



ISSUE 49 AUTUMN 2019

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# NORTHERN MUSTER

Information for rural business in North Queensland



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## NORTHERN MUSTER

Information for rural business in North Queensland

# Welcome to Northern Muster 49

**Welcome to the first issue** of *Northern Muster* for 2019. This is shaping up to be another significant year for the northern beef industry after the devastating flood event in the north-west earlier in January/February and with the rest of Queensland still in drought.

A reminder for those in drought-declared regions that all fodder freight and emergency water infrastructure rebate claim forms must be submitted within six months of the date of purchase. Assistance for drought-affected producers is still available under the Drought Relief Assistance Scheme at [daf.qld.gov.au](http://daf.qld.gov.au).

The Australian Government's North Queensland Livestock Recovery Agency recently announced

a new suite of measures to support the recovery of the beef and sheep industry. Measures include immediate recovery grants of up to \$75 000, livestock industry recovery concessional loans of up to \$1 million, restocking and agistment freight subsidies up to \$100 000, a weed and feral pest initiative, industry recovery officers, additional financial counsellors and a Biosecurity Entity Registration Fee Exemption. These measures will be delivered under joint funding by the Australian and Queensland governments under the Disaster Recovery Funding Arrangements and are part of a larger long-term recovery package.

In addition, the Australian Government is fully funding a \$300 million recovery grant scheme

for grants of up to \$400 000, which the Queensland Government will deliver on the Australian Government's behalf. Further details surrounding the application forms and guidelines are being developed and will be available shortly.

Before restocking after the floods, check your eligibility for further assistance with the Department of Agriculture and Fisheries (DAF) by calling 13 25 23. Restocking may impact the type of financial assistance you can receive.

More financial-assistance information is available through Queensland Rural and Industry Development Authority ([qrda.qld.gov.au](http://qrda.qld.gov.au)). Information on the recovery of flooded Mitchell grass and the disease risks associated with carcasses and wet weather can be found in this issue.

If you did receive good grass-growing rain, there's a timely reminder to make sure your phosphorus supplement is doing its job. Check out the two articles in this issue on the benefits of feeding phosphorus. If you are unsure if you

should be supplementing with phosphorus or you would like to know more, please contact your local beef extension officer, who will be more than happy to provide you with the latest information.

On the social front, this year looks like it's going to be a busy one, with a number of great events planned. Kicking off with the Northern Beef Producer Expo in Charters Towers on the 7–8 June, this is a premier event not to be missed, showcasing all facets of the Australian beef industry. Then you will be able to find out the latest beef research at the triannual Northern Beef Research Update Conference, held in Brisbane on 19–22 August. You can register for this event at [nbruc2019.com](http://nbruc2019.com). Check out the FutureBeef website [futurebeef.com.au](http://futurebeef.com.au) for other events.

We hope you enjoy issue 49 of *Northern Muster*—please contact the editorial team with any inquiries or feedback. For an online version of the *Northern Muster*, subscribe at [futurebeef.com.au/resources/newsletters](http://futurebeef.com.au/resources/newsletters) or email [northernmuster@daf.qld.gov.au](mailto:northernmuster@daf.qld.gov.au).



## Financial help still available for flood-affected producers

**Primary producers recovering** from widespread flooding in North and north-western Queensland can apply for financial help.

Special Disaster Assistance Recovery Grants of up to \$75 000 are available to help with the costs of immediate clean-up and restoration of businesses in the aftermath of the historic flooding event in January and February.

Uptake of the recovery grants has been strong, with more than 128 producers in McKinlay Shire Council area alone accessing the grants. As of 9 April 2019, over \$45 million in these grants were delivered to more than 950 producers and small businesses in the impacted area.

Disaster Assistance Loans of up to \$250 000 can be used to purchase replacement livestock, replacement infrastructure and for working-capital expenses such as paying salaries or wages, creditors, rent or rates.

Disaster Assistance Essential Working Capital Loans up to \$100 000 are also available for businesses indirectly impacted during the

disaster event to assist with working-capital expenses.

Disaster freight-subsidy loans of up to \$5000 are jointly funded by the Australian and Queensland governments and delivered by the Queensland Department of Agriculture and Fisheries (DAF).

More recently announced financial assistance for producers that will soon be available include:

- Restocking, Replanting and On-farm Infrastructure Grants of up to \$400 000 funded by the Australian Government and delivered by the Queensland Rural and Industry Development Authority (QRIDA).
- Exceptional Disaster Recovery Loans of up to \$1 million—the first two years are interest and repayment free—jointly funded by the Australian and Queensland governments and delivered by QRIDA.
- Restocking and agistment freight subsidies of up to \$50 000 per year for two years, jointly funded by the Australian and Queensland governments and delivered by DAF.

QRIDA Disaster Recovery Manager Craig Turner said primary producers affected during the flooding still had time to apply for assistance to help ease the financial burden of cleaning up and returning their business to normal.

"While some producers in North and Far North Queensland are still coming to terms with the damage caused to their property and livestock, they can take some comfort knowing there is financial help available," Mr Turner said.

