

final report

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Supporting the Leucaena Network – national research and the regional adoption outcomes for a highly productive beef industry

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Executive summary

The Leucaena Network (TLN) is a membership organisation that provides graziers educational and agronomy support on growing leucaena.

Estimates of Australia wide leucaena plantings are between 120,000 to 200,000 ha. Further potential exists in the industry as the recent release of the psyllid tolerant variety Redlands opens up the expansion for leucaena pastures in previous unsuitable coastal or tropical areas along the eastern seaboard and northern Australia.

There remains an opportunity to accelerate leucaena production and adoption across northern Australia. Extending leucaena extension services, promoting adoption and achieving profitable practice change is a key role for The Leucaena Network.

Since January 2018, The Leucaena Network has facilitated extension and adoption through dedicated leucaena field days throughout central and northern Queensland, presentations and a significant presence at industry events including Beef 2018, the Northern Territory Agricultural Field Days, the International Leucaena Conference and agricultural expositions.

The Leucaena Network's website [www.leucaena.net] provides potential, new and existing producers with a dedicated hub of information and referral for the industry. TLN is continuing with the aim of ensuring this website is simply 'everything leucaena' including a dedicated research site.

The Leucaena Network is working to secure the self-regulated status of the leucaena grazing industry through collaborations with State and Territory governments and in Queensland, local governments, to ensure environmental concerns are mitigated and the Leucaena Code of Practice remains a contemporary and relevant tool in this endeavour.

A highlight of 2019 was the hosting of a delegation of producers to visit Colombia and Paraguay to explore opportunities for leucaena in silvopastoral systems. This focus on silvopastoral systems for Australian conditions will be further explored by The Leucaena Network, particularly in relation to graziers limited by vegetation management guidelines.

Whilst the Network continues to provide information and assistance to leucaena producers, 2020 will focus on 'New Territories' where the Network will seek opportunities to provide diversification research and adoption strategies to the grazing industry. Opportunities that include carbon neutral beef, leucaena value-adding through harvesting, pelletising or hay and silage potential, and exploring alternative options for establishment.

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1 Background

The Leucaena Network (TLN) is a producer based group that provides graziers education and agronomy support on growing leucaena. Although there has been significant adoption of leucaena pastures by graziers, (up to 250,000ha) there continues to be a need for industry support to expand the use of leucaena, particularly with the decline in traditional extension services.

Adoption of leucaena plantings in Queensland slowed due to drier than average weather patterns during 2014-2017. However since this time there has been renewed interest from producers in growing leucaena and this coincides with the release of the new Redlands variety which is suitable for the higher rainfall and higher humidity, psyllid prone regions of the eastern seaboard and northern Australia.

There is a continuing opportunity to accelerate leucaena production and adoption within Australia. Extending leucaena extension services, promoting adoption and achieving profitable practice change remains a key role for The Leucaena Network.

The Leucaena Network continues to seek to identify existing and potential plantings of leucaena across northern Australia and to provide best practice leucaena establishment and management information to the grazing industry through field days, event attendance, membership networks, social media and at www.leucaena.net.

Increasing community interest in environmental management has been a catalyst for the potential development of a sterile leucaena. The Leucaena Network will continue to work closely with the sterile variety breeding team as part of the steering committee.

2 Project objectives

This project will help address the ongoing lack of specialist and relevant extension services for leucaena-based pastures and aims to achieve practice change on farm through:

- Promotion of the Best Management Code of Practice to stakeholders across industry, councils and catchment authorities through dedicated activities that mitigate the perceived weed potential.
- Support property productivity through training and field days (2 per year)
- Support and provide industry input to relevant project steering committees, namely development of sterile leucaena and productivity assessment of Redlands
- Collaborate with industry and service providers across North Queensland, Northern Territory and Western Australia to conduct two field activities (ie facilitate PDS) and two themed activities that promote adoption of leucaena
- Conduct one AGM of The Leucaena Network that aligns with industry conferences such as NABRUC, ASAP, TropFest or other relevant events
- Coordinate industry involvement with researchers and extension officers to implement “on farm” research and demonstration activities.
- Distribute quality communications that promote the latest technical information, case studies, and economic returns using various media
- Develop an extension training package “Leucaena Edge” with MLA, host webinars and produce video clips that promote and support a productive beef industry based on leucaena plantations.

3 Methodology

3.1 Promotion of the Best Management Code of Practice to Stakeholders

3.1.1 Queensland Councils

The Leucaena Network hosted a Council Forum ‘Leucaena – Only for Grazing’ for interested Queensland Councils in February 2019 followed by a Field Day at Paul and Clair Harris’ ‘Ten Mile’ at Duaringa.

All Queensland Councils in current or potential leucaena suitable areas were invited to attend as were Queensland natural resource groups and environmental agencies. The workshop included an overview of the environmental, economic and social benefits of leucaena to regional Australia and presentations by best practice leucaena producers, MLA, The Leucaena Network and QDAF. A facilitated discussion between industry, producers and Council representatives regarding the efficacy of the current Leucaena Code of Practice was undertaken.

3.1.2 Review of the Leucaena Code of Practice

In addition to a review of the Code of Practice as part of the Council Forum, The Leucaena Network members were requested to review the current Code and provide feedback on its current fit for purpose.

3.1.3 Northern Territory Leucaena Code of Practice

In line with an emerging leucaena industry in the Northern Territory, The Leucaena Network has been working with the Northern Territory grazing industry, industry representative bodies, the Northern Territory Government and the Northern Territory Pastoral Lands Board to develop a Leucaena Code of Practice tailored for the regulatory requirements of the Northern Territory.

3.1.4 Western Australian Leucaena Code of Practice

Following an approach from the Western Australian government and the Western Australian Pastoral Lands Board, The Leucaena Network has been liaising with the Western Australian government to potentially develop a Western Australian Leucaena Code of Practice and Best Management system.

3.1.5 Signage

The Network developed signage promoting individual producer’s compliance with the Leucaena Code of Practice for provision to trial producers. This signage will be promoted to industry for display on boundary paddocks where leucaena is present as part of our social licence in compliance with the Code of Practice.

3.1.6 Best Management Practice Program

An approach was made to AgForce to explore the opportunities to include a leucaena focused module in Grazing BMP.

3.2 Support Property Productivity Through Training and Field Days

3.2.1 Producer Training

As part of concurrent programs undertaken by The Leucaena Network, three dedicated Leucaena 101 workshops were hosted in 2018/19. These workshops were presented by DAF, utilizing the extensive experience and skill of previous leucaena extension officer Stuart Buck.

One of these workshops was extended to include a more agronomic focus to enable capacity building within service providers and extension officers in the Northern Territory.

3.2.2 Field Days

Six field days have been hosted by The Leucaena Network throughout Central Queensland and Northern Australia. These field days were hosted as stand-alone events in response to enquiry or as part of concurrent trial and producer programs.

3.2.3 Industry Field Days and Attendance

In addition, The Leucaena Network has participated as key presenters in three field days organized by external providers across Northern Australia and was represented at four key industry events.

3.2.4 Silvopastoral Delegation to South America

Following an invitation issued by delegates from the Centre for Sustainable Agricultural Systems (CIPAV) in Colombia whilst attending the International Leucaena Conference in Brisbane in November 2018, the Leucaena Network coordinated an 18 day visit by Network members to South America to view silvopastoral systems and attend the Tenth Global Silvopastoral Congress.

3.3 Support and Provide Industry Input to Relevant Steering Committees

3.3.1 Sterile Leucaena

The Leucaena Network has attended two meetings as part of the Sterile Leucaena steering committee – Perth in November 2017 and throughout Western Australia in February 2019.

The Network was invited to be a guest speaker at the University of Queensland's Sterile Leucaena Information Day held in October 2019.

The Network continues to work closely on an individual basis with sterile leucaena development teams at both the University of Queensland (UQ) and the Western Australian Department of Primary Industries and Regional Development (DPIRD). A representative from UQ presented on behalf of The Leucaena Network at Beef 2018 on the progress of the sterile leucaena project and a representative addressed the Network Executive at a 2018 meeting. Representatives of WA DPIRD are collaborating with The Leucaena Network to work with the Pastoral Lands Board to develop strategies to potentially enable the introduction of leucaena to WA pastoral lands prior to the development of the sterile leucaena variety.

3.3.2 Productivity Assessment of Redlands

The Leucaena Network facilitated the MLA Donor Company / Producer Innovation Fastrack (PIFT) P.PPSH.0920 Redlands for Regions project where six North Queensland graziers undertook

establishment trials for the Redlands variety. This project commenced in November 2017 and was completed in April 2019.

The Redlands variety launch was hosted by DAF at Pinnarendi Station near Mount Surprise in North Queensland in May 2019 as part of the leucaena live weight gain trial field day. The Leucaena Network assisted with the launch through promotion, contribution to the program and presentation on the Leucaena Code of Practice.

3.4 Collaborate with industry and service providers across North Queensland, Northern Territory and Western Australia

3.4.1 Field Activities

The Leucaena Network has completed the P.PHS.0920 Redlands for Regions MDC/PIFT project that supported establishment trials with six North Queensland producers. P.PSH. 0920 was undertaken in collaboration with DAF and various agronomy extension services.

The PDS 1909 'Sustainable Long Term Leucaena Grass Production in Northern Australia' project commenced in August 2019 to work with four producers to determine and showcase best practice establishment strategies and variety options for Northern Territory conditions. This project is being undertaken in collaboration with the Northern Territory Department of Primary Industries and Resources, the Northern Territory Department of Environment and Natural Resources and the Northern Territory Pastoral Lands Board. Liaison with industry representative organisations including the Northern Territory Cattlemen's Association (NTCA), Northern Territory Farmers (NTFarmers), agronomy and producer best practice groups continues to be a focus of TLN in promoting the use of leucaena across northern Australia to support high value beef production.

