FutureBeef

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CQ BEEF

Information for rural business in Central Queensland

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Welcome to **CQ Beef 26**

Participants at the Alpha Breedcow Dynama Workshop.

There has been a wide range of FutureBeef events across Central Queensland of late. Alpha and Biloela hosted Breedcow Dynama workshops in September and October respectively. A Breeding and Genetics update was held at Duaringa the week before Brahman week and over 160 businesses have participated in Grazing BMP workshops or one on one meetings since July in the Burdekin and Fitzroy.

Participants discuss Brigalow management at the Coonabar Climate Clever Beef field day.

The Climate Clever Beef Project field day was recently held at Coonabar, Rolleston and a Nutrition day was hosted at Wycarbah in September to discuss supplementation, faecal NIRS testing for diet quality and management of breeder body condition. OBE Organic BEEF hosted a Grazing BMP workshop in Roma and 22 businesses completed the People and Business and Animals Health and Welfare modules. OBE has plans for follow up workshops early next year. To find out what events are on please visit the FutureBeef website *www.futurebeef.com.au*.

We are working with several graziers across the Burdekin and Fitzroy to help them become Grazing BMP accredited. If you are interested in having your Grazing BMP accredited please contact Kylie Hopkins (07) 4923 6215.

Sue Burt from Burnett Mary Regional Group talking about soil properties and management at the Alton Downs Accelerated Grazing BMP workshop. The workshop on 24- 25 October saw 23 businesses complete the five Grazing BMP modules.

Jo, Kylie and Mick at the Wycarbah Landcare group NIRS and nutrition day on Saturday 19 September. The pile of grass they are standing behind is the 12.7kg of late dry season grass that a 450kg breeder would need to eat every day to meet her energy requirements of 80 MJ ME if she was feeding a calf up to 4 months old. She just can't do it! The quality of the grass is so poor, she just cannot physically eat enough to meet her energy requirements. This is why calving must be timed according to the most likely seasonal break, and cows must be in body condition score 3 or higher leading up to calving. They need body condition reserves to cope with the period from calving until the seasonal break.

Fairways and Ramboda at Anakie hosted a leucaena establishment day in August. The debate about whether the old oats paddock at Fairways would be better under Leucaena or Desmanthus has inspired the "Which legume to sow into clay soils" article by Stuart Buck. Enjoy the read, and may your paddocks get some decent rain this wet season.

Byrony Daniels, DAF, Emerald (07) 4983 7467

The Roberts family discuss what to do with the oats paddock at Fairways with some help from neighbours and DAF pasture agronomist Stuart Buck.

Leading Queensland pasture pioneer calls time on remarkable career

Internationally-recognised Department of Agriculture and Fisheries (DAF) pasture agronomist Dr Richard Silcock has spent half a century using his considerable skills to help build Queensland's beef and sheep industries.

Dr Silcock retired this September and was honoured for his many contributions by DAF deputy director-general Dr Beth Woods.

"Richard's distinguished career in pasture science started at the Charleville Pastoral Laboratory in 1969. He's witnessed many changes to the organisation but has managed to stay focussed on conducting relevant, high quality science that has delivered improved management of Queensland's extensive grazing land," Dr Woods said.

One of his legacies and greatest contributions is the QPastures database, information on the many pasture and forage plants collected and evaluated in Queensland over the past 117 years.

"With the recent renewed interest in improved pastures and their management, QPastures will continue to assist the beef cattle industry for years to come."

Dr Woods said Dr Silcock will continue to be acknowledged as a pioneer in developing an understanding of the ecological principles underpinning pasture establishment, growth and management in both native and improved pastures.

"He is recognised across Australia and the world as an expert on our nation's rangelands systems, vegetation dynamics, grazing land management and native and improved pastures for extensive grazing systems."

Dr Woods also paid tribute to his commitment to mentoring young researchers and extension officers, and working with industry and his scientific peers to advance both on-ground outcomes and policies.

"Richard's long and fruitful career has advanced Queensland's agriculture, and his influence will still be felt, not only through QPastures and his other research initiatives, but in the many officers and scientists he has worked with and mentored and who will continue the work that he has pioneered," Dr Woods said.

Richard was farewelled with lunch at the Red Brick Hotel on 30 September where colleagues from the Charleville Pastoral Laboratory, Toowoomba and the Ecosciences Precinct, Dutton Park celebrated highlights of his career and provided insights for his retirement.

Richard has accepted a Research Fellow voluntary appointment with the Department to finish off a few papers while transitioning to his new lifestyle with wife Jan.

Richard is farewelled by colleagues.

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Updated Business EDGE workshop

Ready to go for the Rangelands and Northern Australia.

