environmental bio- physical science as well as the more traditional agronomic sciences.

Arable agriculture made very little headway in northern Australia in an era of government subsidisation, dismissal of Indigenous rights and a naïve understanding of and even an antagonistic attitude to sustainability issues and biodiversity conservation. However, as the world's population continues to grow, and existing areas of prime agricultural land come under threat from climate change and unsustainable management practices, the economics could alter markedly and indeed has already done so for a number of sectors. Much progress has been made in recent decades on the science of sustainable farming practices suitable for northern agriculture. Developing the framework to integrate the science, economics and governance of the complex issues surrounding land management is the challenge for the next era of research in northern Australia."

Although many of you would think that nothing has changed, the optimism of the current round of development is on the back of market forces, further understanding of the how to develop the appropriate land systems and farm these systems to suit the climate of the north, the potential to integrate mixed farming systems as well as the obvious that IT DOES STILL RAIN IN THE NORTH every year and we have water resources available for more regular production.

The momentum is growing to the development of a viable and sustainable cotton industry, based on new genetics and the industry support for the development of a Cotton Gin in the near future – NT Farmers has completed a feasibility study on the viability of a cotton Gin in the Northern Territory. With Price Waterhouse Coopers finding that:

‘There is a case for a cotton gin in the Northern Territory. The region's cotton industry has seen widespread growth and interest from farmers and investors on the back of recent successful yields and over 50 years of trials in the Northern Territory and Ord region. Farmers in established cotton growing areas are looking to upscale operations and a number of properties are seeking to convert pastoral land to cropland. As crop prices increase, this trend is expected to continue. Whilst this is good news for the regions and the wider Northern Territory economy, infrastructure must be in place to realise and promote the potential of this growing industry.’

Going to Uni in 2020?

Ask us about our
Scholarship Program for
rural and regional students.



Community Enterprise
Foundation™



African swine fever

Protect our pigs.

African swine fever (ASF) is a highly contagious disease of pigs that's spreading rapidly in Eastern Europe, China and South East Asia.

An outbreak of ASF in Australia would have a significant impact on pig health, pork production and will devastate Australia's pork industry if it gets in.

The disease is spread by direct contact with infected pigs, contaminated vehicles, equipment or clothing and by feeding infected swill or meat scraps to pigs.

No vaccine or treatment is available. It's vital that we keep ASF out of Australia and we need your help.

Strong biosecurity practices and hygiene are crucial.

- ASF can be carried by people on their skin, clothing, footwear and in their hair. When you and your workers enter a farm or production area ensure you use:
 - on-farm tools, boots and equipment if provided
 - a footbath for footwear
 - a suitable disinfectant, such as Virkon S or chlorine, for disinfection of equipment.
- When you and your workers leave a farm or production area, always disinfect boots, clothes, vehicles and any equipment leaving the site.
- Always wash your hands with soap and water before and after handling animals.

Overseas worker vigilance.

- Those who have contact with pigs at home should wait seven days before having contact with pigs in Australia.
- Workers should not bring any clothes or equipment used with pigs in their home country to Australia.

Know the signs.

Early detection is key to eradicating disease. Symptoms of ASF include:

- sudden death or death within one-two days
- blotching of skin, especially the ears
- loss of appetite
- huddling or hiding in corners
- diarrhoea, which may be bloody.

Protect your property.

Find resources to help keep your farm clean on the Farm biosecurity website at farmbiosecurity.com.au