The Western Australian Pastoral Lands Board (PLB) identified the potential opportunity to instigate environmental risk mitigation strategies to allow the establishment of leucaena on pastoral lease land and The Leucaena Network is working with DPIRD to determine the feasibility of this.

3.5 Promotion of Adoption of Leucaena

3.5.1 International Leucaena Conference (ILC)

The Leucaena Network collaborated with the University of Queensland organizers of the International Leucaena Conference (ILC) held in Brisbane in November 2018. TLN provided organizational assistance, promotion and the hosting of presentations, when available, at www.leucaena.net. In addition, TLN was a guest speaker and presented a poster paper on the Leucaena Code of Practice

3.5.2 Beef 2018

The Leucaena Network hosted a stand at Beef 2018 held in Rockhampton, Central Queensland which was manned by Executive Members over the five day event.

In addition, one of the Network's Executive members presented at the Westpac Beef Property Tours and the Network secured two speaker positions on the Speakers Circuit.

3.5.3 Northern Beef Research Update Conference (NBRUC)

The Network presented a poster paper on the MDC/PIFT P.PSH.0920 Redlands for the Regions MDC/PIFT project at NABRUC held in Brisbane in August 2019. In addition, the Network was a guest speaker on improved pastures at one of the Conference breakout sessions, which was very well received.

3.6 Conduct The Leucaena Network AGM that aligns with industry Conferences

The 2018 AGM was held at Beef 2018 in in Rockhampton.

The 2019 AGM was held following the Wandoan PDS Field Day in June 2019.

The 2020 AGM will be held in conjunction with the Network's TLN 2020 New Territories – New Vision to be held in Townsville in April 2020.

3.7 Coordinate Industry Involvement with Researchers and Extension Officers

3.7.1 Leucaena Scoping

The Leucaena Network has provided assistance to Rural Consulting Group (RCG) as part of the 'Leucaena Grass Pastures and Target Markets for Adoption' G.BFB.1809 scoping report. This has included review and consultation regarding the most appropriate way for RCG to approach regional Councils about the potential environmental issues of leucaena.

3.7.2 Leucaena Only For Grazing

The Leucaena Only for Grazing initiative providing leucaena education to and collaboration with Queensland regional and rural local governments, incorporated a field day to demonstrate best practice at a Central Queensland leucaena producer's property. This field day and the Leucaena Only for Grazing workshop included presentations on leucaena establishment and maintenance by QDAF.

3.7.3 PDS 1602 Improving the Productivity of Leucaena in Grass Pastures with Fertiliser

The Leucaena Network continued its collaboration with QDAF to provide extension services for the demonstration site as part of the PDS 1602 Improving the Productivity of Leucaena in Grass Pastures with Fertiliser project in the Wandoan Taroom region.

3.7.4 MDC/PIFT P.PSH.092 Redlands for Regions

QDAF was integral in providing the technical advice and further extension assistance to the six north Queensland trial producers as part of the MDC/PIFT P.PSH 092 Redland for Regions establishment trials. QDAF also had a key role in supporting the associated producer visits and field days.

3.7.5 L.PDS.1909 Sustainable Long Term Leucaena Grass Production in Northern Australia

L.PDS.1909 Sustainable Long Term Leucaena Grass Production in Northern Australia is a collaborative project, facilitated by The Leucaena Network with the NT DPIR providing extension

services to the four producers and assistance with field day and workshop organization. NT based producer organisations including NTFarmers and NTCA are also invested in the project.

3.8 Distribution of Quality Communications

3.8.1 The Leucaena Network Website

The Leucaena Network's website www.leucaena.net underwent a significant refurbishment in early 2018 and is now subject to continual review and updates.

3.8.2 The Leucaena Network and Social Media

The Leucaena Network is building a social media presence through a The Leucaena Network Facebook supplemented with a Members Only closed group page. In addition, a closed page was established for the Redlands for Regions producers.

3.8.3 Collaborative Organisations

The Network liaises with complementary organisations including MLA, state and territory governments and natural resource organisations to promote services, activities and relevant information for the beef sector.

3.8.4 Media

The Leucaena Network produces quality news releases regarding activities for relevant media outlets including print and radio.

3.8.5 Fact Sheets

A series of eight simple-to-read Fact Sheets for distribution at Beef 2018, outlining the key requirements for leucaena establishment and management.

3.9 Develop an extension training package, host webinar and produce video clips that promote and support a productive beef industry based on leucaena plantations

3.9.1 Leucaena Edge

The Leucaena Network has collaborated with Queensland Department of Agriculture and Fisheries to provide the beef extension services required for the PIFT/MDC P.PSH.0920 'Redlands for Regions'. The collaboration has also facilitated the development of a one-day workshop 'Leucaena 101' initially delivered to the six Redlands for Regions establishment trial producers and one Mackay based agronomy business.

The Network will develop a stand-alone 'Introduction to Leucaena' workshop to be presented by The Leucaena Network or relevant persons and delivered at future Introduction to Leucaena field days and workshops aimed at capacity building producers, public and private extension services across northern Australia.

3.9.2 Webinars

The Leucaena Network collaborated with Future Beef to present two webinars – ‘Leucaena 101’ in July 2019 and ‘Leucaena Maintenance’ in November 2019. These webinars were presented by QDAF’s Stuart Buck.

3.9.3 You Tube Videos

As part of PDS.1602 The Leucaena Network has produced an eight minute overview of the project’s activities and outcomes and a short video on soil testing. These videos are available at www.leucaena.net and on The Leucaena Network’s Facebook page.

3.9.4 Leucaena Fact Sheets

A series of eight simple-to-read Fact Sheets for distribution at Beef 2018, outlining the key requirements for leucaena establishment and management.

4 Results

4.1 Promotion of the Best Management Code of Practice to Stakeholders

4.1.1 Queensland Councils

The Leucaena Network hosted a Council Forum ‘Leucaena – Only for Grazing’ for interested Queensland Councils in February 2019 followed by a Field Day at Paul and Claire Harris’ Sunland Cattle Company ‘Ten Mile’ at Duaringa.

Thirty-five Queensland local governments in current or potential leucaena areas were invited to attend as were Queensland natural resource groups and environmental agencies.

Five Queensland Councils were represented at the Forum – Central Highlands Regional Council, Gladstone Regional Council, Rockhampton Regional Council, Livingstone Shire Council and Bundaberg Regional Council.

The workshop commenced with an overview of the role of The Leucaena Network and the current Leucaena Code of Practice followed by a ‘Leucaena 101’ presentation by QDAF incorporating the environmental and economic benefits of leucaena. MLA provided information on the role of MLA in the red meat industry and their investment into the leucaena industry. The forum was attended by a selection of best practice leucaena producers who participated in a facilitated discussion on environmental concerns and the efficacy of the current Code of Practice with Council representatives.



Photo 1 : Brett Keys – Central Highlands RC, Rob Teakle – Gladstone RC, John Wyland – Livingstone SC, Shaun Simon – Gladstone RC, Karen Moody – Rockhampton RC



**Photo 2: Laurie Peake –
'Cherwondah' Wandoan, Helen
Swanson – Bundaberg RC, Bethlea
Bell – Fitzroy Basin Association**

An outcome of the facilitated discussions is an action plan for The Leucaena Network to approach individual Councils to develop strategies for common leucaena (*Leucaena leucocephala*) control and to ensure each Council is aware of the self regulation initiatives of the leucaena industry.

Ongoing liaison with local government in leucaena producing areas will continue throughout 2020 and 2021.

A public field day hosted at 'Ten Mile' followed the workshop, attended by Council representatives and interested current and potential leucaena producers. The field day provided key on-property exposure to the benefits of leucaena and best practice management strategies. Ten field day attendees then proceeded to 'Fairfield' at Calliope where Redlands seed producer Bruce Mayne provided an insight into the seed production operation.



**Photo 3: Paul Harris (Sunland)
and Peter Larsen (Leucseeds)**



Photo 4: Attendees in the paddock at the 'Ten Mile' field day



Photo 5: Hugh Rea – ‘Rubina’, Dingo, Bruce Mayne – Mayne Seeds, Brett Blennerhassett – ‘Goshen Station’ Mt Garnet at Mayne Seeds



Photo 6: Producers and industry representatives at Mayne Seeds

The field day highlighted the necessity of providing on-property access for local, State and Federal government representatives to the benefits of leucaena for the environment and the viability of local regional centres.

The invitation to attend the ‘Ten Mile’ Field Day is attached in Appendix One.

4.1.2 Review of the current Leucaena Code of Practice

In addition to a review of the Code of Practice as part of the Council Forum, an online survey of the Network’s membership, environmental agencies and community groups was undertaken to determine the efficacy of the current Leucaena Code of Practice.

The results of this survey were:

Respondents:

Leucaena Producers	52%
Future leucaena producers	21%
Extension personnel	18%
Service providers	9%

Including Landcare Coordinator; Weed Officer; Natural Resource Management Officer;

Bushcare member; Conservation Land Manager; Rehabilitation ecologist; Conservation group member.

Are you aware of the Leucaena Code of Practice?

Yes	95%
No	5%

How did you find out about the Leucaena Code of Practice?

Unsure – I was always aware	20%
From the seed producer	0%
Received a copy from The Leucaena Network	53%
From the website www.leucaena.net	27%

Does the current Code meet the industry and community needs?