The Business EDGE workshop was developed by Meat & Livestock Australia (MLA) in 2010 to meet a producer identified need for improved business skills and financial literacy. Since then over 500 producers have attended more than 30 workshops across Northern Australia. The material has recently been comprehensively reviewed and updated by Ian McLean and Phil Holmes, who deliver the workshop and were lead authors of The Northern Beef Report. The review incorporated the findings of the Northern Beef Report and learnings and feedback from the producers who have attended the Business EDGE workshops. Changes were also made to make it more applicable to sheep graziers and mixed enterprises.Whilst the foundations of the workshop are timeless business principles applied to agriculture, the update has improved an already excellent product, which is MLA's primary extension product for business skills and financial literacy.

Why the Business EDGE workshop is important?

Industry analyses, such as the Northern Beef Report, found that improved business performance is needed for businesses to be able to fund growth, succession, retirement and other aspirations of those involved. Improving the business skills and financial literacy of your management team, is the starting point to improved financial performance.

Over two days the Business EDGE workshop participants acquire the knowledge and skills to:

- determine if all the family needs and aspirations can be funded by the business
- understand key accounting concepts and principles, and apply them to your business
- generate and interpret key financial information on your business
- set up your financial system to provide key information for management
- determine if your debt is creating or destroying wealth and how much of it your business can afford
- assess and manage agricultural business risk
- understand and manage enterprise performance, including what the key profit drivers are, how to influence them and what effect they have on overall business performance.

The Business EDGE workshop is delivered across Northern and Rangelands Australia by Bush AgriBusiness Pty Ltd. Discounts are available for registering more than one person from a business and for early bird registrations. The Business EDGE workshop is backed by a full money back guarantee. Business EDGE workshop attendees are able to attend free follow-up workshops.

When and where will the workshops be held?

Workshops are scheduled for across Northern/Rangeland Australia in 2016

February 1-2	Cunnamulla
February 4-5	Longreach
February 18-19	Mt Isa
February 22-23	Richmond
March 3-4	Charters Towers
March 14–18	Kimberley/Pilbara
June 2-3	Emerald
June 6-7	Toowoomba

More information
Ian McLean
Bush Agri-business
0401 118 191
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or visit *www.babusiness.com.au*

Tick control

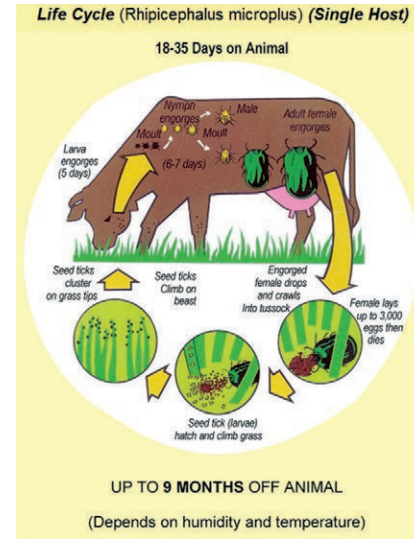
Given all of the challenges associated with keeping drought-affected cattle alive in recent years, cattle producers are reminded to remain vigilant when it comes to cattle tick control or risk suffering further economic losses.

The cattle tick (*Rhipicephalus* (formerly *Boophilus*) *microplus*) is regarded as an economically important parasite over large areas of Queensland. Due to tick worry and blood loss, heavy cattle tick infestations can cause loss of condition and even death. Cattle ticks can also transmit tick fever organisms.

It is important that cattle producers in tick infected areas have a basic understanding of the tick lifecycle and the chemical treatment options available to them to manage cattle tick infestations.

Cattle tick lifecycle

The cattle tick lifecycle can be broken up into two stages, the parasitic stage and the non-parasitic stage. During the parasitic stage the cattle tick spends its entire time on one host. This stage takes approximately 21 days to complete and the tick develops (moults) from a larvae (seed) tick to a nymph and then becomes an adult. Female adult ticks feed for 7–12 days before engorging and dropping off the host to return to the pasture.



The pasture phase is called the non-parasitic stage. The adult females lay up to 3000 eggs and then die. The eggs hatch to produce larvae that climb up the pasture sward and wait to be picked up by a suitable host, or they die off. The non-parasitic stage can vary from two to nine months depending on the time of the year and is adversely affected by extremes in temperature and humidity. In central and northern Queensland ticks may lay viable eggs all year round.

Strategic tick control

Products registered for the control of cattle tick may be administered either as cattle dips and sprays, pour-on or injectable products.