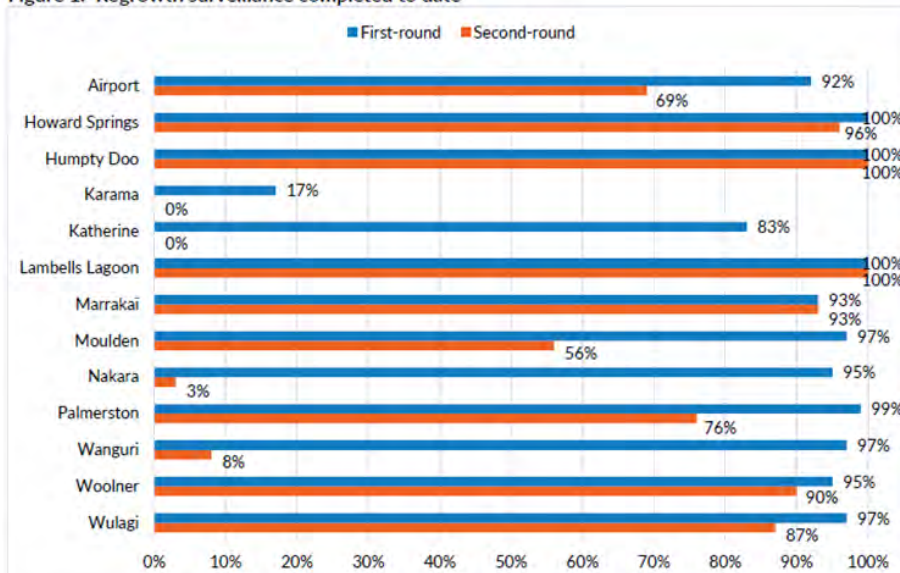
If it looks suss, call us 1800 675 888

National Citrus Canker Eradication Program Update

Citrus canker was first detected in the Northern Territory in early April 2018. Since this time, the National Citrus Canker Eradication Program (the Program) has detected 16 infected premises, resulting in the establishment of 13 restricted areas (RAs) in the greater Darwin and Katherine areas. RAs encompass a 600m area surrounding the location of an infected plant. Within these areas, all citrus canker host plants are removed to reduce the risk of natural spread of the disease. Surveillance has been conducted at 3,942 properties within the restricted areas and is now complete. Of the 1,548 properties with host plants, 99.6% have been cleared, with over 6,000 plants now removed.

Where host plants have been removed from properties, the properties are re-surveyed twice to check for any signs of regrowth. To date, 89% of properties have been surveyed once and 40% of properties have been surveyed twice. Whilst there has been some plant regrowth, no citrus canker symptoms have been detected. All plant regrowth is removed following detection.

Figure 1: Regrowth surveillance completed to date



The Program is continuing its efforts to locate as many trace plants as possible and this is being supported through a targeted communications campaign requesting people report their citrus plants for a free health check. Surveillance work across the Darwin region and to remote communities where trace plants were known to have been distributed is also continuing. Over 2,300 plants have been checked in the Darwin region, none of which have showed symptoms of citrus canker. 146 trace plants have been detected through this work. All trace plants will continue to be monitored throughout the program to ensure they do not develop citrus canker symptoms over time.

Movement restrictions and trade protocols

Movement restrictions into and out of the control areas (CAs) continue to be enforced. In June 2018, a protocol was approved by the Subcommittee on Domestic Quarantine and Market Access (SDQMA), which enabled consignments of NT fruit to be exported outside of CAs under strict quarantine conditions. In April 2019, an additional protocol was approved by the SDQMA to enable consignments of kaffir lime leaves to be exported outside of CAs under strict quarantine conditions. Regular weekly inspections of fruit and kaffir lime leaf consignments continue to be undertaken to support ongoing trade of produce.

Upcoming surveillance of commercial citrus properties

Citrus canker has not been found on any commercial citrus properties in the NT. Commercial citrus properties were surveyed during April-August 2018 to check for the disease. Citrus farmers with property freedom certification and permits for interstate trade of citrus products are also regularly surveyed to confirm they are free of the disease.

Additional surveillance of commercial citrus farms will occur during September-November 2019 to provide confidence that all citrus properties in the NT are citrus canker free. Any suspicious symptoms will be collected and sent to the Berrimah Farm research laboratory for checking under a microscope and molecular testing. Of the 487 samples processed by the plant pathologists, only 32 (6.8%) have tested positive for citrus canker. Samples are usually taken as a precaution to confirm observations in the field that a plant is not infected with citrus canker so don't be too concerned if samples are taken.

Citrus farmers should be reassured that strict biosecurity procedures are followed by our staff during surveillance of properties, including:

- decontamination of staff clothing, footwear and hands, all items of equipment and vehicles when staff leave a RA and after collecting any suspicious sample(s)
- staff clothing, personal protective equipment (PPE), equipment and vehicles are clean prior to leaving the East Arm depot and checked again prior to entering a property
- staff do not visit other properties for surveillance on the same day as their visit to a citrus farm
- biosecurity vehicles are not driven into farm production areas.

Biosecurity staff will also adhere to any additional biosecurity procedures and practices on your property. Please let us know of your procedures when we contact you to arrange a visit.