Yes	85%
No	15%

Comments:

- *If it is adhered and acted upon, which in 90% of cases it is not*
- *It's clear from the large and increasingly prevalent infestations of Leucaena in Central Queensland that it is not containable or controllable. This is hardly surprising given that has all the hallmarks of a weed - it's tough and sets huge amounts of viable seed. Seed is spread by water and by birds. If there were large plantings in FNQ prior to the last flood the whole of North Qld would be infested. You can't put the rabbit back in the hat. PLEASE don't make the same mistake up north that we have made here.*
- *I think the current code covers most issues fully. It is people/councils etc that are not adhering to the code or doing anything to manage "weed leucaena" where we will face problems. Relatively speaking as far as weeds go leucaena is easy to control!*
- *Our concerns lie with: properties that are being ill-managed, new owners of properties who don't know about the Code, properties that are unattended or have owners that are time-poor.*
- *It provides the framework but many producers either don't understand what qualitative words mean e.g. "buffer strip of strong grass pasture" or don't see this as a priority.*
- *The guidance is not enforceable*
- *Well-managed leucaena that doesn't escape is very useful for producers. Rogue leucaena is a major problem for natural ecosystems and a high cost to organisations and landholders attempting to control it. A scaled minimum buffer to drainage lines is needed related to the size of the drainage line (as mapped for VMA in Qld). Sterile leucaena only should be planted in northern Australia and a bigger effort should be made to make it available. The Code of Practice needs incentives and penalties to ensure monitoring and control by growers.*
- *Lot of leucaena along roads next to paddocks of leucaena.*
- *Outlines all the responsibilities of the producers as well as asking them to go above and beyond current national requirements.*
- *Having a Code of Practice is all good and well but many producers and landholders are blissfully ignorant or simply ignoring it. This has resulted in leucaena becoming ENEMY No. 1 for many throughout the region as rogue leucaena, having escaped from the confines of planted paddocks, has infiltrated roadsides, riparian zones, gardens (!), other paddocks and the banks of wetlands.*

What are the two key points from the Code that industry must adopt?

(some respondents chose more than two)

Buffer zones	48%
Grazing / cutting to minimize seed set	60%
Continuous monitoring of boundaries/water courses	73%
Chemically managing escapes	43%

What other inclusions in the Code could assist to mitigate environmental or other issues?

(more than one inclusion indicated per respondent)

Voluntary BMP program	42%
Compulsory attendance at a Leucaena 101 workshop	39%
Other	52%

- *Legislative backing. State wide declaration of leucaena and permit for growth on property. No compliance of COP will mean withdrawal of permit*
- *Please, we must learn our lessons and stop making the same mistakes. The damage caused by the introduction of these weeds to the environment and on public facilities like roads where the costs are borne by other citizens is unacceptable as justification for higher profits for a minority group. Frankly, current beneficiaries should be asked to pay a levy to help pay for the damage already caused in our regions.*
- *As a landholder, it is difficult to know what the "industry" requires. The councils in coastal Nth Qld seem to be a bit sensitive about people growing leucaena, and it is a declared weed in my shire, however as far as I can ascertain, it is legal to grow it, and the council does not seem to be actively trying to control it in road areas or waterways etc.*
- *It is the responsibility of each producer to destroy any escaped leucaena as soon as possible after detection and monitor the area where it was growing for any more seedlings*
- *Possibly making the purchase of seed without first completing a short declaration to abide by the code could help*
- *Licence to purchase/ sell the plant and seeds.*
- *Together with the Code of Practice, R & D ongoing through research programs, ag. extension and producer groups.*
- *Extension officers visiting producers and together assessing their leucaena paddocks*
- *To purchase seed training is required as well as fines applied to producers not complying to code of practice.*
- *Signed agreement to be lodged with local council*
- *Needs more support to encourage and enforce*

Other comments:

- *Make it legislative.*
- *In my opinion I think it would be beneficial for people thinking of planting leucaena to attend a field day or visit properties where they can see first hand what leucaena looks like when it is managed well and not managed well. People need to fully understand the implications and responsibilities in planting it especially on a large scale and without adequate fencing to enable good management.*

- *If there is a problem, I suspect it is more about people not complying with the code rather than the code itself.*
- *Destroy any leucaena growing anywhere except where planted. Councils are erratic in their attempts to destroy leucaena and do not usually succeed. Plan and implement and go over and over the area for many years to eliminate seedlings.*
- *Here on the Coast of Central Queensland we have an ENORMOUS and uncontrollable issue with leucaena, in creeks (where chemical management is risky), on private land (with owners who don't know or care about it), on public land (like beaches when clearing of Leucaena sets a precedent for home owners to go ahead and clear native vegetation holding dunes together). We think this plant is a weed like many others.*
- *Maybe more info on the height control options. ie HD slashing / mulching, grazing management.*
- *Information on spacing between rows and requirements of animals for dry matter as well as protein for greatest production- many producers believe that the cattle are better with just leucaena rather than a balance of leucaena and dry matter.*
- *Levy costs to plant, thus funding the management of escaped plants.*
- *Register Grasland for escapes*
- *The eradication of leucaena on the sides of roadways*
- *Seed producers be asked to provide code with every batch of seed sold.*
- *Compliance*
- *Encourage graziers adopting leucaena for the first time to attend a training course or webinar explaining there obligations under the COP.*
- *Only that a strengthening of the control of escaped leucaena should not be avoided by landholders. This doesn't include feral leucaena growing in roadways currently of course*
- *To engage with wa state government the way forward for pastoralist to grow on pastoral leases.*
- *Sterile leucaena only should be planted*
- *I obviously see the benefit it having well-managed leucaena on our property but also acutely understand the disadvantages of this plant if it is allowed to escape and grow where it doesn't belong. Have you thought about putting a minimum on how close leucaena is to a waterway? e.g. 20m Landholders may benefit from such guidance when planning their plantings. Also, whatever happened to sterile leucaena? Shouldn't that be the number one priority for new plantings? It's a no-brainer really after the damage this plant has caused in the south.*

The results of the survey will be considered in conjunction with Council feedback in the ongoing review of the Code of Practice content and delivery. It is expected that due to differing State and Territory environmental regulations, a bespoke Leucaena Code of Practice may developed for each individual State and Territory. The standard Leucaena Code of Practice, developed primarily for Queensland conditions and requirements will apply in all other States except where an individual Code of Practice has been developed and approved.

4.1.3 Northern Territory Leucaena Code of Practice

In response to concerns of the Northern Territory Department of Environment and Natural Resources (DENR) and the Northern Territory Pastoral Lands Board (NTPLB), The Leucaena Network has liaised on an ongoing basis with DENR and the NTPLB to identify issues to be addressed in the development of a NT Code of Practice. A NT government leucaena committee was established incorporating representatives from DENR, Department of Lands and Resource Management (DELRM), NT Weed Risk Committee, PLB and DPIR to determine the potential requirements of a NT Code. Concurrently, a consultative group of producers, extension providers and industry

representative organizations – Northern Territory Farmers (NT Farmers) and Northern Territory Cattlemen’s Association (NTCA) was convened to provide risk mitigation strategies to address these concerns and develop a draft NT Leucaena Code of Practice.

Extensive liaison between DENR and the Network and the producer consultative group has resulted in a formal proposal of a draft NT Code of Practice submitted to the NT Pastoral Lands Board for endorsement. The Pastoral Lands Board considered this Code at their Board meetings held in October and December 2019 and will advise of the outcome of these deliberations when available.

4.1.4 Western Australian Leucaena Code of Practice

The Western Australian Department of Primary Industries and Regional Development (DPIRD) is one of the two research organisations working towards the development of a sterile leucaena variety. Concurrent to this research, the Department has commenced investigations into the activities that would be required to enable responsible establishment of leucaena on pastoral lands in Western Australia. This initiative is in collaboration with the WA Pastoral Lands Board and if it proceeds, The Leucaena Network will work collaboratively with DPIRD, the WA PLB and producer representatives to develop a WA Leucaena Code of Practice. With the introduction of the Northern Beef Development Project focusing on the Kimberley and Pilbara regions of Western Australia, it is anticipated that leucaena will be considered as a viable opportunity for increasing the productivity and capacity of Western Australian grazing enterprises.

4.1.5 Signage

As part of the P.PSH.0920 Redlands for Regions project, The Leucaena Network and QDAF developed signage promoting individual’s producer’s compliance with the Leucaena Code of Practice. These signs were provided to trial producers as part of P.PSH.0920.

All producers who participate in research or demonstration sites organized by The Leucaena Network will be provided with equivalent signage.

Network members were surveyed to determine their propensity for signage display indicating compliance with the Code of Practice. The response was not sufficient to warrant signage production.

Alternative options of content and costings for signage are currently being investigated for provision to producers at cost.



Photo 7: Alison Larard and Craig Lemin (DAF Mareeba) with signage at DAF’s leucaena trial at ‘Whitewater Station’

Photo 8: Nebo graziers and Redlands trial producers Raeleen and David Wright with the Leucaena Code of Practice signage



4.1.6 Best Management Practice Program

Following recognition that a more robust delivery of the Leucaena Code of Practice was required, an approach was made to Queensland AgForce to explore the opportunities to include a leucaena focused module in Grazing BMP. Agforce advised that a leucaena tailored module would not be required. Following this and the subsequent removal of the Grazing BMP program, the Network is exploring alternative methods of delivery of an easy to use BMP Program that will ensure all leucaena producers are aware of the requirements of the Code of Practice. All seed producers are encouraged to include the Code of Practice with each seed order distribution.