"Producers are reminded to take photos of the direct damage to accompany their application.

"In addition, you can provide other evidence such as relevant quotes, estimates or tax invoices as you would retain in the normal course of your business.

"While it is not a requirement, the more information you can provide to support your application will help us process your application as quickly as possible."

For more information visit [qrda.qld.gov.au](http://qrda.qld.gov.au) or freecall 1800 623 946.



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Alice Bambling

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# Flooding—weeds, pests, diseases and your health

Now that the floodwaters have receded, there are a number of factors for your pasture, livestock and your own health to consider.

## Weeds

Weed seeds will have been distributed widely in both water, soil and through emergency fodder drops. If you have received donated hay during the flood, keep track of the locations where hay has been fed out and re-visit them over the coming months and years after rain to check for any new or strange plants. If you see a plant that you are unfamiliar with, make a note of where you found it and take detailed photos of any seed pods, flowers or identifying features. For help in identifying and controlling weeds, contact your local DAF office or shire weeds officer.

## Pests and diseases

Cattle ticks also flourish in warm and wet conditions. A large increase in tick numbers could cause issues in cattle that may not have been exposed to cattle tick previously and could increase the occurrence of tick fever. A preventative chemical treatment will help keep cattle tick numbers down until the animal can build its natural immunity to tick fever. Depending on your situation you may need to consider more chemical treatments at later musters or consider using some of the long-acting products. They may be more costly up front but will give greater control over a longer timeframe.

Chemical treatments will not prevent the occurrence of tick fever because the tick fever organism is spread by the larval stage of the cattle tick when it first attaches to the beast. Clinical signs of tick fever include depression, weakness, jaundice, fever, staggering and death. Keep an eye on your stock to determine if you will need to vaccinate when you have them next in the yards.

During flood events, the removal of soil via erosion and the depositing of large amounts of vegetative matter along fence lines and solid objects can create conditions that allow bacteria to flourish that would otherwise have been left concealed. Clostridial diseases are some of those that will survive in these conditions. Vaccinating animals with 5-in-1 will reduce the



likelihood of stock contracting blackleg, black disease, tetanus, malignant oedema or pulpy kidney. Also recommended is the 7-in-1 vaccine, which covers these clostridial diseases as well as leptospirosis.

Vaccinating against botulism is also recommended as the toxin-releasing bacteria that cause botulism live in decaying matter. Botulism is normally associated with phosphorus-deficient country but the presence of large numbers of carcasses may increase the risk even on the better downs country.

For assistance with sick or injured animals or specific advice on a vaccination program please contact the Australian Veterinary Association hotline 1800 621 918.

## Your health

Your health and safety and that of those around you is of utmost importance. There may be an increased risk of mosquito-borne disease in the flood-affected region. It is important to protect yourself against mosquito bites. Search for mosquito-borne diseases at [qld.gov.au](http://qld.gov.au) for more information.

The bacteria that cause serious human diseases such as leptospirosis and swine brucellosis are usually contracted by humans through the exposure to the bodily fluids of an infected animal. However, leptospirosis can survive in the warm wet conditions that are a result of the flood water and swine brucellosis can survive in the carcasses of pigs. Make sure you cover all abrasions and injuries with waterproof dressings, wear appropriate footwear and use appropriate personal protection equipment when handling or disposing of carcasses.

Soil-borne pathogens, such as melioidosis, may also become dispersed into new areas. After flooding, the bacterium that causes melioidosis can be found in the surface layers of the soil and in muddy surface water. It usually enters the body via cuts and sores in the skin, or via inhalation, and very rarely by ingestion of contaminated water. The best prevention is to wear protective footwear and gloves, cover abrasions and sores with waterproof dressings and wash thoroughly after exposure to soil or muddy water.

If you are not vaccinated against Q fever, additional preventative measures should be taken to minimise the risk of inhaling Q fever-causing bacteria.

For more information on these bacterial diseases visit [conditions.health.qld.gov.au/HealthCondition/home/topic/14/33/bacterial-infections](http://conditions.health.qld.gov.au/HealthCondition/home/topic/14/33/bacterial-infections).

NQ Connect is providing mental health support for flood-affected Queenslanders. NQ Connect is a free phone and online counselling service connecting people to mental health services. NQ Connect can be reached on 1300 059 625, 24 hours a day, 7 days a week.

For more information on flood recovery resources and available grants please visit [futurebeef.com.au](http://futurebeef.com.au) or [daf.qld.gov.au](http://daf.qld.gov.au), contact your local DAF office or call the DAF Customer Service Centre on 13 25 23, who will put you in contact with the best available person to answer your question. If you would like specific financial advice please contact your local Rural Financial Counsellor or Tahna Jackson (Farm Liaison Officer) on 0409 357 211.



## New video on making best use of NLIS tags available now

A new video produced by DAF beef extension officers describes new ways that producers can use the National Livestock Identification System (NLIS) to improve data collection and decision making for their herds.

