



ISSUE 44 WINTER 2017

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# NORTHERN MUSTER

Information for rural business in North Queensland

## Leucaena leading productivity in the north

## In our own backyard: National symposium on calf loss

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# Welcome to Northern Muster 44

**Welcome to the winter** edition of the *Northern Muster*. This issue covers a broad spectrum of the grazing enterprise from business skills to genetics, nutrition and improving pastures.

With varied dry season conditions on the back of yet another patchy wet it's time to work on getting your supplementation right. Protein will be starting to limit cattle performance as the levels in pasture drop off. Energy at this time of year is also likely to be low, particularly where there is a shortage of roughage and the feed quality of that roughage is poor. This issue features an informative article on managing your supplementation to overcome feed quality hurdles typically experienced in the dry season. Also featured in this edition are articles about establishing improved pastures in your paddocks and research trials currently occurring across the north.

More and more graziers are getting on board the Grazing Best Management Practice (BMP) program to self-assess their management practices and fine-tune their beef businesses as a result.

A million hectares of grazing land in Great Barrier Reef catchments have now been independently verified as being managed to meet the high

standards required for accreditation under the Grazing BMP program. This is not only a terrific achievement for the businesses who have become accredited but also the grazing industry within these catchments. Western Queensland graziers are also getting involved in the action by focussing Grazing BMP on drought recovery and business resilience. In this issue we meet the Rankine family from Bunuro Station, Torrens Creek, who share their Grazing BMP journey and how the program enabled them to further develop their operation.

The hot industry topic has been market access as a result of the Northern Territory Government and Government of Western Australia enforcing minimum Johne's Beef Assurance Score (J-BAS) entry requirements. These requirements now include a biosecurity plan as well as herd testing in Western Australia. Biosecurity plans will also be required for producers to gain or renew their Livestock Production Assurance (LPA) program accreditation from 1 October 2017. The Livestock Biosecurity Network is running biosecurity planning workshops throughout Queensland. These workshops will assist producers to take the necessary steps to implement sound biosecurity practices to safeguard their business and manage risks.

Finally, we would like to welcome Rob Caird to the Department of Agriculture and Fisheries. Rob has commenced his role of beef extension officer servicing the far north and north west of the state. We welcome back Megan Willis, based in Charters Towers from maternity leave. We also welcome Jo Gangemi to Charters Towers. Jo has transferred from Biloela. To learn more about our staff and for the latest research-based information, tips, tools, events and recorded webinars visit [www.futurebeef.com.au](http://www.futurebeef.com.au).

We hope you enjoy issue 44 of the *Northern Muster*. Please contact our editorial team with any inquiries or feedback. Subscribe at [www.futurebeef.com.au](http://www.futurebeef.com.au) to receive the *Northern Muster* direct to your email or email [northernmuster@daf.qld.gov.au](mailto:northernmuster@daf.qld.gov.au).

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## Market report: Heat remains in cattle market despite lack of rain

**Some useful rain** has fallen across Queensland since our last market report. Despite the patchy nature of the late-autumn rain, there has been just enough to keep some heat in the cattle market, as demand continues to exceed supply. The typical late-autumn, early-winter flush of cattle onto the market and subsequent price slide that we normally see has not occurred so far in 2017. Instead, strong competition from southern restockers and supply pressure drove both meatworks and boat cattle trade prices upwards in early June.

With yet another poor summer rainfall season experienced in 2016-2017 over many of the major cattle producing districts, cattle numbers will remain tight for both domestic and export destinations. On the back of the ongoing drought conditions, restricted cattle supply and a difficult economic operating climate, a number of smaller abattoirs in southern areas of Australia have closed their doors.

When preparing this report in late June, heavy boat trade cattle were quoted at \$2.80 to \$2.90 per kg live weight with lighter types up near the \$3 mark, delivered Townsville. A steady rise in the meatworks market was noted throughout this period. In late May, the best bullocks at JBS Australia's Townsville plant were \$4.85 per kg dressed weight with prices continuing to creep up from this figure into June, to reach \$5.15/kg dressed.

The ongoing cattle shortage has seen record demand and prices for quality weaners. Roma saleyard prices for weaners have reached well over \$4 per kg live weight and in the northern saleyards weaners have reached as high as \$3.70.

For the first time, Australian feedlots have broken through the 'million head on feed' mark. Queensland is a major player in the feedlot game and is currently feeding over 50 per cent of the national numbers on feed. Feedlot operators are working with lower grain prices however high feeder cattle values are limiting reasonable returns. Grain prices are expected to remain low on the back of high domestic and global supplies.