It is anticipated that as other States and Territories require more robust delivery of the Code of Practice, The Network will be instrumental in the development, in collaboration with industry and relevant government departments, of a simple on-line certification process.

4.2 Support Property Productivity The Training and Field Days

4.2.1 Producer Training

An introduction to leucaena 'Leucaena 101' workshop was presented to participants in the MDC/PIFT P.PSH 0920 Redlands for Regions project and was held at DAF Walkamin on Tuesday 5th June 2018. This was facilitated by DAF Extension Officer Stuart Buck. The workshop was attended by the five confirmed producers. At the invitation of The Leucaena Network, one producer also brought their agronomist to the workshop with a view to capacity building leucaena agronomy skills in the developing leucaena suitable areas.

A survey of all attendees indicated that all respondents found the workshop provided a very high level of assistance to their business and in the establishment of their trial sites. Stuart, as the presenter, was highly regarded and the content was deemed to be sufficient for the producer's needs. The attendees noted the opportunity for peer consultation and ample time for questions and addressing individual issues.

One existing producer remarked that he was amazed he was able to get any of his previous plantings to germinate and believes that thanks to the trial, his future plantings will be much more effective.

Feedback included: 'An informative workshop that would be beneficial to anyone considering planting leucaena.'



Photo 9: Leucaena 101 at DAF Walkamin for the Redlands for Regions project

A second leucaena 101 workshop was presented to the participants in the 'Leucaena – Only for Grazing' council forum.

A third leucaena 101 workshop was presented in the Northern Territory, at the Douglas Daly Research Farm in March 2019 as a precursor to the commencement of the L.PDS.1909 Sustainable Long Term Leucaena Grass Production in Northern Australia project. This workshop had an extended industry focus, including additional agronomy and research information and was open to PDS producers, extension and agronomy services and other potential producers. The focus of the workshop was to capacity build leucaena service provision in the Northern Territory and to ensure PDS producers were equipped with the necessary information in readiness for trial commencement. This workshop was also undertaken by Stuart Buck of QDAF as an interactive forum to tailor the accepted leucaena establishment and management best practice strategies for Northern Territory conditions.



Photo 10 and 11: NT PDS Leucaena 101 workshop, Douglas Daly Research Farm March 2019

Whilst not an intensive workshop, an overview of leucaena establishment and management was included in three The Leucaena Network instigated field days.

The Leucaena Network and DAF presented an introduction to leucaena to attendees at the 'Woonon' Sarina field day as part of the P.PSH.0920 Redlands for Regions project. These basics

included establishment, management and the Code of Practice as well as input from local environmental agencies.



Photo 12: Attendees at The Leap Hall for an introduction to leucaena prior to the 'Woonon' field visit

A workshop, coordinated with the NT DPIR on Northern Territory Pastures including leucaena and other legumes, was held as a precursor to the field visit to the irrigated leucaena as part of the L.PDS.1909 Sustainable Long Term Leucaena Grass Production in Northern Australia in October 2019. The workshop included a presentation by QDAF's Craig Lemin on basic leucaena establishment and the live weight gain results from the ongoing MLA funded Pinnerendi grazing trials as well as an overview of MLA activities and The Leucaena Code of Practice.



Photo 13: DPIR's Ian Biggs and Peter Shotton and DAF's Craig Lemin proved an overview of leucaena at the NT workshop October 2019

A range of speakers, including existing leucaena producers were part of the lineup for an introduction to leucaena session as part of the Starbright Field Day held in November 2019. These speakers included DAF presentations on leucaena establishment and management and financial implications; established producers trialing alternative leucaena plantings; Redlands seed producers and the Network presenting on the Code of Practice. Feedback from the workshop and field day was very positive.



**Photo 14 and
15: Darcy
O'Brien of 'The
Brook' shared
his experiences
establishing
leucaena under
trees whilst
Bruce Mayne
shares his
results with
leucaena on
banks**



Following accelerated interest in leucaena, it is anticipated that the Network will extend the workshops from potential producers to capacity building extension and agronomy services within emerging leucaena areas; and the promotion of new developments in the leucaena industry.

The Leucaena Network is in the process of developing a stand-alone 'Introduction to Leucaena' workshop for presentation by a qualified Network representative or extension personnel. This is an ongoing initiative.

4.2.2 Field Days

Six field days, including the previously mentioned 'Ten Mile' Field Day have been hosted by The Leucaena Network throughout Central Queensland and Northern Australia with several additional project only producer visits to trial sites.

4.2.2.1 Redlands for Regions 'Quincan Springs' Peeramon

The 'Quincan Springs' Redlands trial site hosted trial producers four times with the final visit undertaken as a public field day. The Redlands 'producer only' visits enabled all trial producers and extension staff to view, first-hand the successful establishment of the trial plot, the machinery used in the process and understand the weed issues caused by very fertile soil and optimal growing conditions. The decision to undertake the initial site visits as a closed group was made by the trial producers. As confidence in the establishment trials grew, the propensity to host a public field day improved. The final public field day was held in April 2019 and was attended by more than 30 graziers, producers and industry representatives. 'Quincan Springs' also hosted two informal visits by interested producers and industry during the Redlands variety launch at the end of May 2019.

The promotion for the Quincan Springs April 2019 Field Day is attached in Appendix Two.



**Photo 16:
'Quincan
Springs'
Redlands
producer visit
March 2018**



Photo 17 and 18: June 2018 Redlands producer visit to 'Quincan Springs'



**Photo 19: 'Quincan Springs' Pearamon's
Colleen and Peter McLucas at the 'Quincan
Springs' Field Day April 2019**



**Photo 20: 'Quincan Springs' Field Day
April 2019**

‘Goshen Station’ has hosted two public field days over the past fourteen months. The first visit was as part of the joint initiative ‘Improving Beef Production in the Northern Dry Tropics’ workshop in June 2018.

The Northern Dry Tropics workshop was attended by more than 30 producers and industry representatives. Attendees were provided with an overview of the leucaena trials and the machinery utilised throughout the trials including a Norseman planter. Vigorous discussions on the benefits of GPS technology and precision calibration of machinery for optimal seed placement and depth ensued. In addition to the leucaena component, attendees were also provided with information on the Heifer Genomics Project and the Northern Grazing Demonstration project; a generic beef industry update and a Queensland Globe demonstration.

The second field day was held at ‘Goshen Station’ in April 2019 with an attendance of more than twenty producers and industry representatives. The field day included a site visit to ‘Goshen Station’s’ Redlands leucaena establishment trial and complementary plantings and an introduction to drone and satellite based pasture management initiatives from Hitachi Consulting.

“Goshen Station” also hosted an informal producer visit to coincide with the Redlands variety launch in May 2019.



Photo 21 and 22: ‘Goshen Station’ field day April 2019



Photo 23: Peter McLucas – Quincan Springs, Bruce Mayne – Mayne Seeds, Colleen McLucas – Quincan Springs at ‘Goshen Station’ field day, May 2019



Photo 24: Redlands trial producer Scott Davis ‘Woonon’ Sarina with fellow producer Brett Blennerhassett at ‘Goshen Station’ Mt Garnet, May 2019

The flyer promoting the ‘Goshen Station’ May 2019 Field Day is attached in Appendix Three.

‘Four Mile’ Woodstock and ‘Swans Lagoon’ Millaroo

Due to establishment issues of the Redlands trial, visits to both ‘Four Mile’ and ‘Swans Lagoon’ were restricted to the Redlands trial producers and extension personnel. The field trip commenced with a visit to the CSIRO Lansdown Research Station where the Station’s leucaena stands and trials were viewed and discussed. An overview of the weight gain and palatability trials and the methane trials being undertaken on-site was also provided.



Photo 25 and 26: Redlands producers and extension officers at ‘Lansdown CSIRO site viewing the fodder trials and established leucaena.

‘Four Mile’ had significant establishment issues so it was an excellent opportunity for all producers and extension staff to visit a trial location of very different soil and rainfall. The visit also provided the producer with on-farm feedback from the many extension personnel who attended.



Photo 27: Redlands Trial producers and extension officers at 'Four Mile' Woodstock producer visit July 2018



Photo 28: QDAF Mareeba's Bernie English with Rob Ahern 'Swans Lagoon' Millaroo and Gerard Lyons 'Four Mile' Woodstock at the 'Four Mile' producer visit July 2018

'Swans Lagoon' had also experienced establishment issues resulting in the planting of a third row in some parts of the trial. Again, it was opportunistic for the other trial producers and extension personnel to view and discuss the solutions on-site.



Photo 29: Producers view the Redlands establishment at 'Swans Lagoon' Millaroo at the producer visit July 2018



Photo 30: Nigel Tomkins – MLA with Gerard Lyons 'Four Mile' Woodstock inspect the Swans Lagoon trial establishment

'Woonon Grazing' Sarina and 'Mount Spencer' Nebo

Due to unfavourable seasonal conditions, the Redlands establishment trials in the Mackay region were only able to commence in March 2019. A workshop and field day to provide an overview of leucaena establishment and to view the trial site at 'Woonon' Sarina was conducted on 30th July 2019.

Details of the workshop and the 'Woonon' field day are attached in Appendix Four.



Photo 31 and 32: Woonon Field Day July 2019

'Mount Spencer' Nebo has had significant establishment issues due to drought, fire, flooding and frost so was unable to host a field day however this will be considered in 2020.

4.2.2.2 Wandoan PDS

The Leucaena Network and QDAF hosted a Legume Field Day, held at Laurie and Gwen Peake's property 'Cherwondah', Wandoan on Friday 14th June 2019. More than 40 people attended, including four of the PDS trial producers.