NLIS tags are mandatory in Australia for livestock traceability, market access and food safety purposes. As animals are bought, sold and moved they must be tagged with an NLIS-accredited tag or device. But there is a lot more that can be done with the NLIS tag to get value out of the investment.

By using a scale indicator, an NLIS reader and herd management software or Microsoft Excel, individual animal information can be recorded against each NLIS tag. These tags enable faster data collection and producers can view an animal's life history and performance crush side. This easily accessible information allows producers to make informed decisions regarding culling or drafting and information collected in the yards can be easily and quickly uploaded to herd management software back in the office, saving the time that manual data entry requires.

NLIS tags can be used to track average daily gains, enabling producers to identify poor performers and note their parentage, allowing removal from the system. Producers can record reproductive information such as pregnancy status, foetal age and lactation status. Having this information easily recorded and accessible in the yards ensures unproductive females are not being missed.

Decisions surrounding supplementary feeding, paddock shifts and drafting for market specifications can be made using weight-gain and body-condition data. Temperament and a comprehensive treatment history can also be kept for each animal. This information may have all been recorded manually in the past, but the significant advantage of linking individual animal information with NLIS tags is the reduction in time required for manual entry, the accuracy of the information and the reduction in paperwork.

To see how you can get the most value out of your NLIS tags, head to [youtube.com/QldAgriculture](http://youtube.com/QldAgriculture) and search for *Making better use of your NLIS tags*.



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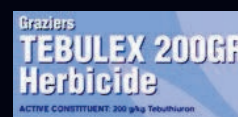
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# Encouraging Mitchell grass recovery after the 2019 flooding across north-western Queensland

**Mid-April is a good time** of the year to assess your pasture recovery and the amount and quality of feed on offer.

Usually the pasture has hayed off and you are able to estimate how much livestock you can run through to the next expected rain around Christmas time. With devastating flooding, the growing season has usually not started and most of us have not had to face such widespread damage to Mitchell grass pastures.

Mitchell grass is the mainstay of grazing businesses across large areas of north-western Queensland and we aim to offer advice to help your pastures recover and grow feed to rebuild your livestock production.

Good condition Mitchell grass country in the north-western area will have a healthy Mitchell grass tussock every pace, or better. This will be achieved by:

- allowing seedlings to grow, ungrazed, for 4–6 months (March to August 2019)
- monitoring seedlings at easy-to-access sites you are likely to revisit every 3–4 weeks
- budgeting stock numbers to leave a minimum of 15–20 cm residual Mitchell grass stubble height by the end of the year
- avoiding high impact grazing that results in trampling of seedlings and weak tussocks
- reviewing stock numbers and pasture recovery (July to August 2019).

Everyone reading this article will understand how their pasture has responded, and every situation will be different.

Most areas had Mitchell grass seedlings germinate over mid to late February. Where these have taken root and survived, as little as five millimetres of rain every two to three weeks will keep these growing. It is essential to allow them to establish properly by protecting them from grazing. Spelling is the most effective way to achieve this, but light stocking rates where there is a lot of feed on offer can also be effective.

Either approach should be maintained until the seedlings are two centimetres or more

diameter at the base and difficult to pull out of the ground. Wet-season spelling (six to eight weeks over January to February) for the next one to three summers will then encourage their establishment as mature tussocks that will contribute to sustained pasture production for the next 20 to 30 years.

The simplest way to check seedling establishment is to revisit locations that are easy to access, and part of your routine management. Check seedlings every two to three weeks to keep an eye on their progress. The most important indicators of good establishment are the diameter at the base and being well anchored.

We recommend using a feed-budgeting approach to ensure you leave ground cover and at least 15 to 20 cm height in the tillers (stalks) ready for the next rains around Christmas time. There are many feed budgeting methods available through DAF, Meat & Livestock Australia and private consultants and all allow you to estimate the amount of feed available and the number of livestock you can safely carry.

Your existing Mitchell grass will recover and grow the best if you leave at least 15 to 20 cm height in the tillers ready for the next rains. You may choose to do this grazing for the full dry season or a shorter period and then destocking—this doesn't matter as much as leaving the tussocks 'rain ready' through retaining residual height.

Mitchell grass has a number of growing points up the tillers that allow the plant to respond efficiently to smaller falls of rain (20 to 40 mm). Retaining 15 to 20 cm ensures there are three to five of these growing points ready to respond, ensuring efficient use of rain. Tussocks grazed down to the crown need more rain to respond effectively and grow the same amount of bulk. They are less efficient and will also have been physically damaged and weakened and have less starch reserves stored in the crown and rhizomes. It is these reserves that allow Mitchell grass to survive the stresses such as drought, flooding and fires.

Areas with good soil moisture, where approximately 200 to 250 mm or more rain was



Mitchell grass plants recovering over time following a flood event

received in February, should still have green in the tillers of Mitchell grass plants. The deeper the soil moisture extends, the longer the tillers will remain green. Coupled with the residual tillers, this provides a good basis for the tussocks to respond efficiently, and to rebuild their vigour.