Notifiable citrus plant diseases and pests

A notifiable plant disease is one that must be reported to the government agricultural agency. Other notifiable diseases affecting citrus plants include citrus variegated chlorosis (CVC), huanglongbing (HLB), and citrus stubborn disease (CSD). More information on these pests and diseases is available in the NT 2018 Plant Quarantine Manual, accessible via www.nt.gov.au. If you see something unusual on your plants contact NT Quarantine on 8999 2118 or via Quarantine.NT@nt.gov.au

Industry information sessions

Industry information sessions were held in Darwin and Katherine in September, providing citrus farmers with the opportunity to learn more about the citrus canker eradication program and meet some of the people working on the program.

Thanks to NT Farmers for supporting the information sessions and to everyone who attended



Citrus farmers enjoyed the opportunity to learn more about the citrus canker eradication program and progress towards proof of freedom at industry information sessions in September.

Follow NT Farmers on Social Media



Mango madness has well and truly set in for the 2019 mango season. It has been somewhat a slow start to the season however, over the last few weeks we have seen the numbers increase out of Darwin and many growers will hit their peak production during the next couple of weeks. We will also see over the next few weeks Katherine kick off with already some select picks happening.

It is expected that during the month of October 2,125,000 trays of beautiful Territorian mangoes will hit the shelves of our southern counterparts. Let's hope the weather in the south warms up and consumers load their shopping baskets full of our delicious mango delights.

With volumes increasing we will see wholesale and retail pricing adjust which will assist in keeping product moving through the system and hopefully flying off the supermarket shelves. Reviews of quality has been a little mixed, however to date there hasn't been any major quality issues and generally overall the markets are happy.



In early September our Northern Territory mangoes were showcased at the Chief Minister's Facing North function at Parliament in Canberra.

Delightful creations of mango cocktails and delectable canapés containing our NT mangoes were passed around the 400+ strong crowd and were a definite stand out for the night. Thank you to Red Rich Fruits for supporting this important event with the donation of your trays of mangoes.



Minister for Primary Industries & Resources, Paul Kirby met with Muy and Va Keav Ma and NT Farmers CEO Paul Burke & Camilla Philip to see first hand the fire damage

There have also been some major challenges for some of our mango growers this season, with such a dry season and many weeks of wind has seen an increase in damaging fires. Our thoughts are especially with Muy and Va Keav Ma who have lost almost a third of their trees to these disastrous fires. NT Farmers are continuing to work with the NT Government, Commonwealth Government and Rural Finance and Business Support to assess all avenues of assistance for Muy and Va. Even after such devastating events I must say I have never witnessed such resilience and strength that Muy and Va have shown, such humility and I feel very humbled to be apart of their long journey ahead.

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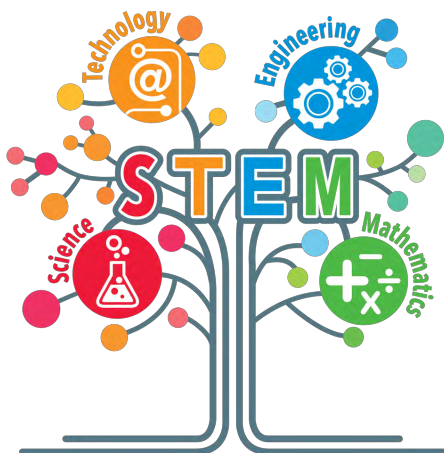
September saw 20 NT teachers participate in the TeacherFX (Teacher Farm Experience) an excursion from Darwin to Katherine return where they were exposed to agricultural practices; thanks to the Rabobank Client Council and CQU. The Teachers left with a better understanding of the industry, the opportunities within and the cross-curriculum teaching resources. For more information visit <http://teacherfx.com.au/>



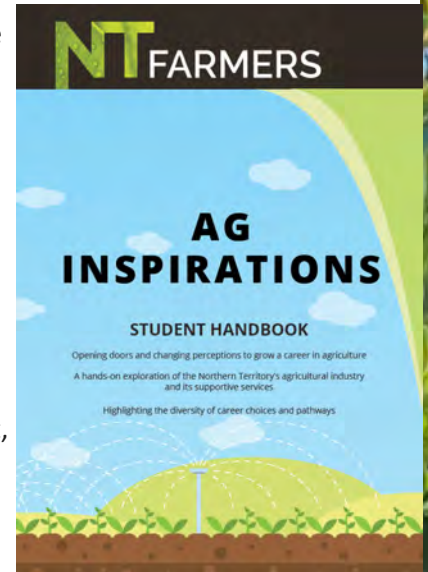
The NT Food & Fibre Education Network, on behalf of the Primary Industry Education Foundation Australia is coordinating a Teacher's Workshop on Wednesday 30 October at Taminmin College. As the first part of the Food, Fibre & Foliage Education roadshow this event offers Teachers and Trainers with information on the numerous ways to integrate food and fibre education into the curriculum. Teachers will also be provided with resources to deliver in classroom learning activities. For more information visit <https://www.piefa.edu.au/>



Both projects aim to increase the knowledge and confidence of STEM, digital technology and agriculture to allow Educators to incorporate food and fibre production into their teaching programs.