A topic of interest in the domestic processing industry is the upcoming introduction of Dual

Energy X-Ray Absorptiometry (DEXA) technology. The objective measurement tool will enable abattoirs to determine saleable meat yield on every carcass purchased. The industry is already equipped with Meat Standards Australia (MSA) grading which enables eating quality to be determined. As the new DEXA technology will provide the percentages of meat, bone and fat, it will allow the abattoir to reward good yielding in addition to high eating quality cattle. The feedback provided to producers through the technology will also give good direction for herd genetics, pasture management and fattening systems decisions.

Teys Australia has recently launched a pasture fed beef standard called Grasslands. Grasslands is a natural, grass-fed beef product for domestic and export markets. The only difference between Grasslands and the existing Pasturefed Cattle Assurance System (PCAS) standards is the on farm auditing process cost, which under the new Grassland standard will be covered by Teys Australia. The pasture fed product will still be antibiotic and hormone growth promotant (HGP) free and must grade MSA to qualify. In other market news, a ban commenced in late June on all frozen and fresh products from Brazilian beef exports into the USA. The United States Department of Agriculture (USDA) stated concerns on product safety with 100 per cent of imports being inspected, and up to 11 per cent rejected. This is well above the usual 1 per cent allowed. Australian product rejection rates are well below 1 per cent.

The recent buffalo slaughter and export ban in India could have wide reaching impacts on world beef trading and prices. India is one of the largest beef exporters in the world. If the ban is ongoing, opportunities for other beef exporting nations including Australia could arise. The large economic impact of the ban within India may see the export restrictions lifted fairly soon, however the uncertainty of supply could rapidly increase demand from a wide range of markets.

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# Grazing BMP: The journey at Bunuro Station

In 2001, David and Donna Rankine purchased Bunuro Station, an undeveloped pastoral holding of 31,020 hectares. Bunuro, in the Desert Uplands, south-west of Pentland, consists of sandy loam soils with yellowjacket country being the predominant land type. The average rainfall is 500mm per year. Over the years, the Rankines have successfully addressed many challenges associated with grazing cattle at Bunuro. These include climate variability, a harsh environment with phosphorus deficient soils and the presence of heartleaf, a toxic, native shrub, over half the property.

The Rankine's focus on grazing land management to allow the property to reach its full grazing potential. This has included extensive property development of fencing and stock water installation to minimise grazing pressure and decrease the distance stock have to walk to water, as well as to allow them to spell paddocks. Their breeder herd performance is not overlooked. Individual animal records, seasonal mating and supplementation are used to ensure the highest level of productivity possible is achieved from their breeders.

## The Rankine's experience

The Rankines were amongst some of the first producers to engage in the Grazing Best Management Practice (BMP) program in the Burdekin. They attended a Grazing BMP workshop, led by the Department of Agriculture and Fisheries (DAF), in Pentland in 2014, eager to find out more about the program and what it could offer their business.

David Rankine recalled that when completing their first Grazing BMP assessment he was impressed with the thorough nature of the program in covering all areas of a beef business.

"I felt at the time it would be a useful tool for industry to encourage the adoption of well-known principles as well as validate what some producers were already doing," he said.

He could also see the power a program such as Grazing BMP had in providing the grazing industry with some data to combat the criticism thrown at it.

Completing an initial assessment of their business allowed the Rankines to identify areas where a level of improvement was required.

Donna Rankine said they found themselves below industry standard in the areas of record keeping and workplace health and safety.

"These are parts of the business we all know we need to improve and completing Grazing BMP gave us a taste of what was considered to be industry standard in these areas," she said.

"There were also areas of record keeping that we had never considered – things such as recording our decision making and the processes used with livestock handling."

Two years later, the Rankines completed a reassessment of all Grazing BMP modules.

"This is when we got serious about tidying up those areas of the business that we knew needed improvement," Ms Rankine said.

**"We discovered that we had not really addressed the issues that we identified as needing attention from our initial BMP assessment."**



Donna and David Rankine at home on Bunuro.

The Rankines also found it quite rewarding to benchmark their business against whole of industry.

"It is satisfying to know that what you're doing is considered by industry as the right thing by your business and your country," Ms Rankine said.

## Certification

Over the space of year, the Rankines worked with the DAF FutureBeef team to support them to achieve industry or above industry standard for all areas within the Grazing BMP program.

"This is when we became interested in Grazing BMP accreditation," Mr Rankine said.

The Rankines believed that accreditation would help their business achieve a greater level of integrity as well as supporting the integrity of the Grazing BMP program.