Insect Growth Regulator (IGR) treatment for cattle tick control contains fluazuron, which breaks the tick lifecycle. Immature ticks that ingest fluazuron are unable to moult to the next stage and die. Adult ticks that ingest fluazuron lay eggs that don't hatch. Once the lifecycle is broken tick numbers will plummet. Cattle treated with fluazuron act like vacuum cleaners, moving around sucking up larvae ticks off the pasture, dramatically reducing tick numbers. Knock-down tick treatments simply kill ticks that come into contact with the chemical.

Testing cattle ticks for resistance

The prolonged or incorrect use of acaricides (tickicides) can lead to resistant ticks, enabling them to survive chemical treatments.

If you are unsure of your tick resistance status or suspect poor efficacy following chemical treatment, it is important to contact either your local DAF Biosecurity Officer or the chemical manufacturer directly and they can assist with organising for cattle ticks to be tested for their resistance status.

Tick fever vaccination

Although Bos indicus cattle have an innate resistance to cattle ticks the risk of tick fever still remains. Ticks spread the blood borne parasites *Babesia* and *Anaplasma*. *Bos indicus* breeds have a greater level of resistance than *Bos taurus* breeds to the *Babesia* parasite but all breed types are susceptible to *Anaplasma*. Relying on natural exposure from infected ticks does not guarantee protection.

For further information in regards to effective tick control in Queensland contact:
DAF Biosecurity Queensland
13 25 23 (or your local office)

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Mt Oweenee Heifer PDS

Low heifer pregnancy rates in northern Australia are quite common. The recent MLA funded breeder project 'CashCow' reported median heifer pregnancy rates of 67 per cent in the tougher northern forested areas of Australia. These findings aligned with the results a Charters Towers beef producer was seeing in his heifers. With his cooperation, a DAF/MLA Producer Demonstration Site (PDS), commenced with his Droughtmaster/Euro cross herd in December 2013.

The three-year study is testing the hypothesis that low liveweight during the mating period is the primary cause for low pregnancy rates in heifers.

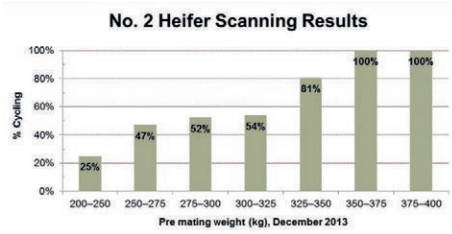
Data collection on the host property Mt Oweenee Station formally commenced in December 2013 with weighing and ultra sound ovarian scanning on 354 No. 2 heifers. Mating commenced in mid-January 2014.

Prior to mating, bulls were vaccinated for vibriosis and veterinary checked for structural soundness. Semen was tested for both motility (movement) and morphology (per cent normal). Only four bulls were mated to the 354 heifers (1%), demonstrating that in many cases a reduction in bull numbers is a sound way to reduce costs without affecting reproductive performance.

Pregnancy testing (foetal aging) on the 354 heifers occurred on 6 May 2014. Bulls were also removed on this date. Blood samples from the heifers were tested for pestivirus activity.

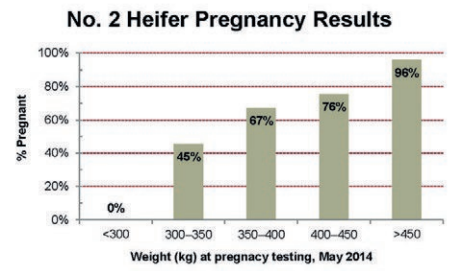
Results from weighing, pregnancy testing and blood samples were quite interesting:

- Average pre-mating (December 2013) weight of the group was fairly low (291kg) and only 30 per cent had commenced cycling (reached puberty and receptive to mating), with a further 20 per cent close to cycling.
- Average weight at pregnancy testing (May 2014) was 397kg.
- Pestivirus results were negative (no exposure to the virus).
- A pregnancy rate of 70 per cent was achieved.
- Data for this group of heifers confirmed that there is a weight threshold to understand. Graph 1 shows that the pre-mating average weight of heifers needs to be around 340kg in order to have around 80 per cent of animals cycling.



Graph 1 Percentage of No. 2 heifers cycling, or about to cycle, by weight range.

Alternatively, Graph 2 demonstrates that weights of at least 400kg at pregnancy testing are required to achieve a substantial pregnancy result.



Graph 2 Percentage of No. 2 heifers pregnant by weight range.

Bull power

A major study led by former Queensland Government researcher Dick Holroyd, supported by a host of specialists, ran from 1992–1997 looking at bull selection and management to enable a reduction in bull numbers. The study was conducted across eight commercial properties and four research stations in Queensland and the Northern Territory, where 1000 bulls were studied.

The report can be found on the MLA website at: *www.mla.com.au/Research-and-development/Search-RD-reports/RD-report-details/Productivity-On-Farm/Bull-selection-and-use-in-northern-Australia/1812*.