The Ag Inspirations school-based program will be piloted with 15 students in Katherine from 22 to 24 October. This program is based on The Smith Family's Work Inspirations Program. The program aims to assist students to discover how their skills and interest can relate to employment, working through a workbook and participating in three days of excursions to local agri-businesses to discover the variety of opportunities available in the agriculture industry and the career pathways.



My main focus has been compiling information for the Workforce Development Plan, working with a reference group made up of various stakeholders who have provided expertise. The plan will state the issues the industry face in relation to attracting and retaining a workforce with recommendations and actions. There are various references that have shaped the plan, these maybe of interest. The second phase of this project is to create a strategy including a tool kit of resources which will assist Farmers with workforce development.

The Territory Legends Traineeship is currently hosting four Trainees who are undertaking the Certificate III in Horticulture AHC30710.

Employers have signed traineeship contracts with the trainees. Most trainees will commence off farm training early in 2020.



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PHOTO: Martina Matzner has been working on new ways to prepare for the impacts of climate change on the mango farm she manages. (ABC News: Jane Bardon)

The Top End's mango industry is worth \$122 million a year but the sector is under threat from climate change, industry figures have warned.

One of the Northern Territory's largest mango farms is already confronting the effects of climate change.

"Rainfall is declining as a trend and prediction of temperature is becoming increasingly more difficult," said Martina Matzner, the general manager of Acacia Hills Farm.

With more than 30 years' experience managing mango farms in Darwin's rural area, Ms Matzner has been working on ways to adapt — including managing water more efficiently.

She is now part of a trial involving the NT Government that's growing more climate change-tolerant mangoes, which for now are being kept under wraps.

"They need to be both heat-resistant and able to withstand variability of temperature," Ms Matzner said.

The Northern Territory's mango industry is its most valuable horticultural sector and produces about half of the total Australian mango crop.

The NT Government said it was working with a range of mango producers who were concerned about the impact of climate change.

Continued over page

Continued from page 23

"We are expected to get higher rainfall, but much more variable, and much more extreme events, and warmer temperatures," said Mila Bristow, the NT Government's director of Plant Industries. "If we get high temperatures, and we don't get a flowering event, obviously, no flowers, no fruit," she said.

Both Ms Matzner and the Territory Government said they were confident they would be able to innovate fast enough to keep up with some of the threats of climate changes expected until about 2090.

"I am confident we can stay ahead of temperature variability," Ms Matzner said.

"[But] questions like how to we deal with higher frequency of intense cyclones, that's quite a different kettle of fish."

"For example, we're working to understand different forms of planting the trees to make them more wind tolerant but we're at the beginning of that whole journey, so not quite there yet," Ms Matzner said.

Ms Matzner said she believed only more global efforts to stop carbon emissions rising would save her industry long term.

"We just need to accept that climate change is real, and it would be foolish not to be concerned about it, and once we can accept that, we can look at the solutions," she said.



Northern Territory Mangoes - courtesy Matt Bran ABC News

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Crop it like it's hot - greenhouses to boost north's high-value produce

A new Cooperative Research Centre for Developing Northern Australia (CRCNA) collaboration is set to supercharge the north's horticultural industry by encouraging more producers to invest in protected cropping systems.

The two-year \$443,000 project is an R&D partnership between producers in North Queensland, Carnarvon (WA) and Lake Bennett (NT), industry stakeholders the Carnarvon Growers' Association, Northern Territory Farmers' Association (NT Farmers), Cravo Australia, and the Port of Townsville, and the Queensland Department of Agriculture and Fisheries (DAF) and Western Australian Department of Primary Industries and Regional Development (WA DPIRD).

The project team will examine the various protected cropping systems, technologies and practices and work with producers to develop a roadmap of how they can implement the right system for them.

Project leader, Dr Elio Jovicich (DAF) said having more information will support growers in their business and investment planning and help them tap into high-value, premium markets and secure higher returns.