High-impact grazing, where livestock density is high, risks further damaging the crowns of weakened Mitchell grass tussocks, of cattle grazing pulling weak tillers out of the ground, and of Mitchell grass seedlings being trampled. We recommended avoiding high cattle numbers in smaller paddocks to avoid further damage to weak tussocks and seedlings.



Taking time to check your Mitchell grass recovery and pasture yield and decide if stock numbers need adjusting in July to August (about half way through the dry season) will ensure you are still on track to meet your own goals for your pastures and animal production. Check your cattle condition and/or weight gains, feed supply, Mitchell grass seedling establishment and how well your existing tussocks are recovering.

Restoring Mitchell grass country to a healthy tussock every pace, or better, is achievable over the coming few months and couple of years. It will require both follow-up rain and effective grazing management.



## A word on lick troughs

**Lick troughs** do not need to be elaborate. Drums cut with slits, old tractor tyres with the side wall cut out, or hollow logs that let water drain are handy options for feeding loose licks.

When feeding molasses, troughs should be fitted with a form of grip (e.g. weldmesh) in the base of them in case an animal falls in. Molasses mixes also require enough trough space to prevent bullying—several troughs spread apart are more effective than one long trough. A rough guide is a maximum of 50 head to a 350–450 L trough or a maximum of 80 head to a 500–750 L trough.

When feeding weaners protein meal or pellets aim for about 20 cm of space per head.

Dry lick and phosphorus supplements don't require the same space allowance because the low intakes mean animals don't spend as much time at the trough.

A safe guide when feeding any supplements is to ensure that the size of the trough is big enough to provide access to all stock. It should also be a reasonable size to ensure enough supplement is on offer and to help minimise the number of times the trough needs to be re-filled.

**Byrony Daniels**  
Beef extension (FutureBeef)  
DAF Emerald  
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# Focus on phosphorus

2018 was the year to “Focus on Phosphorus”, with two sold-out seminars at Beef Australia in May, and more than 340 attendees.

A few months later, in September, 300 viewers tuned in for the Beef Connect phosphorus webinar series.

The grand finale was in October and November, with a series of workshops in the Fitzroy and Burdekin catchments, attended by 145 producers across eight locations. Run by DAF extension staff, the aim of these workshops was to assist producers in creating a phosphorus (P) management plan to enable year round, cost-effective supplementation in P-deficient country.

Participants learnt how to:

- identify P-deficient land types
- assess the P status of cattle
- understand the impact on productivity P deficiency has on breeding and growing cattle
- cost-effectively supplement with P
- manage grazing pressure and ground cover when cattle have adequate P.

## Key points

- Phosphorus supplementation is a major consideration in northern grazing
- DAF extension activities in 2018 were aimed at improving access to information on supplementing with phosphorus
- New resources are available on [futurebeef.com.au](http://futurebeef.com.au), including a phosphorus management plan

Beef experts, Mick Sullivan (DAF), Rob Dixon (University of Queensland) and Kylie Hopkins (DAF), provided several new resources, templates and tools to help producers manage P nutrition at the on-farm level.

P deficiency is a major problem for grazing cattle in much of northern Australia. While P is important in all bodily processes, the major impact of P deficiency on cattle is a significant reduction in appetite. Therefore, when the grass is green, cattle on P-deficient pasture just won't eat as much as they would, if P was adequate.

Less grass consumed means a lower nutrient intake, affecting the breeder's ability to



maintain body condition. This leads to lower weaning rates and increased mortality. Milk production is also reduced, meaning lighter weaners. In growing cattle, the lower nutrient intake produces lower growth rates. Lower reproduction and lighter cattle all add up to less kilos to sell.

The welfare implications of P deficiency include bone chewing (increasing the risk of botulism), stiff gait or peg leg, bone breakages and chewing objects such as rocks, sticks and wire.

The good news is that economic analysis shows management of P nutrition on deficient country

is very profitable, with the cost of supplement being well worth it.

For more information check out the new phosphorus page on the FutureBeef website [futurebeef.com.au](http://futurebeef.com.au), including all of the updated information, resources, templates and tools presented at the workshops.

**Kylie Hopkins**  
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## Is your registration with Biosecurity Queensland up-to-date?

*A message from Queensland's Chief Veterinary Officer, Dr Allison Crook.*

A new, online customer portal is now available to manage your biosecurity entity registration.

Registration is a critical part of effective biosecurity management in Queensland. It enables Biosecurity Queensland to trace animal movements to determine the origin and spread of a pest or disease, and allows us to contact you quickly and directly in an emergency.

Entity registration works with the property identification code (PIC) system. When an application for entity registration is made, the PIC that relates to the land where the animals are kept will be issued. When the registration

requirements commenced on 1 July 2016, anyone who held a PIC was automatically registered as a biosecurity entity. This means if you own any cattle, sheep, pigs, goats, other livestock or a horse, you may already be registered.

If you held a PIC on 30 June 2016, or if you've registered as a biosecurity entity since then, you can now access the Biosecurity Entity Registration Portal to manage your registration and renewal.