A key finding of the research was with multiple sire mating, Brahman and Bos indicus derived bulls (that are assessed as reproductively sound), could be used at rate of 2.5 per cent bulls per cycling females without jeopardising herd fertility under most conditions in northern Australia.

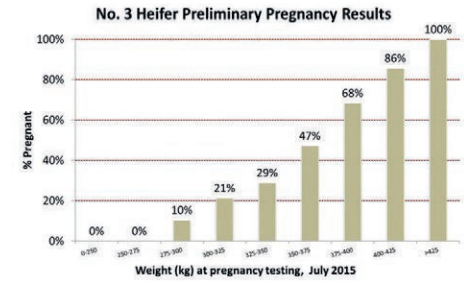
It was the concept of setting a bull percentage per the number of cycling females (not all females within the mob) that was the basis for deciding to substantially reduce bull numbers in this mob of heifers. For Mt Oweenee the standard bull ratio for heifer mating is around 3 per cent. Therefore, owners Doug and Zoe O'Neill would have normally joined 11–12 bulls to a mob of 354 heifers, for an expected pregnancy rate of around 60 per cent.

The ovarian scanning results (pre mating in December 2013) showed that 50 per cent of the mob, or around 177 heifers, were cycling or near to cycling. The PDS used a bull ratio of 2.5 per cent for cycling or near cycling heifers (177 heifers). This meant that only four bulls were mated to the whole mob (354 heifers), an overall bull ratio of 1 per cent. A pregnancy rate of 70 per cent was achieved.

The additional 7–8 bulls that would have normally been used for heifer mating were then able to be used elsewhere in the breeder herd. As a result no new replacement bulls were required to be purchased for this year (a substantial saving). This result is not advocating using 1 per cent bulls, but does demonstrate if you are using more than 2.5 per cent bulls you are potentially wasting bull power and money.

The past few seasons have been tough in north Queensland with drought conditions worsening. A group of No. 3 heifers observed within the PDS have been split into three mobs and sent on agistment, due to a shortage of feed and water at Mt Oweenee. Preliminary results for the No. 3 heifers show a similar trend in an optimum weight at pregnancy testing to achieve a substantial pregnancy rate.

Two of the three mobs of No. 3 heifers were pregnancy tested in July 2015 with an overall pregnancy rate of 29 per cent. This result is not surprising as the average weight of the heifers across both mobs at pregnancy testing was only 325kg. Graph 3 shows the pregnancy rates in different weight ranges. The results again demonstrate that heifers in the weight range of 400kg and above at pregnancy testing (six months after mating) achieve pregnancy rates greater than 70 per cent.



Graph 3 Preliminary results for percentage of No. 3 heifers pregnant by weight range.

The third group of No. 3 heifers will be pregnancy tested in the coming weeks to complete the data set. An update of the final results for the No. 3 heifers will be included in the next issue of the Northern muster. Thank you to the O'Neill family at Mt Oweenee for their continued commitment to the project through difficult drought conditions. Thank you also to the producer group supporting the project. The PDS will continue until 2016.

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Heifer management in northern beef herds 2nd edition is a publication of MLA-funded heifer projects conducted in northern Australia. The publication can be downloaded from *www.mla.com.au/News-and-resources/Publication-details?pubid=5934.*

Further information on heifer management can also be found on the FutureBeef website *www.futurebeef.com.au/knowledge-centre/breeding-and-genetics/heifer-and-breeder-management/.*

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Steer grazing a caatinga stylo and buffel grass pasture.

What are the **keys to successful legume establishment** in sown pastures?

While the majority of sown pastures across Queensland are grass only with no legumes, there are many good reasons to include a legume in pastures.

The main benefits include improved diet quality and nitrogen (N) supply, which in-turn improves the growth and quality of companion grasses. Unfortunately though, while many tonnes of legume seed have been sown across thousands of hectares, there are very few paddocks with good legume populations. The exception is leucaena, where it is now accepted that to achieve good establishment sound crop agronomy principles must be followed.

Poor commercial results from other legumes are generally due to establishment techniques that are typically low cost and unreliable, for example broadcasting seed into actively growing grass-pastures. Legumes must be established in sufficient numbers across the paddock to end up with a population of four plants per square metre, with adequate soil nutrients (particularly phosphorus) and the right rhizobium so they can boost animal live-weight gain, N supply and enhance grass growth and quality.

Benefits of legumes

The cattle live weight gain benefits and amount of N fixed by a legume pasture is directly related to the amount of legume dry matter produced. An average well grown legume will fix 25kg of N per tonne of dry matter per year, with about 10-15kg of that cycling back for the grass to use. This extra N leads to more grass dry matter production and improved livestock carrying capacities. Legumes also provide high-quality feed which improves live weight gains.