"Depending on the crop species and protected cropping technology, yields per square meter have shown to be four to 10 times or even greater than in field-grown crops. However, it's essential to understand crops harvested in most protected cropping scenarios will be different from those grown outdoors, even if we are talking about the same vegetable crop species. Under structures, the fruit type and visual and eating quality will be different and target specific markets where they can attract higher prices," he said.

WA DPIRD's Assistant Director of Horticulture, Rohan Prince, said growing in a protected environment gives producers more control over temperature, water, pest and disease management.

"It also means they can grow high-value products for longer, potentially opening up new domestic and international market opportunities. "We hope our work will bust some of the myths around protected cropping in northern Australia and give growers and their financiers' confidence to invest in PC structures for horticultural production," he said.

CRCNA CEO Jed Matz said protected cropping industry is one of the fastest-growing food-producing sectors in Australia, with an estimated value of around \$1.8 billion per annum.

"With the increasing consumer demand for access to fresh, high quality produce year-round, it makes sense for northern Australian producers to learn more about what they need to do to capture their share of this opportunity," he said.

Maria James, Port of Townsville's manager of trade and business development says the initial evaluations of simulated sea freight transport of specialty melons grown under protected cropping by DAF is just one example of the many opportunities to export differentiated high-value commodities to Asia from north Queensland.

"Developing a situation analysis of vegetable export supply chains in north Queensland will build on these initial evaluations and help inform ways that northern Australia's export value chains can be strengthened," she said.

The project team expect to deliver a suite of information materials and guidelines for adopting protected cropping in tropical environments to the industry when their final report is delivered in 2021.



The CRCNA acknowledges the support of our government partners.



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Just how good are Mangoes? (It's not just the taste!)

Information courtesy Australian Mangoes (AMIA)

Mangoes contain nutrients and antioxidants.

Mangos contain over 20 different vitamins and minerals, including vitamin C, vitamin A, folate, and fibre.

One cup of mango provides 35% of your daily vitamin A, 100% of your daily vitamin C, and 10% of your daily vitamin B6. One cup of mango is also an excellent source of folate, making up 20% of your daily requirement and also copper, making up 10% of your daily needs.

Mangoes can help you feel full.

One cup of mango contains 12% of your daily fibre. Because fibre slows the absorption of sugar in the bloodstream, the fibre in mangoes makes you feel full faster. Since you stop eating when you feel full, fibre can help support weight management.

Mangoes can help boost your immunity.

Combat colds with mangos! One cup of mango contains 100% of the daily value of Vitamin C. The antioxidant vitamin C found in mangoes plays an important role in immune function. In addition to boosting your immune system, [vitamin C](#) supports healthy cognitive and neurologic function and helps in wound healing. Mango also contains 10% of your daily copper, which helps form red blood cells, while also supporting healthy immune function, as well.

Mangoes can assist in gut and digestive health.

The scientists at Texas A & M University found that mango, which contains a combination of polyphenols and fibre, was more effective than an equivalent amount of fibre powder in relieving [constipation](#) – a chronic digestive condition that affects an estimated 20 percent of Americans. You can read more about their findings [here](#), but keep in mind, the research is always evolving.

Mangoes play a role in eye health.

One cup of mango is high in the antioxidant [vitamin A](#), which is critical for vision. With 35% of your daily vitamin A, eating a mango is a super easy way to work this antioxidant into your diet.

Mangoes are easy to add to your diet.

From savory tacos to sweet desserts, mangoes can fit in just about any recipe. This [versatile](#) fruit adds a pop of sunshiney flavour to any recipe. Check out our [recipe archive](#) for over 300 to choose from.

In conclusion, mangoes have several health benefits including boosting your immunity and digestive health. Most importantly, mangos are a delicious treat and are an easy way to add vitamins and antioxidants into your diet.

<https://www.mango.org/blog-mango-benefits/>

Why not try this delicious recipe this season?



Mango & Avocado Salad

Serves 4

Ingredients:

- 4 cups baby spinach
- 1 mango sliced
- 1/2 cup bacon rashers chopped & cooked
- 1/2 cup parmesan cheese shaved
- 4 tblsp Caesar dressing

Method

- On a platter, layer spinach, avocado, mango (drizzle juice from cutting board over the salad. When adding the mango), parmesan cheese and bacon pieces
- Refrigerate until ready to serve
- Just before serving, add dressing & combine well

Recipe courtesy www.bestrecipes.com.au

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