If you don't already have an online portal account, the first step to gain access is to check if you're registered. Once you're logged in, you need to review and update your contact details if they've changed. This is an important

step so we can contact you in the event of an emergency situation and email you registration renewal reminders.

From mid-May 2019, you'll also be able to use the online portal to renew your registration and pay the fee if it applies. The fee is currently \$136.80 every three years if you keep livestock and applies if you meet the Australian Taxation Office ruling of carrying out the business of primary production as a result of owning your animals.

Check if you're registered and update your contact details at [qld.gov.au/BiosecurityRegistration](http://qld.gov.au/BiosecurityRegistration).

If you need help, or to find your nearest DAF customer service office, please call our



Dr Allison Crook

Customer Service Centre on 13 25 23 between 8am and 5pm Monday to Friday. You can also email us at [info@daf.qld.gov.au](mailto:info@daf.qld.gov.au).



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# Does supplementing cows with P during pregnancy alter post-weaning performance of progeny?

The availability of phosphorus (P) is often an important restriction to beef production in northern Australia. When an animal's P demand cannot be met either from the diet or by mobilising body reserves, dietary intake and growth are dramatically reduced. Therefore, heifers and cows should be supplemented during late pregnancy and while lactating on low P country.

A trial at the Victoria River Research Station, 'Kidman Springs', Northern Territory (NT), has reported substantial reproduction and productivity gains from P supplementation. The pre-weaning gain of calves and consequently weaning weights was constrained when cows were on low P diets during late pregnancy and lactation.

A pen study was recently conducted at the Katherine Research Station in the NT, investigating the effect of P supplementation to cows during pregnancy and lactation on post-weaning performance of progeny when fed high and low P content diets.

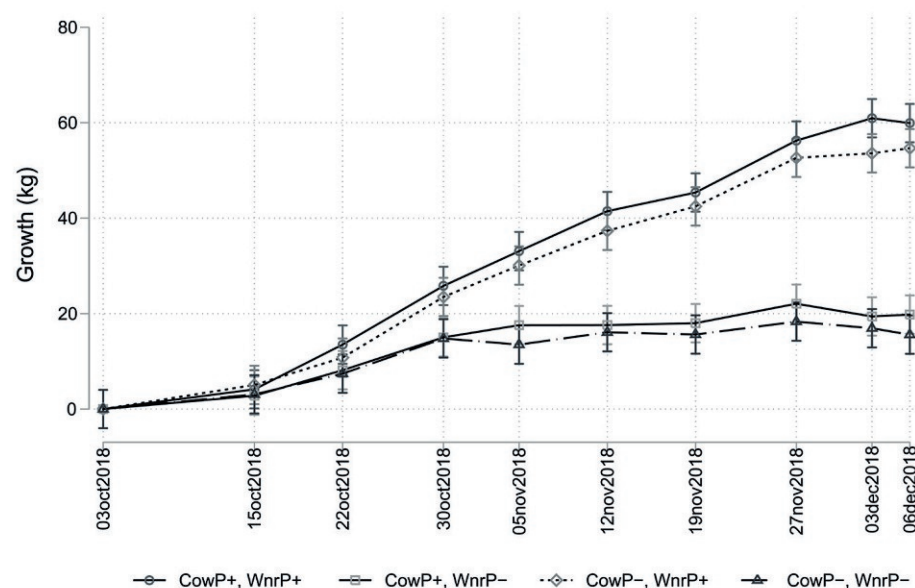
## Method

Weaners were produced from four-year-old cows. Approximately half of them had access to supplemental P (CowP+) and the other half had no access to supplemental P (CowP-). They were all grazing P-deficient paddocks at Kidman Springs. There were 30 and 43 mixed-sex Brahman calves weaned from the CowP- and CowP+ groups respectively in June 2018.

In September 2018, at 8 to 10 months of age, after co-grazing native pasture paddocks of Kidman Springs, the weaners were relocated to Katherine Research Station. They were fed a low P experimental pellet for nine days, so that they could become accustomed to the diet before being introduced the pen trial area and randomly allocated to either a low P (WnrP-, 0.5 g P/kg DM) or high P (WnrP+, 2.8 g P/kg DM) weaner diet group. Each treatment was replicated three times, with each replicate equal to a pen of two to four animals.



Heifers from P+ cows fed P- weaner diet at Katherine Research Station pen trial area



Growth of weaners fed high and low P diets

The treatment groups were:

- steers from -P cows fed -P pellet
- steers from -P cows fed +P pellet
- steers from +P cows fed -P pellet
- steers from +P cows fed +P pellet
- heifers from -P cows fed -P pellet
- heifers from -P cows fed +P pellet
- heifers from +P cows fed -P pellet
- heifers from +P cows fed +P pellet.

The weaners had unlimited access to the experimental pellet for 64 days, with changes in weight measured. Liveweight was recorded after a 15-hour curfew at the start and end of the pen experiment, with interim un-curfewed weights recorded weekly.