Keys to successful legume establishment

Establishing pasture legumes is costly so the aim is to do it properly the first time. The chance of success can be increased significantly by using good agronomic practices, however, failures can still happen from issues beyond your control. Pasture and live weight gain improvements will be achieved sooner if the legumes are given the best chance to establish and thrive. So what are the keys to success?

Legume planting strips with competition removed.

1. Plan ahead

How much area can be put aside from grazing? It's imperative to undertake an area that can be taken out of the grazing rotation and done correctly. Don't cut corners to do a larger area with the same funding. Plan which paddock to do first, do it well and then move onto the next paddock.

2. Check to ensure adequate soil nutrition

Some legumes have high phosphorus and sulphur requirements. If essential soil nutrient levels are low, legumes will be stunted and grow poorly, reducing live weight gain and nitrogen supply benefits for years to come. Be prepared to apply fertiliser if soil nutrition is low.

3. Reduce the competition and prepare a seedbed

Rough seedbed and poor control of competition (existing grass and or weeds) is typically the cause of legume establishment failure – generally not enough effort is put into preparation. Small legume seedlings struggle with soil moisture competition from existing vegetation (grass, weeds) so it's very important to kill the grass and weeds and store 40cm+ of soil moisture before sowing. Depending on the situation and equipment available, grass and weeds can be controlled with either cultivation, or herbicides, however, be prepared to undertake more than two operations to adequately store soil moisture. Seedbeds can be prepared in strips across the paddock, however, if the pasture is severely rundown the whole paddock should be prepared. Soils that self-mulch (for example, cracking clays) can naturally provide a seed bed and require minimal effort to sow into. However, hard setting soils (such as, light box or duplex) should be lightly cultivated or 'roughened up' to promote water infiltration and allow seed to be planted on top or just under the seedbed surface. Avoid very rough seedbeds with large clods (for example, blade ploughed country) as seed depth will be highly variable and soil seed contact poor. In situations where a cultivated seed bed is not achievable, spray existing pastures, preferably a couple of times, to reduce the completion.

4. Choose the right type of legume for the situation

As there are a range of legumes on the market it's important to obtain expert advice to determine the right species for your situation. Factors to consider include soil type and nutrition, temperature range (particularly cold/frost), rainfall, life span (annual or perennial), ability to persist long term, time of maturity and grazing management.

5. Use quality seed at recommended seeding rates

Make sure the seed has been mechanically scarified and tested for germination. A germination percentage (soft seed) of more than 50 per cent is best. If sowing into prepared seedbeds with good moisture, high levels of soft seed is needed so a higher percentage germinate on the first rain (instead of majority of weeds only). Aim to sow at least one kilogram per hectare of pure live seed, which accounts for germination and purity assessments. If using coated seed, rates per hectare must increase, potentially three to five times, based on the seed:coat ratio. Inoculate the seed with the correct rhizobium strain for that legume just prior to planting.

6. Plant at the right time

Only plant when there is sufficient soil moisture, and the chance of follow-up rainfall is highest. This might mean sowing late in the summer or early autumn, or being prepared to wait for the next season if conditions are not right.

7. Manage stock to ensure persistence

The success of legume establishment and long-term persistence relies on good grazing management in the first year. Legumes should not be grazed until the seedlings have developed a strong root system and have set seed, especially if the initial establishment is poor. Leucaena is the only exception to this rule and can be grazed once 1.5m+ in height, and before flowering.

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Which legume to sow into permanent pastures on clay soils: **Leucaena, Desmanthus or Caatinga stylo?**

Leucaena planted January 2015, photo taken April 2015.

Caatinga stylo planted in the same paddock, same time, photo same day.

Desmanthus planted in the same paddock, same time, photo same day. The photos show the establishment potential of desmanthus and Caatinga stylo if planting preparation is the same as leucaena.

When mixed with grasses in a pasture, tropical pasture legumes provide significant benefits to the grazing system. These include higher total feed production and higher feed quality, leading to improved animal liveweight gain and stocking rates. Because the benefit is produced year-in-year-out, usually after one establishment phase (planting/sowing), this improved production has shown to result in higher profitability over the long term. There are many tropical legumes suitable to the range of soils across central Queensland. But what about the types suitable for permanent pastures on clay soils, particularly leucaena, desmanthus and Caatinga stylo? When would you choose leucaena over desmanthus or Caatinga stylo, or visa versa?

