









Welcome to **Northern Muster 45**

Welcome to the Spring/Summer edition of the Northern Muster.

With Christmas just around the corner, we get ready to close the curtain on another year. What a year 2017 has been for the northern beef industry. Cyclone Debbie came and went, promising so much and delivering very little rain to the far north and north west while causing flooding to the south, cattle prices remained strong, biosecurity became the new beef industry buzzword and businesses across the north once again showed their resilience as the drought continued.

As we approach the end of another long dry season, now is a good time to assess ground cover levels. On the back of several belowaverage wet seasons, the challenge to retain ground cover increases with each poor season. Why worry about cover? Ground cover is critical for soil health in any grazing system because it ensures that the rain you get actually goes into the soil. Good ground cover also ensures that your soil and its nutrients stay on your property where they belong and don't disappear downstream. Good ground cover is therefore vital if you are growing grass for beef production.

If you are interested in understanding how the ground cover levels have fared on your property, there are two websites where you can generate your own ground cover reports. The FORAGE tool, located at www.longpaddock.qld.gov.au/forage allows users to generate a number of reports customised to their location using lot on plan or latitude and longitude. VegMachine www.Vegmachine.net allows you to select an area of interest on your property by selecting points on a map. Both tools are useful in helping you monitor ground cover levels at a land type, paddock or property scale. Contact your local DAF extension officer to find out more.

We have some timely articles in this issue covering important wet season messages such as phosphorus supplementation. We also hear from the Nicholas family at Paynes Lagoon near Townsville on their experience with the Grazing BMP program.

Plus there is an update on the new EDGE*Network* training packages available.

The North Queensland DAF FutureBeef team would like to take this opportunity to wish all of our readers a very Merry Christmas and a green prosperous New Year. We hope you enjoy issue 45 of the *Northern Muster*. Please contact the editorial team with any enquiries or feedback. To register to receive the online version of the *Northern Muster*, subscribe on the FutureBeef website (www.futurebeef. com.au/resources/newsletters/) or email northernmuster@daf.qld.gov.au. For the latest research-based information, tips, tools, events and recorded webinars, visit www.futurebeef.com.au.

Mellissa Holzwart, Megan Willis, Alice

Market remains steady throughout back end of 2017

Useful rain across coastal, central and southern regions at the end of September and into early October helped hold prime cattle prices and put a spark into the store-feeder markets.

Domestic prime cattle prices in North Queensland were reasonably stable over the same period with best bullock prices at JBS Townsville reaching \$4.90 kg dressed weight. The live export trade also remained steady with lighter (up to 380kg live weight) cattle receiving \$3.05 kg, suitable types up to 450kg live weight fetching \$2.80 kg and \$2.65 kg for heavier cattle up to 600kg, all delivered Townsville.

Early September did see a drop in slaughter rates for several weeks in North Queensland. Best bullock prices slipped to \$4.65 kg dressed weight. The drop in the market may be attributed to a combination of a rise in the Australian dollar value influencing competitiveness in export markets, an oversupply of slaughter cattle and/or tough trading conditions in the domestic meat market.

Live cattle export numbers are well back on previous years, mostly likely due to price and availability. Meat and Livestock Australia (MLA) reported for the 2016-17 financial year, Australian feeder and slaughter cattle exports were just below 802,000 head, a 27 per cent decline from the year before. From January to June 2017, feeder and slaughter cattle exports were reported to be back 38 per cent, compared with the same period last year, totalling 346,000 head.

Total cattle exports to Indonesia over the 2016-2017 financial year totalled 525,000 head, a 7.5 per cent drop from the previous year. Furthermore, from January to June 2017 feeder and slaughter cattle exports were recorded at 220,000 head, a 29% decline from year-ago volumes.

In a trend that is becoming more common, special branded cattle lines such as certified pasture fed (for example, Teys Grasslands) and MSA (Meat Standards Australia) graded carcasses are providing beef producers the best money available in the eastern states. These markets are offering premiums of up to 30 to 45 cents/kg dressed weight.

The record number of cattle on feed in Queensland feedlots (June quarter over 1.1 million head) have been moving through the processing chain with some contract prices well above present rates.

For the 2016-17 financial year feedlot cattle accounted for 39 per cent of total cattle slaughtered, well above the 10 year average of 32 per cent (total cattle slaughtered in the 2016-2017 financial year reached approximately 6.9 million head with feedlots contributing 2.7 million head to this total). The high numbers of cattle on feed has boosted the national average adult carcass weight to 293kg. Australia produced approximately 2.07 million tonnes of beef and veal in the 2016-2017 financial year with 68 per cent exported. The top beef export destinations over the last financial year were Japan, USA, Korea and China.

Another factor influencing cattle prices has been the China meat export ban on six Australian abattoirs over labelling issues. This has resulted in a flooding of the domestic market producing good specials for consumers, especially bulk buyers.