The field day comprised site visits to the leucaena trials, desmanthus and other legumes and viewing the DAF legume trials (co-funded by MLA) being undertaken on 'Cherwondah'. Presentations were made by the property owner with an overview of the activities or part of the project; DAF on the pasture assessment and live weight gain data; the Network on the Code of Practice; local resource management group Fitzroy Basin Association; and ANZ. ANZ also catered the barbecue lunch for attendees.



**Photo 33: Laurie Peake
'Cherwondah' Wandoan
presents an overview of the
Fertiliser trials at the
Wandoan Field Day**



**Photo 34: Producers listen to the series of speakers at the
Wandoan Field Day June 2019**

A flyer promoting the Wandoan field day may be viewed in Appendix Five.

A survey of the field day indicated that the majority of attendees were existing producers of both leucaena and alternative legumes and most were intending to establish increased plantings. All indicated that the field day was of value to their business and their attendance was time well invested. Most indicated that a highlight was the viewing the in-paddock leucaena and legume trials as well as the information provided by host and trial producer and DAF representative Stuart Buck on the trial activities and outcomes including the live weight gains. An additional benefit was the opportunity to network with fellow or experienced leucaena producers and graziers. A need for more regular field days within the region was identified with a focus on machinery demonstrations.



Photo 35: Stuart Buck - QDAF presents in the paddock on legumes and leucaena at the Wandoan Field Day



Photo 36: Producers view the leucaena fertiliser trial sites at the Wandoan Field Day

4.2.2.3 'Bindaroo Pastures' Douglas Daly NT

As part of the PDS.1909 Sustainable Long Term Leucaena Grass Production in Northern Australia, the initial field day/site visit was hosted by Chris and Amanda Howie at 'Bindaroo Pastures' in the Douglas Daly region of the Northern Territory in October 2019. Irrigated leucaena was planted as a trial, utilising trickle tape in late 2018. Some concern with seed quality and storage resulted in establishment issues so a replant was undertaken in early 2019 with good, but slow establishment. Since that time the leucaena has survived significant weed pressure and fungal issues as well as the dry season. In September 2019, a fire went through some of the property including 85% of the leucaena. The field day provided the producer with the opportunity to have the trial viewed by the 15 fellow producers and extension personnel and to receive qualified advice on activities required. The consensus was to 'wait and see' how seasonal rain would affect the burnt leucaena. To date, more than 40% of the burnt leucaena has recovered to exhibit new growth.



Photo 37: Producers in the paddock viewing the irrigated leucaena trial including fire damage at 'Bindaroo Pastures' Douglas Daly

A flyer promoting the workshop and field visit is available in Appendix Six.

4.2.2.4 *'Starbright' Charters Towers*

The Leucaena Network and DAF hosted a field day at Carol Ross's 'Starbright' property located near Charters Towers in North Queensland in November 2019. More than 40 producers and industry personnel attended the day which commenced with a field walk where manager Ian Frohloff shared his experiences in establishing the leucaena under centre pivot including the highlights, the issues and management strategies. Speakers for the workshop component of the day included DAF on establishment, management and the financial benefits of leucaena, Bruce Mayne of Mayne Seeds, Peter Larsen of Leucseeds, grazier Darcy O'Brien speaking of his experiences planting leucaena in uncleared land, MLA, TLN on the Code of Practice and ANZ regarding agricultural enterprise sustainability and the global beef outlook.



Photo 38: Ian Frohloff of 'Starbright Station' hosted a field walk to showcase Starbright's irrigated leucaena



Photo 39: Starbright Field Day attendees viewing the leucaena irrigated under centre pivot

Details of the 'Starbright Station' field day are attached in Appendix Seven.

4.2.3 Industry Field Days and Attendance

4.2.3.1 *Improving Beef Production in the Northern Dry Tropics*

The Leucaena Network was pleased to be invited to be a participant and present at the Improving Beef Production in the Northern Dry Tropics workshop held at Brett and Theresa Blennerhassett's Goshen Station, Mt Garnet on Wednesday 6th June 2018. The workshop was attended by approximately 30 people.

Details of this workshop and field day are attached in Appendix Eight.



**Photo 40: Northern Dry Tropics
Field Day 'Goshen Station' Mt
Garnet**

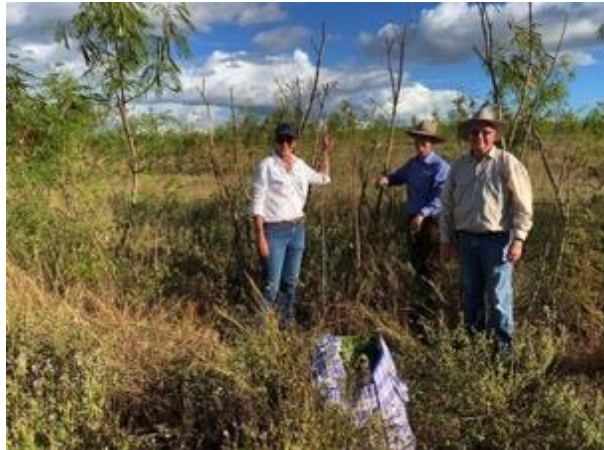
4.2.3.2 Pinnarendi Field Day and Redlands Launch

As part of the DAF organized Pinnarendi Field Day and MLA Redlands Leucaena variety launch in May 2019, The Leucaena Network assisted with promotion of the event, contribution to the program and presentation on the Leucaena Code of Practice. More than 80 attended the launch.

Promotion of the Redlands launch is attached in Appendix Nine.



**Photo 41: Bron Christensen, The Leucaena
Network presenting at the Pinnarendi Field
Day May 2019**



**Photo 42: Bron Christensen - TLN, Nigel
Tomkins - MLA and Louis Grey - Hitachi at
Pinnarendi**

4.2.3.3 Northern Territory Field Days

The Leucaena Network hosted a stand at the NT Agricultural Field Days held at Katherine and Douglas Daly Research Station in March 2019. In addition, at the request of the NT DPIR, the Network presented on leucaena establishment and maintenance and the Code of Practice as part of the Douglas Daly Field Day.

Full details of the two Northern Territory Field days and topics covered are attached in Appendix Ten.



Photo 43 and 44: QDAF's Stuart Buck and TLN'S Bron Christensen presenting at the NT Field Days March 2019

4.2.3.4 Industry Event Attendance

The Leucaena Network attended MLA's Red Meat 2018; the 2018 Northern Territory Cattlemen's Association Conference; the Northern Australian Beef Research Update Conference; and the International Leucaena Conference.

Attendance at these events provided key opportunities to liaise with graziers and establish connections with both existing and potential producers, industry and government representatives and service providers.

4.2.3.5 Silvopastoral Delegation to South America

The Leucaena Network led a delegation of seven Network members to Colombia and Paraguay to investigate silvopastoral systems and land restoration utilising leucaena. This eighteen day tour included eight days in Colombia hosted by two members of the Centre for Research into Sustainable Agricultural Systems (CIPAV) who had attended the International Leucaena Conference (ILC) in Brisbane in November 2018. CIPAV provided unprecedented access to properties in the north of Colombia where large scale and long term land degradation is being improved with a system of eucalyptus trees, leucaena and grass pastures. In the south western areas of Colombia, the delegates visited more affluent properties where silvopastoral systems are well established and enabling the enterprises to expand, diversify and value add to their dairy, beef and sugar production. The delegation was also able to visit CIAT – The International Centre for Tropical Agriculture where alternative varieties of pasture grasses and leucaena are being assessed for palatability and weight gain.

The delegation proceeded to Paraguay where, accompanied by one of the CIPAV members who continued to provide organisation and translation assistance, they participated in a two day tour to the El Chaco region in Western Paraguay where the climate was more akin to that of the drier areas of Australia. Following this tour, the delegates attended the three day Tenth Global Silvopastoral System Congress held in Asuncion.

The delegates remain in communication and all are further investigating methods of implementing silvopastoral systems within their own properties, taking into account the climate and seasonal variations.

The tour was self-funded by delegates with the assistance of a producer travel grant provided by the AW Howard Memorial Trust.

The Leucaena Network believes that further investigation into the potential for silvopastoral systems in Australia is warranted and this will be one of the Network's future aims.



Photo 45: Silvopastoral System in the North of Colombia September 2019



Photo 46: The Network Delegation with CIPAV representatives and farm manager in Colombia

4.3 Support and Provide Industry Input to Relevant Steering Committees

4.3.1 Sterile Leucaena

The Leucaena Network has attended two meetings as part of the Sterile Leucaena steering committee – Perth in November 2017 and throughout Western Australia in February 2019.



Photo 47: Dr Charles - University of Hawaii and Robin Cruikshank, 'Braeside' Thangool at DPIRD Perth November 2017



Photo 48: Sam Crouch DPIRD, Geoff Moore DPIRD, Craig Forsyth, Mingineu WA at the Sterile Variety trial site, Broome WA February 2019

Representatives of DPIRD are collaborating with The Leucaena Network to work with the Pastoral Lands Board to develop strategies to potentially enable the introduction of leucaena to WA pastoral lands prior to the development of the sterile leucaena variety.

In addition, the Network continues to work closely, on an individual basis with sterile leucaena development teams at both the University of Queensland (UQ) and the Western Australian Department of Primary Industries and Regional Development (DPIRD). A representative from UQ presented on behalf of The Leucaena Network at Beef 2018 on the progress of the sterile leucaena project and a representative addressed the Network Executive in February 2018.

The Leucaena Network was invited to be a guest speaker at University of Queensland's Sterile Leucaena Industry workshop held in October 2019. The Network also assisted through promotion of the event and distribution of available papers to members.