Firstly, each has different growth habits. Leucaena is a perennial shrub or tree, whereas desmanthus and Caatinga stylo are shorter growing perennial shrubs. Because leucaena can grow taller, if not managed correctly, valuable forage can grow out of reach to stock. As desmanthus and Caatinga stylo are shorter, stock will be able to easily graze whole plants. The taller growth habit and thick woody stems of leucaena can also make it significantly harder to change the use of a paddock to for example, grain cropping, compared to the other two legumes. Therefore, once leucaena is planted, the intention is to leave it as a leucaena-grass pasture, whereas a desmanthus or Caating stylo grass pasture would enable a change into another land use with lower relative cost and time.

All three legumes are perennial forages, however, an individual plant of leucanea will out-live desmanthus or Caatinga stylo plants. Each leucaena plant will live for more than 30 years, if managed correctly, and so once leucaena is established generally no further thickening of the stand is required. Desmanthus and Caatinga stylo plants have a shorter life, around 5 to 10 years, and persistence in a long-term pasture depends on mature plants setting seed, then these seeds germinating and develop into a mature plant. Hence managing for seed set and seedling survival is critical, at least every couple of years, to ensure long-term persistence.

While good agronomy (fine seedbed, high amount of soil moisture, effective weed control) is the key to establishing all of these legumes, the larger seed size of leucaena compared to both desmanthus and Caatinga stylo enables the seed to be sown into moisture (about 3cm). This means leucaena can be sown like any other crop, where the paddock is fallowed to store moisture then the seed planted into moist soil at the right depth after a rainfall event. On the other hand desmanthus and Caatinga stylo are small seeded and so seeding depth is critical – both need to be sown on the surface or just under, to ensure emergence. To ensure good establishment with these legumes, the paddock should be prepared and fallowed to ensure weed (or existing pasture) control and stored moisture, then the seed planted onto a dry surface before a rainfall event at the wettest time of the year (month with the highest average rainfall). The seed will then germinate on the next rainfall event.

Leucaena has a reputation of having a deep root system, and provides forage growth into the dry season. However it stops producing forage once sub-soil moisture is depleted, and so will remain alive but unproductive during extended dry spells until rain is received. Desmanthus and Caatinga stylo also have an efficient root system and due to lower individual plant biomass production, are better adapted to drier environments. They can also perform on duplex and heavy clay soils with sodium (sodic soils), where leucaena would not be as suited. All three legumes require deep, fertile soil with neutral-to-alkaline pH to maximise productive potential.

Being tropical legumes, all are unproductive during the dry winter season, especially in frosty areas. Depending on the severity of frost, these legumes will re-grow in spring from the stems, or from the base if the frost(s) have been cold enough. While growth is maximised in non-frost prone areas (and these should be the first areas sown), all legumes can survive moderate frosts.

So which legume is more productive long term? The short answer is no one really knows for sure, as comparative, side-by-side production trials in a range of environments over many decades have not been conducted. However, in short term trials (3 years), the biomass production can be fairly similar which could equate to similar animal production. It has been observed though, that a paddock of desmanthus or Caatinga stylo can be grazed sooner after sowing due to its ability to flower and seed within 6 months, after which stock can graze the paddock. Whereas leucaena requires 6 to 12 months before grazing can first occur, and so has a longer establishment period where grazing is restricted.

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LEADING SHEEP FLOCK TALK

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Maremma dogs
Reducing lamb losses at Morven

Marie Crook-King and her daughter Julie Brown are optimistic they've turned a corner after three tough years of devastating wild dog attacks, thanks in part to the Maremma dogs they have guarding their flock of 2600 Merinos.

'Mario' the Maremma dog with some ewes.

In the 2013-14 financial year the Crook-Kings lost 900 adult sheep and every lamb that was born on their 30,000 hectare property 'Glenorie', 85 kilometres south of Morven.

"The only lambs we got that year were the 50 poddy lambs that we raised by hand," Marie Crook-King said.

The Crook-Kings decided on a three-pronged attack to try to limit wild dog damage – building a 200 kilometre exclusion fence with their neighbours, trapping, and investing in Maremma guardian dogs for their sheep.

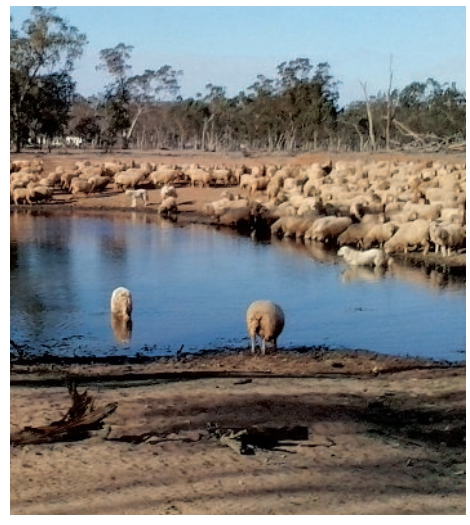
Three years on they have 26 Maremmas in work and 8 dogs in training. Last summer they lamb marked 50-60 per cent in a season also affected by drought. Wether losses have dropped from 24 per cent to under 4 per cent since they introduced the guardian dogs.