DAF FutureBeef Extension Officer Mellissa Holzwart worked with the Rankines to implement the changes and work towards accreditation.

"They were already implementing sound management practices, however just lacked the

documentation to validate and support what they are doing," she said.


"We find this a lot when working with producers towards accreditation.

"David and Donna have a very high level of management, so it was pleasing to be able to work with them through the accreditation process and be able to give them and their business the recognition it deserves".

In February 2017, the Rankines were successful in becoming a Grazing BMP accredited business. They said it was very satisfying to be rewarded for the day to day management they carry out.

"Nothing within the Grazing BMP program was new to us," Mr Rankine said.

"The standards are well-known principles that encourage sustainable and profitable management.

"It's rewarding to know that what we are already doing is supported by the industry and wider community." 

## PROJECT UPDATE



## TOWNSVILLE PORT EXPANSION PROJECT

### COSTS

- \* Lower freight costs for NQ businesses
- \* Delivery method to maximise local benefits

### JOBS

- \* 120 FTE jobs in Townsville
- \* 245 FTE jobs in Queensland

### TRADE

- \* Freight hub of Northern Australia
- \* Growth in population, growth in the regional economy

Widening of the sea channels into Townsville Port is critical to allow access for larger ships to grow imports and exports in the region, as well as support the booming cruise industry and strategic defence requirements. Following the State Government's \$75 million commitment towards the \$193 million Channel Capacity Upgrade Project, works continue to finalise environmental approvals and secure the balance of funding. The Additional Environmental Impact Statement for the \$1.64 billion Townsville Port Expansion Project has been finalised; State and Federal regulator decisions on the project are anticipated by the end of October.

Links to fact sheets and FAQ's about the project can be found at [www.townsvilleportexpansion.com.au](http://www.townsvilleportexpansion.com.au)

# Leucaena leading productivity in the north

**Leucaena, a proven performer** in Central Queensland, can also transform beef production systems further north. The Cunningham leucaena variety established across 1200 hectares near Mount Garnet in the 1990s doubled annual live weight gains and improved carrying capacity from one adult equivalent to 5–6 hectares on native pastures to one adult equivalent to 2.5–3 hectares on leucaena with native pastures.

With more than two million hectares of soils suited to leucaena in the north, it has significant potential to increase productivity of beef and breeder operations. Adoption has been low with less than 2500 hectares established in North Queensland. This is due to a lack of producer experience and capability, the perceived high establishment costs and risks, tree clearing restrictions and ongoing production losses from damage caused by psyllid insects.

In North Queensland, the Cunningham and Wondergraze varieties, while productive, are very susceptible to the leaf sucking psyllid. Psyllid attacks occur annually in the autumn–winter period and in some years can defoliate a leucaena stand in three weeks. Leucaena palatability is often compromised even during moderate psyllid attacks due to an accompanying black exudate on the plant.

A University of Queensland (UQ) and Meat and Livestock Australia (MLA) plant breeding program was initiated in 2002 to develop a psyllid-resistant leucaena variety derived from crossing the susceptible species Wondergraze with the resistant species *Leucaena pallida*.

An MLA and Department of Agriculture and Fisheries (DAF) led producer demonstration site on Whitewater Station, Mount Surprise, includes a 33 hectare trial aimed at improving industry understanding of establishment costs and options in timbered country. The trial also includes a one hectare plot to assess the palatability of new leucaena lines bred specifically for psyllid resistance.



Viewing new Redlands psyllid resistant leucaena at the Pinnarendi trial are Dean Jonsson of Wombinoo Station, Rob Pagano an Atherton Tablelands producer, Rob Caird of DAF, Bruce Carcary an Atherton Tablelands producer, Greg Brown formerly of Meadowbank and Warren Jonsson of Wombinoo Station.

## Establishing leucaena in timbered country

The 33 hectare timbered red basalt trial site was planted in January 2016 and Wondergraze was successfully established across 75 per cent of the paddock. The basalt soils on Whitewater, while freely drained and generally very fertile, are extremely low in sulphur. Adequate sulphur levels (> 10mg per kg) are essential to maximise the productivity of legume production systems like leucaena. The producer demonstration site paddock will be fertilised in July to address the current sulphur deficiency and steers will graze the area from July to September 2017. Competition from the native timber and the subsequent impact on leucaena productivity will be assessed after the 2017–2018 wet season.