4.3.2 Productivity Assessment of Redlands

The Leucaena Network facilitated the MLA Donor Company / Producer Innovation Fastrack (PIFT) P.PPSH.0920 Redlands for Regions project where six established North Queensland graziers undertook establishment trials for the Redlands variety. This project commenced in November 2017 and finished in April 2019.

The Redlands variety launch was hosted by DAF at Pinnarendi Station near Mount Surprise in North Queensland in May 2019 as part of the leucaena variety comparison live weight gain trial field day. The Leucaena Network assisted with the launch through promotion, contribution to the program and presentation on the Leucaena Code of Practice.

4.3.3 Carbon Neutral 2030

The Leucaena Network has liaised with the Federal Department of Environment to investigate any potential for leucaena producers to capitalize on the benefits of the Australian Carbon Credits offered by the Clean Energy Regulator. Following this liaison it has been determined that the program as it exists is unsuitable for smaller producers (less than 5000AE) however the Department of Energy has recognized this limited uptake and the Network is pleased to be involved in the steering committee for the assessment and development of a more workable program.

4.4 Collaborate with industry and service providers across North Queensland, Northern Territory and Western Australia

4.4.1 Field Activities

The Leucaena Network has completed the P.PHS.0920 Redlands for Regions MDC/PIFT project to undertake establishment trials with six North Queensland producers was undertaken in collaboration with DAF and various agronomy extension services.

The NT PDS 'Sustainable Long Term Leucaena Grass Production in Northern Australia' commenced in June 2019 to work with four producers to determine and showcase best practice establishment strategies and variety options for Northern Territory conditions. This project is being undertaken in collaboration with the Northern Territory Department of Primary Industries and Resources, the Northern Territory Department of Environment and Natural Resources and the Northern Territory

Pastoral Lands Board. Liaison with NT producer groups including the NTCA and NTFarmers, and agronomy and producer best practice groups has also been ongoing.

The Western Australian Pastoral Lands Board (PLB) identified the potential opportunity to instigate environmental risk mitigation strategies to allow the establishment of leucaena on pastoral lease land. The Leucaena Network will continue to work with DPIRD to determine if this is feasible.

4.5 Promotion of Adoption of Leucaena

4.5.1 International Leucaena Conference (ILC)

The Leucaena Network collaborated with the organizers of the International Leucaena Conference (ILC) held in Brisbane in November 2018 to provide organizational assistance, promotion and hosting of Conference presentations at www.leucaena.net. In addition the Network was a guest speaker and presented a poster paper on the Leucaena Code of Practice.



**Photo 49: Craig Antonio –
‘Borambil’ Milmeran and Paul
Harris ‘Sunland Cattle Company’
Dingo address the ILC**



Photo 50: Attendees at the ILC November 2018

4.5.2 Beef 2018

Executive members of The Leucaena Network hosted a stand at Beef 2018 in Rockhampton.

Visitors to The Leucaena Network’s Beef 2018 site were able to access the personal experience and wide ranging knowledge of members of The Leucaena Network’s Executive. In addition, Stuart Buck, DAF Extension Officer and Agronomist was available, at times, to provide generic agronomic advice to visitors; and UQ’s sterile leucaena project researcher, Dr Hayley Giles was often on-site to provide technical, research based insights into many of the visitor’s questions. Flyers on The Leucaena Network and the services it provides were also available for general dissemination.

This personal contact was supported by the provision of a series of eight topic specific Fact Sheets which were available to all visitors covering the following topics:

1. Leucaena
2. Which Variety?
3. Location
4. Soil
5. Planting
6. Companion Grasses
7. Psyllids
8. Leucaena Code of Practice

Leucaena cuttings were available for visitors to look at, hold and feel – a valuable addition for many visitors who had not previously been exposed to leucaena; and inspect drums of Wondergraze, Taramba and Redlands from Leucseeds which enabled visitors to see how seed can be provided from this particular seed merchant. The second Redlands seed merchant, Bruce Mayne was also available on the stand periodically to meet with visitors.

It is estimated that more than 400 people visited The Leucaena Network's site with 130 visitors registering for further contact. All of these contacts were subsequently contacted by email or telephone if possible with many new or prospective producers looking to utilise the services of The Leucaena Network in the future. In several instances this additional contact resulted in a positive working relationship with new producers including recruitment of the sixth Redlands trial producer.



Photo 51: TLN Executive Member Robin Cruikshank – 'Braeside' Thangool, Bron Christensen – The Leucaena Network and Bruce Mayne – Mayne Seeds at Beef 2018



Photo 52: TLN Executive Member Craig Antonio 'Borambil' Milmeran hosts visitors at Beef 2018.

4.5.3 Barfield Westpac Beef 2018 Tour

The Leucaena Network Executive Member and advisor Stuart Buck provided an overview on leucaena to the visitors at the Barfield Westpac Beef 2018 Tour. The attendance at this tour was 65 people. As the event was not a dedicated Leucaena Network event it was not possible to obtain formal feedback however informal feedback was very positive.

4.5.4 Beef 2018 Speakers Circuit

The “Importance of inoculum and the future directions of Leucaena” seminar was held on Thursday 10th May at 4pm within the Beef 2018 precinct and was presented by Dr Haylee Giles – University of Queensland and Stuart Buck - QDAF. The seminar was well attended with approximately 90 attendees.



Photo 53: Dr Haylee Giles presents on the future directions of leucaena at Beef 2018

4.5.5 Northern Australia Beef Research Update Conference (NBRUC)

The Network presented a poster paper on the MDC/PIFT P.PSH.0920 Redlands for the Regions MDC/PIFT project at NBRUC held in Brisbane in August 2019. In addition, the Network was a guest speaker on improved pastures at one of the Conference’s breakout sessions, which was attended by approximately 70 people and was very well received.

4.6 Conduct the Leucaena Network AGM that aligns with industry Conferences

The 2018 AGM was held at Beef in May 2018 in Rockhampton.

The Network’s AGM was held immediately after the Speakers Circuit Seminar. Whilst attendance was not as high as hoped, given the time frame and seminar attendance, attendance (18 people) was higher than in previous years and the Network will continue to work to build ownership of the Network by its members.

The 2019 AGM was held following the Wandoan PDS Field Day at Wandoan in June 2019.

The 2020 AGM will be held as part of a The Leucaena Network Conference in April 2020.

4.7 Coordinate Industry Involvement with Researchers and Extension Officers

4.7.1 Leucaena Scoping

The Leucaena Network has provided assistance to Rural Consulting Group (RCG) as part of the scoping report for identifying barriers to adoption for leucaena. This has included review and consultation regarding the most appropriate way for RCG to approach regional Councils about the potential environmental issues of leucaena.

4.7.2 Leucaena Only for Grazing

The Leucaena Only for Grazing initiative provided leucaena education to, and collaboration with, Queensland regional and rural local governments. This activity incorporated a field day to demonstrate best practice at a Central Queensland leucaena producer's property.

4.7.3 PDS 1602 Improving the Productivity of Leucaena in Grass Pastures with Fertiliser

The Leucaena Network has worked with QDAF for the previous four years to undertake a producer demonstration site in the Wandoan Taroom region to demonstrate the benefits of fertilizer on established leucaena pastures. This project was undertaken with technical support provided by QDAF and private agronomy services David Hall Consulting. The project finalized in June 2019 with a field day which also involved the Fitzroy Basin Association (FBA).

4.7.4 MDC/PIFT 1602 Redlands for Regions

Six North Queensland producers undertook on-farm establishment trials for the psyllid tolerant Redlands Leucaena variety as part of P.PSH.0920 Redlands for Regions project. QDAF were an integral component of this project, providing the technical advice and extension services to the producers and as part of the producer visits and field days.

4.7.5 PDS 1909 Sustainable Long Term Leucaena Grass Production in Northern Australia

Four Northern Territory producers, located in the Douglas Daly region, have commenced on-farm leucaena establishment trials. These trials and demonstration field days will be undertaken in collaboration with the NT DPIR, NTFarmers, NTCA and local agronomists and service providers.

4.8 Distribution of Quality Communications

4.8.1 The Leucaena Network Website

The Leucaena Network's website www.leucaena.net was fully refurbished in early 2018 and feedback from members and site visitors is very positive. The Network will continue to invest in the website as a primary source of new and relevant information for the Australian red meat industry.

4.8.2 The Leucaena Network and Social Media

The Leucaena Network is building a social media presence through Facebook with regular posts regarding activities and information of interest to the leucaena industry and producers; and an increasing number of followers. This public page has been supplemented with a Members Only closed page positioned as a 'chat room' for Network members to share information, seek experienced producers' advice, advertise relevant services and equipment and network. This page is slowly gaining traction. In addition, closed page was established for the Redlands for Regions producers however due to the limited use of social media by trial participants, this did not fulfill its potential as a learning and information sharing tool.

4.8.3 Collaborative Organisations

The Network continues to work with complementary organisations including MLA, state and territory governments, industry representative bodies and natural resource organisations to promote services, activities and relevant information and to seek opportunities for mutual collaborations to advance the leucaena and grazing industries.

4.8.4 Media

The Leucaena Network produces announcements and releases regarding activities for relevant media outlets including print and radio.

4.8.5 Fact Sheets

The Leucaena Network has developed a series of eight Fact Sheets to complement the MLA Guide to Leucaena Establishment and Maintenance.