While they have no preference for males or females, Julie is adamant that all guardian dogs must be de-sexed, to prevent them from wandering and mating with wild dogs.

After some trial and error in training, Marie and Julie found they preferred the dogs to be two to three years old before they could be trusted to guard the flock, as younger animals tended to sometimes 'play' with the sheep or stray from the mob.

In training, the dogs are yarded with sheep for several months, tethered each night and monitored closely during the day to ensure they can be trusted.

"It's a very gradual process because you need to be able to trust them fully when they're out in the paddock, because then they're the boss," Marie said.



A mob of ewes with Maremmas before shearing.

- Pups cost between $300 and $1200
- The dogs in work cost $600/month to feed, which equates to approximately $2.80 per sheep per year at current flock numbers.
- They are vaccinated for distemper, parvovirus and canine hepatitis, and wormed for hydatids when the sheep come into the yards.
- In training, the dogs are yarded with sheep for several months, tethered each night and monitored closely during the day to ensure they can be trusted.

They work on a ratio of 1:100 head of sheep in a mob of wethers, and 1:50 for ewes, although that can change in the paddocks closer to the homestead.

"Wethers tend to run together in big mobs so it's easier for the dogs to guard them, but ewes may split up or be more individual, so that makes it more challenging," Marie said.

They feel 'a lot more positive' about the future since investing in Maremmas to protect their sheep and are hopeful that the guardian dogs may also assist in protecting newborn lambs from feral pigs and other predators.

For more information, view a recorded webinar on Maremmas as guardian dogs and the full Crook-Kings Maremmas case study on the Leading Sheep website *www.leadingsheep.com.au*.

A Maremma feeding station out in the paddock.

Leading Sheep
Leading the way to profit and productivity

Leading the way for a more profitable sheep and wool industry through new technologies, knowledge and skills, the Leading Sheep project aims to help Queensland's sheep and wool producers increase their long-term productivity and profitability.

In line with the predation focus in this edition of Flock talk there are a range of other useful resources and information on the Leading Sheep website including:

- producer case studies on exclusion and electric fencing, coordinated control and guardian animals
- "Tracks and Traps" eBook
- fact sheet on using donkeys as guard animals
- a list of wild dog trappers that are available to work in Queensland
- recorded webinars (on-line seminars) on controlling feral pigs, and using alpacas, maremmas and donkeys as guard animals.

Also on our website you can sign up to our monthly newsletter, keeping you informed of sheep industry information and events – more than 1250 industry members and stakeholders have already subscribed. So check out *www.leadingsheep.com.au* now.

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LEADING SHEEP FLOCK TALK

awi Australian Wool Innovation Limited
Queensland Government

The regional team bringing you Leading Sheep activities (left to right): Nicole Sallur, DAF Charleville; Noel O'Dempsey, 'Linallie' Texas; Joy Hardie, 'Verastan' Muttaburra; Amy Brown, 'Heather Station' Bollon; and Alex Stirton, DAF Charleville.

Thank you!

Thank you for your support and involvement with the Leading Sheep 2011-2015 project. This project was funded by Australian Wool Innovation (AWI), the Department of Agriculture and Fisheries (DAF) and supported by AgForce.

With your help, we engaged with almost 3000 attendees at field days, workshops and webinars. Feedback from these events revealed a remarkable 75 per cent of attendees intended to make a change in their business as a result of what they learned at Leading Sheep events. Ninety-six per cent of participants would recommend the events to others and 93 per cent gained new knowledge.

We're pleased to announce AWI has approved continued funding for 2015–2018, and look forward to working with you to ensure the ongoing profitability and productivity of the Queensland sheep and wool industry.

A proactive network, progressive producers and sheep and wool businesses leading the way.

Nicole Sallur
DAF senior sheep extension officer
Leading Sheep project manager
Flock talk editor

Busting feral pig myths

Busting feral pig myths, understanding their vulnerabilities and getting the community engaged are key to feral pig control.

Darren Marshall from the Queensland Murray-Darling Committee shared his insights on pig control, their habits and impact on sheep operations at a recent Leading Sheep field day in Charleville. He has researched the impact of feral pigs on farming and grazing land and has discovered some misconceptions about their habits and controls.

Darren Marshall, Senior Project Officer (Biodiversity and Pest Management), Queensland Murray-Darling Committee.