## Palatability trial

In 2014 a palatability trial on Whitewater compared four psyllid resistant breeding lines with two commercial varieties, Wondergraze and Cunningham. Psyllids had damaged the commercial varieties in early April 2016 and the trial was grazed in mid-May 2016 by 15–24 steers and cows. The yield of leaf before and after grazing was measured. Psyllid pressure reduced the palatability and the available leaf by 60 per cent on existing cultivars. Overall, there were no major differences in preference

among the varieties. All were well eaten with approximately 10 per cent of leaf remaining at the end of grazing period. Given that there was more leaf on the breeding lines at the beginning of the trial, the cattle spent more time grazing these lines.

A previous preference trial in December 2014 had also shown that, when undamaged, Cunningham and Wondergraze were preferred but all were ultimately consumed. The Redlands variety was selected for release to industry based on high levels of psyllid resistance, in vitro digestibility, yield and seeding ability. The productivity of Redlands is being compared to Wondergraze on the recently established grazing trial at Pinnarendi Station, about 50km south-west of Mount Garnet.

## Pinnarendi Station demonstration site

To confirm the potential productivity and profitability gains from using the Redlands variety in psyllid prone areas, a large-scale live weight gain trial site has been established at Pinnarendi. This project is also funded by MLA and DAF and includes the establishment phase (phase one) as a pre-requisite for the phase two live weight gain trial.

The Pinnarendi site comprises 61 hectares divided into eight replicated paddocks. Of these

eight paddocks, four paddocks are established with Redlands and four paddocks with Wondergraze. The red earth soils on the trial site are well drained and rock free but deficient in phosphorus and sulphur.

Site preparation took place from August to December 2016 and the trial perimeter was completely fenced with netting to prevent damage by rabbits or wallabies. Plant rows were laid out, cultivated and fertilised. Planting occurred in mid-January and mid-February 2017 with reasonable rainfall ensuring good germination and ongoing growth. Pre-planting and post-planting herbicide applications as well as regular cultivation either side of the plant line has controlled weeds.

Establishment across all eight paddocks ranges from excellent to acceptable and it is likely the leucaena plants will survive until break of season storms. Wondergraze has had a more consistent germination and is generally more vigorous than the Redlands paddocks. However, psyllids are now active at the site and are beginning to cause significant damage to the Wondergraze, whilst the Redlands remains untouched.

Grazing trials will commence in March 2018 with eight uniform cohorts of Brahman-cross steers will graze in each of the paddocks. Grazing will occur for periods of eight or ten months with live weight gains monitored regularly.


A recent field day was held at both Whitewater and Pinnarendi on 24 May 2017. The day was well attended with 22 beef producers and nine agency and agribusiness representatives keen to learn about the potential of leucaena to significantly lift beef productivity in North Queensland. While establishment issues and costs were acknowledged, feedback from the day indicated at least four producers will establish leucaena trial sites during the 2017–2018 wet season.

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## Aerial seeding of Progardes Desmanthus at Wambiana

Nearly six years after initial aerial seeding of Progardes Desmanthus (Progardes) at Wambiana Station, 80km south of Charters Towers, a very good population has been observed.

In October 2011 a paddock that had been pulled and burnt was aerially seeded with a mixture of hard and scarified, soft Progardes seed. The paddock was spelled after seeding to aid in establishment with grazing starting at end of the 2011–2012 wet season. The paddock is a mixed box/brigalow/whitewood/bauhinia land type.

The 2011–2012 wet season was an above average rainfall season but has subsequently been followed by below average rainfall years. The paddock was spelled in 2016 and is now grazed and the Progardes appears abundant and compatible with the pasture grasses and also grows in and amongst the currant bush.

The slow, but eventually successful establishment of Progardes at Wambiana may well be related to the seasons and the use of some hard seed in the seed blend. In our variable rainfall environment the hard seed protects against false germination starts and allows the seed to be long lived in the soil which permits germination to occur at a later date when conditions are more suitable for establishment.

In June 2017 the Progardes plant frequency across the paddock was 39 per cent.

On inspection a strip pattern of Progardes can be detected across the paddock resulting from the aerial seeding flight paths, and this accounts for some of the variability in plant density and frequency of plants across the paddock.

Previously, small plot trials near Hughenden on cleared gidgee and Mitchell grass downs had shown that Progardes can be established by broadcasting seed onto the soil surface. However, the Wambiana paddock was the first to be aerially seeded with Progardes with the aim of demonstrating that Progardes is a suitable legume for these land types and environment, and that aerial seeding could be used as an establishment technique.

Progardes is proving to be a successful pasture legume on neutral to alkaline clay soils in the subtropics and tropics and grows with a range of native and exotic grass species.

A range of planting methods can be used to establish Progardes – depending on circumstances – and in this case aerial seeding into ash has been successful. In the future, some calibration of the aircraft and seeding pod may be necessary to obtain a more even distribution pattern of the seed across paddocks.