## Results so far

At the beginning of the experiment, the average weight of weaners differed between cow diet. Heifers and steers from P+ cows were 6.4 kg (174.5 vs. 168.1) and 23.9 kg (183.2 vs. 159.3) heavier, respectively, when compared to similar weaners from P- cows. These differences are thought to reflect differences in quantity of milk delivery and cow body condition score at calving.

Weaner diet in the pens had a highly significant effect on growth ( $P < 0.001$ ), which was independent of cow diet. Therefore, differences in weaning weight were retained irrespective of weaner diet.

Overall, the average growth of weaners on the P+ diet was 40.9 kg greater than the P- weaner diet. The growth of weaners on the P- diet appeared to plateau after approximately four weeks of receiving the diet.

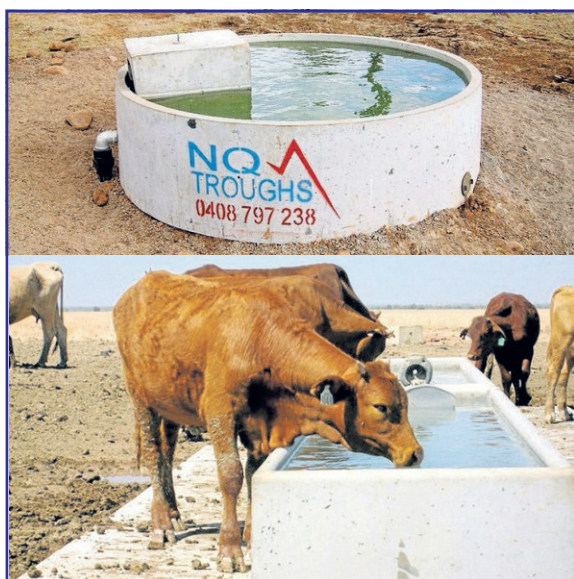
Differences in growth are likely to be a consequence of reduced intake of weaners on the P- weaner diet.

Throughout the trial, changes in hip height, feed intake and blood samples for measurement of Plasma Inorganic Phosphorus have also been collected and will be analysed sometime this year.

However, the preliminary results suggest that the P content of the cows diet during pregnancy and lactation had little or no effect on post-weaning performance, despite weaners being fed diets differing in P content. Diets low in P were shown to significantly affect the post-weaning performance of young cattle. The results from this study demonstrate the dominating effect of nutrition on weaner performance, as well as the persistence of weight losses imposed on calves prior to weaning.

For more Information contact Kieren McCosker, Senior Livestock Scientist, NT Department of Primary Industry and Resources, Tel: 08 8973 9771, [Kieren.McCosker@nt.gov.au](mailto:Kieren.McCosker@nt.gov.au).

Or visit the FutureBeef website: [futurebeef.com.au/projects/effect-of-phosphorus-supplementation-on-brahman-females-at-kidman-springs](http://futurebeef.com.au/projects/effect-of-phosphorus-supplementation-on-brahman-females-at-kidman-springs).



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# Business improvement strategies of Pilbara and Kimberley pastoralists—from fundamentals to innovation

**Growing global demand** for Australian beef products, driven primarily by Asian countries, presents opportunities to expand livestock production and value add in the Kimberley and Pilbara regions of Western Australia.

In 2015, the WA Department of Primary Industries and Regional Development's Northern Beef Development project implemented an incentive-based Business Improvement Grants (BIG) program. The program assists commercial cattle producers in the Kimberley and Pilbara pastoral regions enhance their competitiveness and growth prospects by connecting them with professional business advice and mentoring support.

The program reimburses approved applicants with up to \$25 000 (excluding GST), including up to \$10 000 to engage a consultant to review current performance and develop a business plan, and up to \$15 000 to implement key business improvement strategies as identified in the business plan.

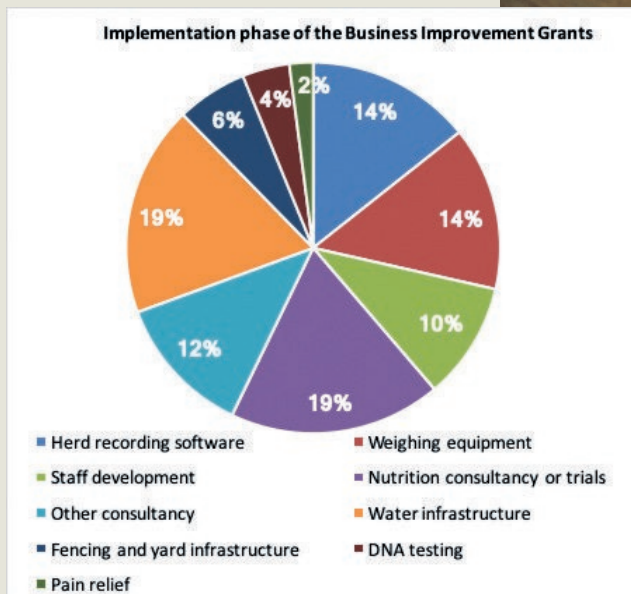
Forty-eight pastoral enterprises participated in the initial round of BIG, using the grant in a range of business improvement areas (see Figure 1).