"I think the impact feral pigs have on lambing rates is underestimated. Wild dogs have a significant impact, and the evidence is often plain to see. Pigs can, and do, prey on lambs, but will often leave no evidence behind - disguising their real impact.

"It's also important to understand how pigs may compete for pasture. Data is scarce, but we do know they are mostly herbivorous and can consume a lot of pasture.

"There is a misconception pigs will travel great distances or move out of a national park onto a property. Where they have a food source such as pasture or grain, a water supply and shelter they are actually unlikely to travel great distances," Mr Marshall said.

Mr Marshall said another common myth is that pig harvesters or hunters can significantly reduce pig populations.

"While hunters can reduce populations in the shorter term, it is often difficult to maintain enough pressure across enough country to effectively keep population numbers down in the longer term," he said.

"In fact, we have found that properties that rely solely on regular pig hunters tend to have higher pig populations. Often a pig hunter might kill say 10 pigs out of a population of 40 and the numbers will quickly re-establish and increase. Feral pigs are prolific breeders with one sow being able to produce up to 20 piglets in 12 months.

"While there are misconceptions about pig control, photos don't lie – using pictures taken by remote cameras before and after a control operation like an aerial shoot, we are able to see how pig numbers change."

Results show that when the whole region is involved, control is most effective. This could mean regional coordination of dates, pre-bait, aerial shoot and trap, followed by a population count to evaluate effectiveness.

Research suggests that unless a feral pig population is reduced by 70 per cent, the population will quickly return to pre-control levels, so it's essential to expose as much of the population to the control method as possible.

"Whether baiting or trapping, free feed for at least seven to ten nights to draw in as many pigs as possible; it's important to double the free feed quantity each night until there is some left over. This way you know that all feral pigs in the population are getting an adequate food supply and will get enough bait when the free feed is switched to toxic bait," Mr Marshall said.

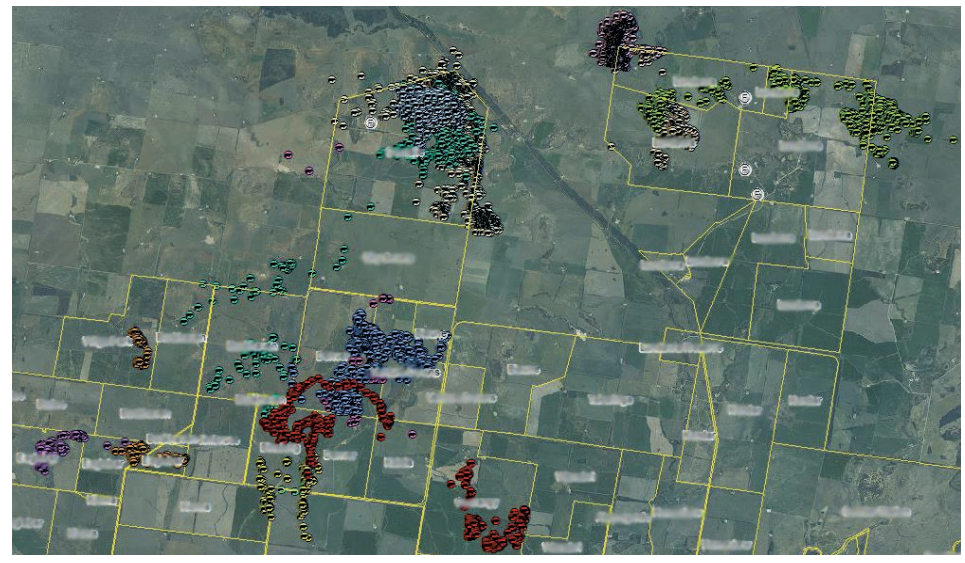
"Free feed should be put out in lines so dominant feral pigs cannot hog the food source and all pigs can access it. If some feral pigs do not get a lethal dose when the free feed is switched to toxic bait they will become bait shy and become problem animals."

Mr Marshall says there is a misconception that feral pigs will move on from the free feed after a few nights. This is often because the free feed food source is not large enough to sustain the whole group of pigs. If the group is not receiving enough food they must move on.

"In my experience if you supply enough food for the whole mob they will not move on until that food source is depleted," he said.

Mr Marshall is involved in a study in partnership with the University of New England and Pennsylvania State University, which will fit up to 50 feral pigs with GPS collars across southern Queensland, northern New South Wales and Tasmania to understand the habits and preferences of the animals. The study will commence in early 2016 and will run for 12 months.

For more information view a recorded webinar on controlling feral pigs on the Leading Sheep website *www.leadingsheep.com.au.*



Data collected from tracked pigs shows that feral pigs do not travel far if they have a food, water and shelter source.