The development of the initial eight fact sheets providing a concise introduction to leucaena have proven to be a valuable asset, with several hundred copies provided to potential and established producers at Beef 2018, more than fifty sets taken by attendees at the International Leucaena Conference and provided to attendees at each field day and industry event. In addition, the fact sheets are now available through QDAF staff working with The Leucaena Network and at www.leucaena.net. A 'New to Leucaena' flow chart has been implemented on the website to guide prospective and new producers logically through the fact sheets and the required activities for assessment and successful establishment. Additional topics for Fact Sheets have been identified and the production of these Fact Sheets will be an ongoing initiative.

4.9 Develop an extension training package, host webinars and produce video clips that promote and support a productive beef industry based on leucaena plantations

4.9.1 Leucaena Extension Training Package

During 2020, the Network will develop an 'Introduction to Leucaena Establishment and Management' as a comprehensive, stand-alone presentation to be delivered by qualified Network personnel or extension personnel.

4.9.2 Webinars

The Leucaena Network with Future Beef and DAF presented two webinars – 'Leucaena 101' in July 2019 and 'Leucaena Maintenance' in November 2019.

4.9.3 You Tube Video Clips

As part of PDS.1602 The Leucaena Network has produced an eight minute overview of the project's activities and outcomes which is available for viewing at www.leucaena.net and on The Leucaena Network's Facebook page.

A simple Introduction to Soil Testing, developed in collaboration with DAF is available at www.leucaena.net and on The Leucaena Network's Facebook page.

Four producer videos depicting reasons for trialing leucaena in the Northern Territory will be uploaded to www.leucaena.net and the Network's social media pages in early 2020.

All future leucaena trial or demonstration activities will have an inclusive media component to capture producer blogs, videos and trial progress overviews.

5 Conclusions/recommendations

The project P.PSH 1015 Supporting the Leucaena Network – has facilitated the awareness of national research and a number of regional adoption activities for potential, new and established leucaena producers by The Leucaena Network.

As further opportunities for leucaena establishment in Northern Australia due to the release of the psyllid tolerant Redlands variety increase, the necessity for the support will increase exponentially. The future development of a sterile leucaena variety, whilst several years away will also exacerbate the need for producer support to ensure successful establishment and management.

There is significant opportunity to build upon the success of this project. Continuation and expansion of the activities already undertaken would be of great benefit to the Australian beef industry. Ongoing support of The Leucaena Network by the MLA Donor Company will provide further extension and adoption services for industry.

A key focus of future activities would be capacity building of extension services throughout emerging leucaena growing areas. Continuing to undertake projects that provide long term management strategies of leucaena that delivers ongoing financial and agronomic viability of established leucaena stands will be important in producing high value beef into domestic and export markets.

6 Key Messages

1. Knowledge of best practice leucaena establishment and maintenance strategies by producers is essential for a successful grazing industry.
2. The Leucaena Network has a key role in ensuring the delivery of best practice strategies through field days, research and producer demonstration projects and industry presence.
3. There is an increasing need for this capacity building with the expansion of potential leucaena suitable areas due to the release of the psyllid tolerant leucaena variety and the future development of a sterile leucaena variety.
4. A fit-for-purpose Leucaena Code of Practice is required for individual States and Territories must be developed collaboratively to ensure ongoing self-regulation of the industry.

7 Appendices

7.1 Ten Mile Field Day



the leucaena network

presents

**Showcasing Leucaena Best Practice
Property Visit**

"Ten Mile" Duaringa
with hosts
Paul and Clare Harris

"Sunland Cattle Company"



Thursday 28th February 2019
9am -12noon

Departing Leichhardt Hotel, Rockhampton in convoy at 7.30am
RSVP Essential for Catering Purposes
Bron Christensen - 0488931691
admin@leucaena.net

7.2 Quincan Springs Field Day



TUESDAY 23 APRIL 2013
9.30am - 11.20am
'QUINCAN SPRINGS' PEERAMON

Join graziers Pete and Colleen McLucas (Quincan Springs)
and
QDAF, MLA and The Leucaena Network for a farm walk to
view and discuss the psyllid tolerant Redlands twelve month
establishment trials.

Register your interest for catering purposes for either or
both Field Days with Bron Christensen, Executive Officer, The
Leucaena Network by Thursday 18th April 2019
0488931691 admin@leucaena.net

7.3 Goshen Station Field Day



WEDNESDAY 24 APRIL 2019

9am - 11.30am

'GOSHEN STATION'

MOUNT GARNETT

Join Brett and Theresa Blennerhassett, QDAF, MLA and The Leucaena Network for a farm walk to view and discuss the psyllid tolerant Redlands twelve month establishment trials.

Register your interest for catering purposes with Bron Christensen, Executive Officer, The Leucaena Network by Friday 19th April 2019
0488931691 admin@leucaena.net

7.4 The Leap Workshop and Woonon Field Day



**Queensland
Government**



**the
leucaena
network**



The Leap Community Hall Tuesday 30th of July (9:00am – 3:00pm)

A new opportunity exists for beef producers in the high rainfall regions to improve their grazing systems with the development of the new psyllid tolerant strain of leucaena, Redlands. A recent MLA Donor Company project has established several Redlands sites within the Mackay Whitsunday region.

QDAF, MLA and The Leucaena Network invites any interested parties to attend our Leucaena Establishment Field Day. Topics incorporated into the day are as follows:

Why plant it? The economic advantages of incorporating leucaena as a forage.

Where will it grow? Soil requirements for leucaena in coastal areas.

How do we plant it? Techniques to ensure a good planting outcome.

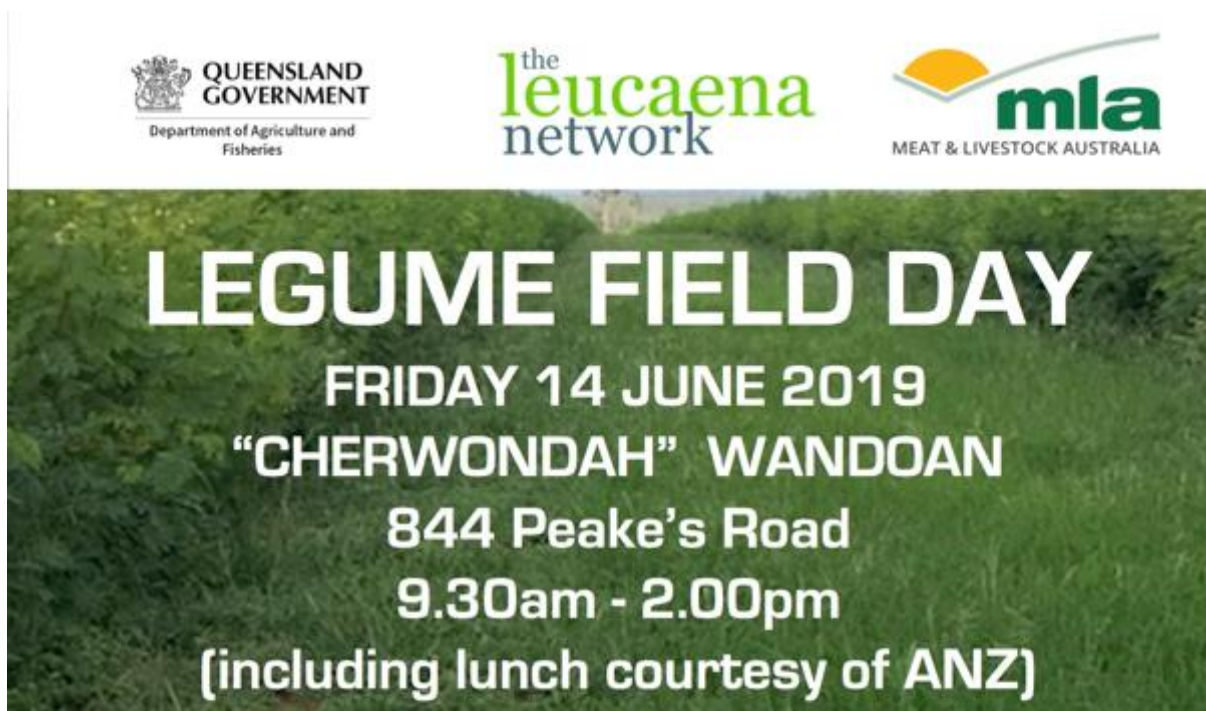
How do we manage it? Maximizing leucaena as a forage crop and minimizing its weedy potential.

As well as these presentations there will be a field walk of the established Leucaena at "Mystery Plains", The Leap and "Woonon" at Sarina. We will also be delivering a practical session on planter selection, weed management and seed inoculation.