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Well-established Progardes plant in the seeded paddock on Wambiana.



## Producers beef up business skills

Graziers of all ages are beefing up their business skills by participating in Microsoft Excel workshops offered by the Department of Agriculture and Fisheries (DAF). The workshops, held in Charters Towers, are helping improve graziers' business analysis skills.

DAF beef economist Holly Reid, DAF biometrician Angela Anderson and DAF beef extension officer Alice Bambling have been leading beef producers through these popular training sessions.

Ms Reid is a strong advocate for teaching producers how to evaluate and improve the profitability and sustainability of their business. "A key to successful grazing businesses is record keeping," she said.

"If you start keeping records then it can all fall into place. You know more about your business and can make better decisions."

The Excel spreadsheet provides an electronic platform for both record keeping and analysis to assist with more informed decision making in a business.

"People tell me they avoid using Excel because they're worried they'll mess it up, but it is a simple piece of software that can be broken down into manageable components and learnt as you go, so lack of experience is not a barrier," Ms Reid said.

The workshops provide producers with skills to create their own templates, allowing them to customise the way they record data for their business.

Basic and advanced levels are catered for.

Activities included how to: search and sort data, do simple calculations, easily summarise weights and pregnancy status for a mob of cattle, graph and create and format a custom template. The basic workshop assumes no prior knowledge of Excel.

Ms Reid said there was a high level of interest in the workshops.

"I think the level of interest can be attributed to Excel being one of the most-used software programs in business. It can do so much once you have the skills to drive it, yet many producers



Producers Jeneve Barnicoat and Heidi Bredden tested out their new skills in Excel with Alice Bambling.

haven't had the opportunity to learn those skills," she said.

Michael Lyons from Wambiana Station, south of Charters Towers, said he had used Excel to manage his herd data for years.

"The advanced course helped me realise the potential of features in Excel that I didn't know existed," Mr Lyons said.

He plans to use pivot tables as a data summary tool to further analyse breeder performance data.

Jeneve Barnicoat of Speculation Station said the workshops interested her because she has been looking for options to record business details.

"I have always wanted to try using Excel before but have never had the confidence to teach myself," Ms Barnicoat said.

"I found the Excel workshops very useful, they opened up a lot of questions and opportunity for better methods to record the business's data. Excel is more than just a calculator," she said.

"I learnt a lot through the workshops and would recommend them to other producers who have been looking for an opportunity to use Excel more in their business."

To learn more about how Excel can help your beef business contact:

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# Getting supplementation right

**Queensland livestock management consultant** Desiree Jackson recommends producers consider the following factors when selecting a supplement or formulating a customised supplement to get the best result and avoid unnecessary costs.

## 1. What animals are being fed and why?

Establish the objective of the feeding program. Have a clear, achievable goal and examine whether the diet quality in the paddock matches the target animal nutrient requirements.

Focus on one paddock or group of animals at a time. Determine what their requirements are in terms of their protein, energy and phosphorus requirements as a starting point.

Different classes of animals have vastly different requirements depending on their weight, stage of growth or stage of productivity.

## 2. What is the pasture situation?

Firstly, it is crucial to ensure there is sufficient roughage available to the animal. Without enough roughage in the diet, the rumen microbial population diminishes rapidly, which will limit livestock production.

If urea is being fed, the increased grazing pressure needs to be accounted for in the forage budget at the start of the dry season. When available pasture is low, therefore roughage reduced and diet quality is poor, cattle will gorge on available supplements.



Be sure to monitor your cattle's feeding behaviour to ensure their nutritional requirements are being met.

This can lead to urea poisoning, molasses toxicity, grain poisoning or ammonia poisoning.

## 3. Are there any endemic deficiencies in the paddock?

The most common nutrient deficiency across Australia is phosphorus. Sulphur can be deficient in diets on specific land types such as basalt and mulga country. Deficiencies in minerals such as copper, cobalt and selenium have been identified in some coastal areas.

These nutrients must be supplied or the efficiency with which the cattle can utilise other nutrients is greatly diminished. However, if protein and energy are deficient in the diet, the effectiveness of supplementing minerals is greatly diminished.

## 4. What is the most limiting nutrient in the diet?

The most limiting nutrient must be supplied first. For example, early in the dry season,

protein is often the nutrient that becomes deficient first, followed by energy. In the wet season on phosphorus-deficient country, phosphorus is the most limiting nutrient.