An additional 20 enterprises from two regions, consisting of family, corporate and Indigenous-owned stations, participated in round two of the program last year.

## Data recording

The extensive production systems in northern Western Australia can see pastoral enterprises manage anywhere from 1000 to 80 000 head on land parcels of up to 400 000 ha and more.

Terrain, mustering method and the sheer size of northern cattle stations mean that achieving clean musters is a challenge and some animals may not pass through the yards each year, resulting in inaccurate recording of livestock numbers. While traditional methods, such as a bangtail muster, can provide the opportunity to identify previously-mustered livestock, they do not allow pastoralists to retain additional information on individual animals.



Through linking an electronic identification (EID) tag to herd recording software, pastoralists can build a history on individual animals, providing invaluable data on both cattle and business performance. Data collected may include age, weight, body condition, pregnancy status, wet/dry status, and vaccination history. Weight recording can be used to assist pastoralists drafting lines of cattle by weight class, as well as those wishing to calculate average daily gains.

Some pastoralists in the BIG program invested in crush side hardware, including scales, an EID reader and a data box. Others opted for in-paddock recording systems such as walk-over-weighers.

## Water and fencing

The primary limiting factor of infrastructure development on pastoral leases in the Pilbara and Kimberley is the availability of, and access to, capital. While increases in corporate ownership are resulting in an injection of capital across the region, significant opportunities to open up previously ungrazed areas of the rangelands through the development of water points remain. Some BIG participants used grant funding to partially reimburse the cost of sinking a bore, installing solar panels and troughs and piping off existing water points.



Left - Figure 1: Focus areas of business improvement activities

Above - BIG participant Annabelle Coppin inspects a remote water point from her Yarrie Station homestead

Annabelle Coppin, of Yarrie Station, Marble Bar, installed a remote water-monitoring camera at the water point located furthest from her homestead. This resulted in a significant efficiency, allowing her to reduce the 200 km round trip she previously travelled every five days, to now once every three to four weeks.

The installation of new fencing by other participants allowed for the resting of rangelands and cattle segregation, as well as developing laneways to assist with mustering and yarding up.

## Focus on fundamentals or venture into innovation?

The BIG program provides pastoralists the opportunity to pursue a low-risk investment to trial a new business improvement strategy such as water monitoring equipment or herd recording software or hardware. It also offers pastoralists the freedom of choice to align their chosen business improvement with their professional business plan.

Some pastoralists trialled innovative new technologies while others invested in fundamental business improvement practices. Investment choices reflected a number of factors, including the developmental stage of the enterprise, the risk profile of the pastoralist

and the guidance of their consultant. For some pastoralists, new technologies to improve efficiencies were considered to be the greatest return on investment while for others, it was opening up new country.

Participant feedback indicated that as a result of the consultation process, their reimbursement was applied toward a different strategy than the one they had originally envisioned. The value of taking the time to plan and review business operations, as opposed to purely working in it, has been a major outcome of the program. In an occupation where business owners and managers are required to possess an extensive skill set, the use of external consultants and mentors has been invaluable, planting the seed for paradigm shifts in pastoral operations.

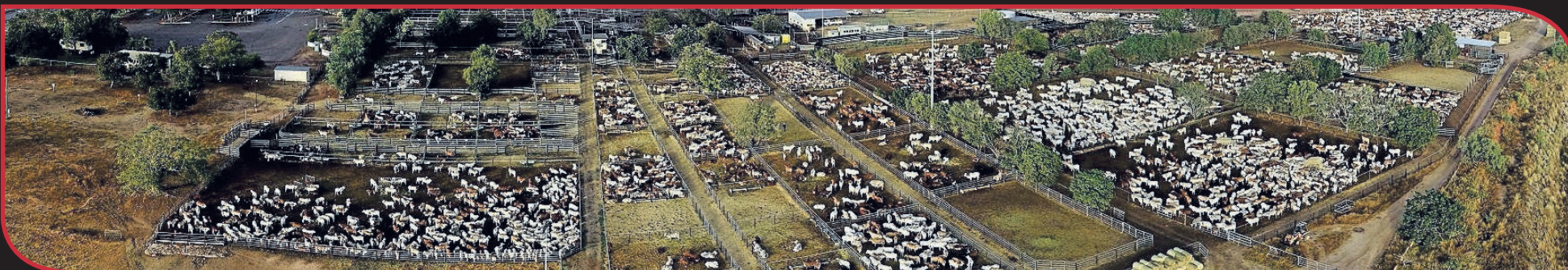
The BIG program has proven to be a catalyst for intra-industry engagement, delivering the pre-conditions to drive transformational change and a conduit for information flow to and from industry. The high level of participation in the program is a testament to pastoralists' ability to embrace change and new ideas—ultimately enhancing their resilience, adaptability and competitiveness.