Please register your interest for catering purposes with
Bron Christensen, Executive Officer, The Leucaena Network
by Friday 26 July 2019

M: 0488931691 E: admin@leucaena.net

7.5 Wandoan Field Day



Join graziers Laurie and Gwen Peake, DAF's Stuart Buck and Nick Brazier, and The Leucaena Network's Bron Christensen to learn about:

Desmanthus (Progardes and Marc)

Caatinga Stylo

Legume Establishment with and without fertiliser and with different soil moisture levels

Fertiliser trials on established leucaena and resulting weight gains

ANZ Beef Insights

FBA Update

The Field Day will be followed by The Leucaena Network's AGM

Register your interest for catering purposes with Bron Christensen, Executive Officer, The Leucaena Network by Wednesday 12 June 2019

0488931691 admin@leucaena.net



7.6 NTDPIR Workshop and Bindaroo Pastures Field Day



Northern Territory Agriculture: Pathways to Potential LEUCAENA AND PROFITABLE GRAZING SYSTEMS

Thursday 10th October 2019
DOUGLAS DALY RESEARCH FARM
PROGRAM

TIME	TOPIC	PRESENTER
7.30am	Breakfast at the social club	
8.45 am	An introduction – Natural Resource (NR) maps training	Caroline Green - DENR
10.15am	MLA – Grassfed beef activities	Nigel Tomkins - MLA
10.30 am	Let's talk Leucaena – economics, establishment, management.	Peter Shotton – DPIR
	Pinnarendi Live Weight Gain Trials	Craig Lemin – QDAF
	Code of Practice	Bron Christensen - TLN
12:00 pm	Lunch and Networking	
12.45 pm	An introduction to improved pastures and grazing management- ecosystem processes, understanding pasture growth and grazing loads. Grazing management on introduced/mixed pastures vs native pasture systems.	Arthur Cameron – DPIR
		Dionne Walsh - DPIR
1.45 pm	Introduction to NT PGS development and proposed program. Producer consultation and feedback session.	Rebecca Mohr-Bell – Argyll Consulting Ian Golding – Beyond Organic
2.15 pm	'Checking out your Nods' - Legume Agronomy - how to assess if nitrogen fixation is occurring in your paddocks and the basics of soil health.	Ian Golding – Beyond Organic International
3.15pm	Site Visit – Irrigated early establishment leucaena 'Bindaroo Pastures'	Chris Howie
4.45pm	DDRF Leucaena Paddock walk.	Peter Shotton – DPIR
		Craig Lemin – QDAF
5:30 pm	Networking and Dinner	

Please RSVP to Rebecca Mohr-Bell at rebecca@argyllconsulting.com.au for catering and accommodation purposes. Limited accommodation is available at DDRF however you will need to provide your own linen or a swag.

In the interests of reducing plastic water bottles, please bring your own bottle and water will be available all day for refills!

the
leucaena
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Profitable
Grazing Systems
your pathway to success


mla
MEAT & LIVESTOCK AUSTRALIA


NORTHERN
TERRITORY
GOVERNMENT

7.7 Starbright Station Field Day



Join us for this great opportunity!

Leucaena field day

**STARBRIGHT
STATION**
Nth Charters Towers

**Wed 13th of November
2019**

Topics:

- Leucaena establishment and grazing trial results (Craig Lemin - DAF)
- Producer experiences and discussion panel
Brett Blennerhassett - Goshen
Darcy O'Brien - The Brook
Ian Frohloff - Starbright
- My experiences with leucaena (Bruce Mayne - Mayne Seeds)
- Leucaena Code of Practice (Bron Christensen - The Leucaena Network)
- Economics of leucaena (Vivian Finlay - DAF)
- MLA update (Nigel Tomkins, Program Manager Grassfed Beef, MLA)
- Starbright leucaena paddock visit

9:00 am to 3:00 pm

Smoko and lunch supplied.
Bring your camping chair.

**RSVP Mon 11th Nov for
catering to:**

Peter Carmona
0477 345 843
Peter.Carmona@daf.qld.gov.au
DAF Charters Towers

Bron Christensen
0488 931 691
admin@leucaena.net
The Leucaena Network

Or register online at:
<https://www.eventbrite.com.au/e/leucaena-field-day-at-starbright-station-tickets-75970193895?ref=estw>



**Queensland
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**the
leucaena
network**



7.8 Northern Dry Tropics

Improving Beef Production in the Northern Dry Tropics

WORKSHOP

Goshen Station, (Gunnawarra Road, Mt Garnet)

Wednesday 6th of June 2018

9:00 am – 3:00 pm

Presenters:

Brett Blennerhassett (Goshen),
Bernie English (DAF)
Tahna Jackson (Agforce)
Bron Christensen (The Leucaena Network)
Kathy Rowling (NGRMG)
Nigel Tomkins (MLA)



**Smoko &
lunch provided**

Workshop topics

- Heifer Genomics Project
- Northern Grazing Demo Project
- Leucaena production systems
- MLA update
- Redlands Leucaena trials
- Beef industry update
- Queensland Globe demonstration

Please RSVP to Kathy Rowling for catering purposes by Monday 4th June

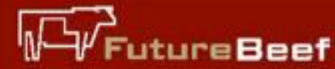
☎ 0439 966 936

✉ dsa@northerngulf.com.au



7.9 Redlands Launch

You're invited to...



Pinnarendi Field Day 2019

Leucaena liveweight trials evaluation and Redlands variety launch

Where: Pinnarendi Station

When: Tuesday 28 May 2019

From: 10:00am – 2:30pm

Join the northern Beef and Feedbase Team from the Department of Agriculture and Fisheries (DAF), scientists from the Redlands breeding program and Meat and Livestock Australia (MLA) representatives to learn about:

- cattle performance
- establishment and management tips
- launch of new Redlands variety
- licensed seed producers on site
- tribute to Jim Kernot



Producers will be able to:

- *hear about the trials and economics of leucaena production systems*
- *walk the paddocks and inspect Redlands and Wondergaze leucaena*
- *view trial cattle in yards*
- *order leucaena seed*

Register here:

<https://www.eventbrite.com.au/e/pinnarendi-field-day-tickets-59096662709>

For more information please contact:

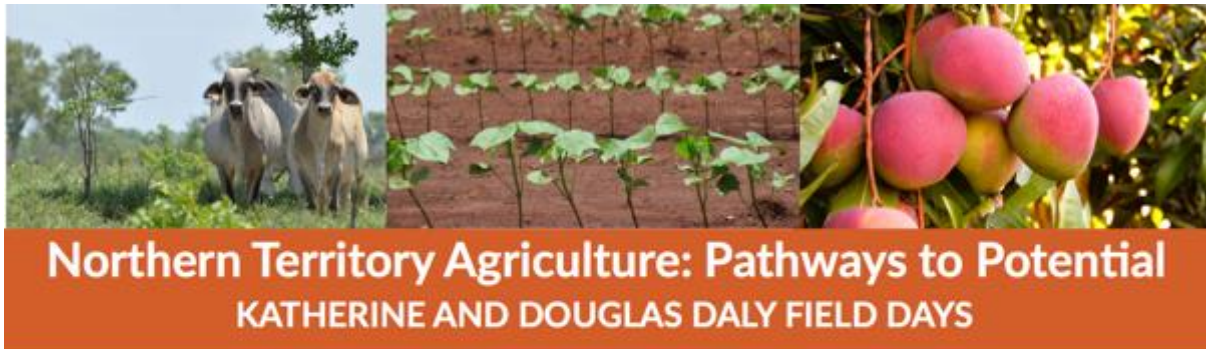
Craig Lemin
DAF
Research officer
0467 804 870

Meet at the Brick Oven Cafe at 10am
Smoko and Lunch provided
Please RSVP for catering purposes

futurebeef.com.au



7.10 NT Field Days



Join us at **Northern Territory Agriculture: Pathways to Potential**, two jam-packed field days at two unique Department of Primary Industry and Resources (DPIR) research stations. The field days will have a strong focus on industry development and highlight the potential of diversified farming systems in the Northern Territory (NT).

Meet industry members, view trade displays, hear from producers regarding their experience with diversification and learn about new emerging industries.

Both field days will include a number of presentations in the morning, including:

- Cotton Australia, Adam Kay - overview of the southern cotton industry, addressing misinformation.
- Tipperary Station, David Connelly - a producer's perspective of diversification and integrating cropping and horticulture into an existing pastoral business.
- Darwin Port, Peter Dummett - an overview of how the shipping industry works including considerations for potential exporters and importers.
- Department of Environment and Natural Resources – getting my project off the ground.
- Louie Dreyfus Company, Tony Geitz - cotton market opportunities, the Australian position in the global market place and an introduction to the pricing of Australian cotton.
- Archer Daniels Midland, Damian Bradford - grain market opportunities from Northern Australia
- Feed Central, Cieran Maxwell - national hay market and opportunities for hay in the NT.

Afternoons will provide attendees with the option to view current DPIR research.

KATHERINE RESEARCH STATION

Tuesday 9 April

~ Livestock ~ Cropping ~ Horticulture ~

- information about birthing sensors and how they are assisting with calf loss research in northern Australia
- preview DPIR's sale select Brahman and composite bulls
- the latest research in beef cattle genetics in northern Australia
- aspects of cover crops, integrated pest management and cucumber green mottle mosaic virus for melon cropping systems
- opportunities for learning about and ordering new mango varieties
- cotton, soybeans, forage and grain sorghum, dryland rice and various species of pasture grass for seed production
- infield discussions with DPIR and other agronomists, market specialists, regulatory bodies and seed suppliers.

&

DOUGLAS DALY RESEARCH FARM

Wednesday 10 April

~ Livestock ~ Improved pastures ~ Forage crops ~

- impact of maternal phosphorus status and subsequent weaner performance
- using livestock to assist in the control of gamba grass and subsequent livestock performance
- update on the current fly tag trials and how they are performing in the Douglas Daly region
- update on the select Brahman females and where the herd is heading next
- irrigated Leucaena and grazing with mixed pasture inter rows
- infield discussions with The Leucaena Network
- improved pastures such as Nucal and Mulato varieties
- cotton
- potential legume pastures including desmanthus, lucerne, cowpea, blue pea, and burgundy bean production.
- infield discussions with DPIR and other agronomists, seed suppliers and market specialists.

Please confirm attendance for catering purposes and find out more by contacting:

Joy Sherlock, Senior Extension Agronomist | joy.sherlock@nt.gov.au | 0436 425 441 | www.dpir.nt.gov.au

The field days are proudly presented by the Department of Primary Industry and Resources with support from the Department of Environment and Natural Resources, the Northern Territory Farmers Association and the Northern Territory Cattlemen's Association.

MAJOR SPONSORS