## 5. Balance of nutrients

The supplement provided must always be balanced with what the animals are receiving from the pasture. Care must be taken that supplemented nutrients are balanced with pasture nutrients to ensure that the target nutrients that are supplemented are fully absorbed.

For example, where cattle are running on phosphorus-deficient country, providing too much calcium in the supplement will interfere with phosphorus absorption.

Another example where supplementation can be ineffective is when a urea-based lick is being supplemented, but energy is much more deficient in the diet relative to protein. Therefore, ongoing monitoring of diet quality is

important. As the diet quality changes, the most limiting nutrient in the diet will also change. Supplements also must change over time to remain effective.

## 6. Correct intake

The supplement must contain adequate levels of the desired nutrients and the cattle must consume enough for their needs e.g. if a supplement contains phosphorus, it does not mean that the cattle are consuming enough phosphorus. The lick may be too low in phosphorus or the consumption rate may be too low.

An unpalatable lick will result in intakes that are too low even if the specific nutrients are required. Excessively high lick intakes may be due either to lick palatability or a deficiency that hasn't been addressed. Commonly found with urea-based licks where consumption may become excessive because the diet has become energy deficient, or animal nutrient requirements have increased (e.g. breeders start calving), or pasture has become low in quality and cattle compensate by increasing lick consumption.

Ingredients such as salt and sulphate of ammonia are used to control lick intake. Avoid overconsumption of sulphur or nutritionally unsound, low nitrogen to sulphur ratio in the diet.

## More information

Would you like to attend a Nutrition EDGE workshop or organise one in your area? Go to [www.mla.com.au](http://www.mla.com.au) and search 'training edge' to register your interest.

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## Tails telling truth about beef genetics

A large new project, known as Northern Beef Genomics is using frontier science to uncover the genomics of breeding cattle in northern Australia, and accelerate their genetic improvement.

Professor Ben Hayes from the Queensland Alliance for Agriculture and Food Innovation (QAAFI) at the University of Queensland who leads the five year Meat and Livestock Australia Donor Company project said the objective is to have a rapid, relatively inexpensive highly

accurate genomic test for both bulls and heifers of the breeds, crossbreeds and composites used in northern Australia.

"A tail hair sample will be used to identify animals with superior genetics for the ability to cycle and conceive during lactation, early age at puberty, and maybe even lifetime productivity of cows," Professor Hayes said.

The key to developing a successful test will be well-recorded reproduction and productivity data for a large number of cows.

The project will subsidise DNA typing and routine data collection to monitor reproduction and

growth of up to 30,000 cows of mixed breeds in commercial herds.

"Collaborators will receive genomic breeding values for all cattle they enrol, a major asset when selecting bulls and females for breeding," Professor Hayes said.

"We are now seeking collaborators and would be very pleased to hear from anyone who is keen on participating in this technical and business-orientated project".

To find out more information about the Northern Beef Genomics project or to express interest in participating in the project please contact:

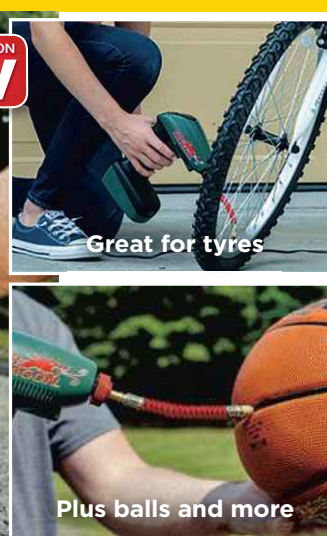
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# Weaner wisdom

Good weaning practices and weaner nutrition is the starting point in meeting market specifications and extracting more profit from your herd.

With at least two weaning rounds occurring each year, a key part of any northern breeder business is having good weaner management and feeding systems in place. Several good-sized paddocks with some improved pastures are a must for any weaner program.

Across North Queensland beef producers use a wide range of tactics to feed their weaners during their first dry season. When feeding in troughs, weaners require around 25–30 cm of trough space per head. Weaner weights are a reasonable indication of the development of the rumen and its ability to process pastures and supplements such as urea. Some rules of thumb are:

- A small weaner (80kg) requires clean water, good hay, and a mash or pellet mix with plenty of crude protein (20 per cent minimum) and energy (12 MJ/kg) as it has a poorly developed rumen.
- The bigger weaner (120kg), although the rumen is still undeveloped, will cope with a cheaper pellet containing less crude protein (15 per cent) and less energy (10–11 MJ/kg) and can also

handle urea in the form of M4U (molasses plus 4 per cent urea).