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# No silver bullets in extensive grazing

**A common misconception** in the beef industry is that unless you are cell grazing, you are not a good grazier and a poor manager of grazing land. However, over time we have witnessed many graziers who have jumped head first into intensive systems, then gone into receivership or sold their properties soon after making the change.

## So what is going on?

Upfront capital costs to implement an intensive grazing system are high, particularly if a large proportion of the property is to be converted. Experience has shown that the days of the silver bullet in the extensive grazing industry are long gone, but some graziers still think like Harrold Lasseter and his search for the lost gold reef.

Often, the search for a new way of doing things begins when the financial situation in the business becomes dire. A different grazing system is frequently viewed as a way out of a tough financial situation. Graziers that adopt this approach spend money that they don't have, then when the system doesn't meet their expectations (financially, production-wise or environmentally), they can find themselves in an untenable position.

The take home message from this is, look at the fundamentals first. They are simple, relatively easy to adopt, produce results reasonably quickly and if they cost money, produce a good return on the investment.

## THE FUNDAMENTALS

What are they?

### 1. Know what drives pasture growth.

There are only three things:

- land type
- land condition
- climate (rainfall and frost).

Only land condition can be managed.

### 2. Adequate distribution of stock water.

Having man-made waters any closer than four kilometres apart (maximum walking distance of two kilometres) is over capitalisation. If you are on 100 per cent buffel pastures in Central Queensland, the economics may support waters a bit closer.

In paddocks with a range of land types, locate waters on country that cattle do not prefer, to draw them away from heavily-grazed areas.

### 3. Fencing.

Erect only enough fencing to support your style of operation and scale. Paddock sizes should carry the number of cattle that you can comfortably muster and process in one or two days. Fence to land type where feasible or at least fence land types with a similar grazing preference into the one paddock.

### 4. Matching stocking rate to carry capacity.

If you are on country that is rated at one adult equivalent (AE; 450 kg dry animal) per 6.5 ha this is the long-term carrying capacity. The short-term carrying capacity is based on how good the last wet season was and how much grass grew. So using the same scenario, in a good season the short-term carrying capacity may be 1 AE/6 ha and in a dry season 1 AE/8.5 ha. Stocking rates should be matched to the short-term carrying capacity.

### 5. Wet-season spelling.

Ensure that there is sufficient room to allow country to be locked up without crucifying other paddocks. The type of wet season spelling depends on the land condition in the individual paddock. For example:

- Paddock in land condition A—a short wet season spell from the first growing rains for six to eight weeks to allow the grass to 'get ahead' of the cattle.
- Paddock in land condition B—a late wet season spell for two months to allow seed set to boost the soil seedbank for future wet seasons.
- Paddock in land condition C—full wet season spell from opening rains to first round muster i.e. five months to allow new plants to establish and seed set to occur.

The frequency of spelling also depends on land condition. The poorer the condition of the paddock the more frequent and longer the spell. If a paddock is spelled and the



Which side of the fence will respond best to rain?

season fails, abandon the spell rather than over-grazing the paddocks that are carrying the extra cattle. Consider spelling the same poor-condition paddock for two consecutive wet seasons. Heavy stocking after a spell will undo the benefits from the spell, so ensure that point 4 is adopted.

### 6. Control weeds early.

Controlling small weed outbreaks will prevent large costly weed infestations down the track. Consider the following research results for prickly acacia on Mitchell grass downs:

- 30% canopy cover of prickly acacia halves pasture production i.e. 2000 kg/ha down to 1000 kg/ha
- Prickly acacia is palatable with high protein leaf, but the leaf yield in central-western Queensland is only 80kg/ha, which will not compensate for the loss of 1000 kg of pasture.

### 7. Sow legumes.

A well-established legume/grass pasture is the closest thing to a silver bullet that graziers will find, as it will increase carrying capacity by at least 50 per cent. Select the legumes that are best matched to your soil types e.g. stylos for lighter country and Desmanthus, butterfly pea and Caatinga stylos for clay country. Get advice on sowing and establishment methods as pasture seed is expensive. To reduce seed costs, obtain uncoated seed where available.

### 8. Burn country.

Fire is not for every situation, but the lack of fire can allow density of woody plants to increase, causing declines in pasture production. The higher the natural

fertility of the land type, the more dramatic the reduction in pasture growth. Fire will help to suppress woody plants (both native and exotic species). Fire can also play an important role in changing pasture composition e.g. reducing wire grass and increasing black spear grass, or preparing a seedbed and reducing competition before over-sowing legumes. In paddocks with a mosaic of land types, burn the least-grazed land types to encourage grazing next year. The golden rules for using fire are:

- **Is fire the answer?:** Make sure that fire is the correct management practice to address the problem at hand.
- **Pre-fire planning:** use a forage budget to ensure there is sufficient grass to carry the type of fire required to address the problem at hand and at the time of year that is appropriate.
- **Post-fire management:** wet season spelling country that has been burnt is crucial. If you cannot lock up country for the wet season after a fire, don't burn.

Addressing these eight fundamentals are the crucial first steps. Then look for options to fine-tune the way country is managed and verify that the trends are positive.

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