- Once weaners are over 150kg they will do well in a fresh paddock with plenty of room. M8U (molasses plus 8 per cent urea) will keep weaners going forward or dry weaner lick with urea will minimise weight loss during a long dry season.

It is essential to keep drafting weaners up by weight to minimise bullying and save on feeding costs as nutritional requirements drop and weaners can better process pastures. Check the labels on your feed bags to ensure protein and energy levels are reasonable. Table 1 below includes a summary of weaner weights and feed suitability.

## In the long term, nothing beats good weaner paddocks

Supplements such as copra meal, molasses–urea mixtures and weaner feeds do a good job, but at a significant cost every year. A long term

Table 1. Summary of weaner weights and feed suitability

Weaner weights	Feed type	Crude protein requirements	Energy requirements
Under 60kg	• Milk replacement powder – teat	20–27%	12 MJ/kg +
60 to 100kg	• Clean water, good hay and weaner pellets or mash	20%	12 MJ/kg
100 to 150kg	• Good water, hay and weaner pellets. • M4U is a cheaper option for weaners over 120kg	14–16%	10–11MJ/kg
More than 150kg	• Good paddock at correct stocking rates • Weaner dry lick with high protein meal • M8U is an option	• Urea based - 30% crude protein equivalent • M8U - 28% crude protein equivalent	• Dry licks – 7MJ/kg • M8U - 11MJ/kg

\*\*Add coccidiostats (rumensin, monensin) to all feeds to prevent coccidiosis.



## Weaner management nutrition is a crucial part of your business each year

- Most properties spend significant dollars on weaner feed each year making paddock and pasture development a feasible alternative in the long term.
- Plan and cost out the establishment of sufficient paddocks to handle your annual weaner crop. Weaner performance in a handy paddock will always be better than trough feeding in small flogged out paddocks.
- Establish improved pastures in these paddocks as finances allow.
- Look after your weaner paddocks. Spell every year and watch your stocking rates.

Segregation saves money and improves feeding programs.

favour the better pastures and build up a good body of feed. Table 2 below provides a rough stocking rate guide (on native pastures) for weaners on various Northern and Southern Gulf land types.

### The most common weaner management mistakes observed include:

- Poor quality weaner feed being used
- Insufficient trough space
- Overstocked paddocks and poor water distribution
- Poor training and handling through yards and nearby paddocks
- Poor segregation of weaner classes by weight
- Weaners bushed into big paddocks after processing (castration, dehorning) and not handled again for more than six months.

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solution involves setting aside paddocks of a suitable size for the weaner numbers you expect each year, and ensuring there is good water distribution. We often see weaner paddocks that are too small and heavily grazed as they are close to the house and are often used to hold sale cattle.

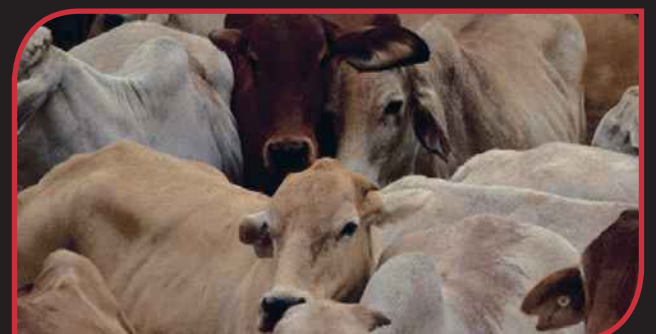
Get your stocking rates right and in the wet season spell weaner paddocks every year to

Table 2. Stocking rate guide for weaners on native pastures on Northern and Southern Gulf land types.

Land types	Stocking rate (hectares)	Stocking rate (acres)
Frontage, basalt and black soil	1 weaner: 1.8ha	1 weaner: 4.5 acres
Goldfields	1 weaner: 2.6 ha	1 weaner: 6.5 acres
Grey clays/bluegrass downs in Gulf	1 weaner: 3 ha	1 weaner: 7.4 acres
Georgetown granites	1 weaner: 3 ha	1 weaner: 7.4 acres
Forest country with red and yellow earths	1 weaner: 4 ha	1 weaner: 10 acres
Mitchell Grass downs (average across good and bad years)	1 weaner: 4 ha	1 weaner: 10 acres
Silverleaf box	1 weaner: 8 ha	1 weaner: 20 acres
Red spinifex ridges	1 weaner: 9 ha	1 weaner: 22 acres

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# How is your herd performing?

Whole of business analysis is about understanding and improving your herd and business performance.

The **\$avannaPlan-BeefSense** team, supported by the Northern Gulf Resource Management Group, continues to help Gulf beef producers examine their stocking rates, herd productivity, operational costs, profitability, marketing options and succession plans. Through **\$avannaPlan-BeefSense** the following herd performance data was collected from 18 extensive beef businesses across the Gulf (Table 1).

**Table 1. Herd productivity data from 18 extensive beef businesses (39 properties) based on five year averages.**

	Weaning rates (%)	Estimated Annual liveweight gain/head (kg)	Female sales as portion of total sales (%)
Minimum Value	42	70	34
Maximum Value	70	150	48
Average	56	101	41

Low annual live weight gain (70 to 90kg per head) was a major constraint for those production systems located solely in the Northern Gulf savannas. Growing cattle on breeding businesses located on the more fertile soils (alluvial, basalt, goldfields and black soils) achieved average live weight gains of 110kg per head per year.

Four businesses use pasture improvement on their Gulf breeding operations or operate finishing properties located outside the region to increase annual live weight performance (120–150kg per head).

Female sales, expressed as a per cent of total annual sales, were used as an indicator of death rates due to the inherent difficulty in measuring mortalities on extensive breeding enterprises. Missing females and/or high mortalities constrain sales income and female replacement on these businesses. The lowest female sales (34 per cent) and the highest (48 per cent) indicate female losses (mortalities and missing) range from 3–9 per cent.

**Table 2. The Local Best Practice breeder performance data collected in the northern Gulf (1995–2000).**

Weaning rate (weaners/cow Weaning rate)	Female sales / Total sales (%)	Indicative Death Rate
60%	46%	3%
55%	45%	3%
45%	44%	3%
45%	41%	6%
45%	38%	7%
45%	34%	9%
45%	19%	13%
45%	12%	15%

Similar herd performance information from the Gulf was also compiled in the mid-1990s through the Local Best Practice project. Herd modelling identified a range of weaning rates and female sales (Table 2). Indicative death rates ranged from 3–15 per cent. The female death rate may not necessarily be all mature

cows. Some producers have recorded high deaths in weaner heifers (20 per cent) however this is very difficult to track if weaner heifers go into a big breeder paddock.

Female sales (as a per cent of total sales) are a very useful herd performance indicator, as long as herds are not in build up or there are significant forced sales. When analysing your female sales figures it is important to collect figures across several years to average out the annual variation in seasons, production cycles and timing of sales. For this reason, **\$avannaPlan-BeefSense** analysis includes financial and production figures from the previous five years.

Aside from breeder management, weaning practices, supplements (particularly phosphorus on low phosphorus country and salt/sulphur on the basalts), and stocking rates are the key driver of herd productivity.

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## In our own backyard: National symposium on calf loss

**Calf wastage**, or losses from pregnancy to weaning, is often a bigger problem than you might think.

Project leader of Meat and Livestock Australia-funded **CashCow** project and expert in future calf loss studies, Professor Michael McGowan from the University of Queensland said high numbers of beef producers in northern Australia experienced calf wastage above the achievable level of 10 per cent on a regular basis.

“The magnitude of the problem was shown in the recent **CashCow** project where 25 per cent of breeding mobs in the northern forested areas had calf wastage of above 19 per cent,” he said.

Professor McGowan said the apparent causes highlighted the massive opportunity to develop and implement practical solutions that mostly have not been systematically evaluated in northern Australia.

“The value of addressing this issue shouldn’t be underestimated.

“A 5 per cent calf loss reduction in a 3,000 adult equivalent herd, including through reducing pregnant cow mortality, would at least increase annual live weight production by 20 tonnes and earnings before tax and interest by \$25,000,” he said.



In a proposed project, **Reducing Calf Wastage**, a team of beef producers and scientists will assess the herd and business impacts of selected interventions on a network of commercial properties. An important strategy in this project will be an annual symposium for producers to keep up to date with findings and discuss practical solutions to minimise losses.

The inaugural **CalfAlive** symposium will be held on 24–25 November 2017 in Capella. The one day forum will allow ample time for both listening and discussion. Highlights will be

hearing speakers from the USA and Asia, as well as well-credentialed Australian producers and researchers.

Organising committee chairman Dave Smith from the Department of Agriculture and Fisheries’ **FutureBeef** team said this event was already gaining a lot of industry interest.

“Offering producers a better understanding of how losses may be occurring, as well as solutions, will be the drawcard for the event,” Mr Smith said.

“An organising committee of beef producers, researchers and a specialist event manager will ensure the program is both relevant and well run.”

**For more information contact:**  
*Dave Smith, DAF FutureBeef extension officer on (07) 4761 5160 or Jackie Kyte, event manager, on 0409 564 729.*

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