Looking ahead it is difficult to predict market price movements. The market will be once again largely dependent on the weather and the presence of a widespread wet season. If dry conditions continue, suitable processing cattle will quickly get sold and become short in supply, which may lead to prices holding

or improving. If widespread significant rain is received, slaughter cattle numbers will decline. Processors have limited ability to increase prices due to poor profits and high losses currently being reported.

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Lay of the land for working dog breeders



Droving, protecting, tending and working stock. The value of a working dog is widely recognised.

They're a primary producer's indispensable workmate, which is why working dog breeders may be exempt from new dog breeder registration laws in Queensland.

The Queensland Dog Breeder Register opened earlier this year. It's designed to encourage responsible dog breeding by helping authorities locate dog breeders and giving dog buyers peace of mind when sourcing a pup.

If you're a primary producer breeding working dogs to be kept on rural land for droving, protecting, tending or working stock, or to supply to other primary producers to use as working dogs, you don't need to register.

However, if your dog has an unplanned litter, you only breed puppies for family and friends, or any of your dogs are sold or given away as pets or to live in town, the new laws apply. This means you must register, obtain a breeder identification number and microchip the dogs.

The new requirements only apply to dogs born on or after 26 May 2017. After this date, it is an offence to supply dogs without first registering as a breeder – unless you fit the description of a working dog breeder.1

Registering is quick, easy and free. Breeders need to log their details within 28 days of their puppies being born and they will be issued with a unique identification number, known as a supply number. This applies to regular and occasional breeders (including backyard litters), with specific exceptions for some working dog producers.

If you're a member of an industry organisation that accredits dog breeders, like Dogs Queensland, then your membership number may also be your supply number and you may not need to register. However, your organisation must first be approved by the Department of Agriculture and Fisheries – check this with your member organisation.

Some local councils also issue dog breeder permits. If your local council has been approved by the Department of Agriculture and Fisheries and you have a council breeder permit, you may not need to register either as your permit number may double as your supply number. Check the Register for your number, or contact your local council to confirm.

Chief Biosecurity Officer Malcolm Letts from the Department of Agriculture and Fisheries said all breeders and suppliers, including pet shops, must display a supply number when giving away, selling or advertising dogs or puppies. It must also be included in the microchip information of the dog

"A supply number being included in the microchip information provides lifetime traceability of a dog's origin," Mr Letts explained.

"We're urging people to check the Queensland Dog Breeder Register before obtaining a new dog and to only buy from registered breeders with valid supply numbers."

The Queensland Dog Breeder Register is available at qdbr.daf.qld.gov.au. For more information about the register or animal welfare in Queensland, please visit www.biosecurity.qld.gov.au or call 13 25 23.

Partnering together to strengthen Western Queensland's grazing industry

GrazingFutures is a new four-year project working with industry partners to promote a resilient grazing industry across western Queensland.

The GrazingFutures project brings new opportunities and new faces to the west. These new team members bring a wealth of knowledge and experience around animal production, grazing land management and business planning.

Andrea Wiles at Charleville, Jane Tincknell at Longreach and Robert Caird at Mareeba have joined the Department of Agriculture and Fisheries (DAF) to help bolster local extension teams that serve western Queensland grazing businesses.

Andrea is a vet by trade and has worked in New South Wales, Queensland and Northern Territory where she developed her understanding of common animal health issues facing producers and their impact on production.

Jane is a rangelands enthusiast, having spent the past 20 years in a variety of roles within grazing businesses or supporting them via community or government agencies.

Rob has a strong finance background and was an agribusiness consultant working with beef producers in Far North Queensland prior to his new role with the GrazingFutures project. Rob has a comprehensive understanding of key production, profitability and sustainability drivers of the North Queensland beef industry.

GrazingFutures is managed by DAF with a strong collaborative approach with partners. Many activities are led by partners such as AgForce or NRM groups. For example in the central west:

- AgForce and DAF collaborated to bring mapping workshops to the region
- Desert Channels Queensland and DAF, along with graziers, developed a grazing and weed management planning tool and workshops,
- Rural Financial Counsellors worked with producers to build financial and business knowledge and provided relevant training, such as using Excel and financial software.

The GrazingFutures project has been made possible, thanks to funding from the Queensland Government's Drought and Climate Adaption Program (DCAP) and a partnership with Grazing BMP.

GrazingFutures will deliver a range of research, development and extension projects, improve seasonal forecasting and provide tools and systems that will support producers in their decision-making.

Keep an eye out for GrazingFutures events in your local area or call a team member if you have any ideas for resilience building activities.

To find out more about DCAP and GrazingFutures visit www.daf.qld.gov.au or www.longpaddock.qld.gov.au or call a DAF extension officer on the details below.

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¹ A working dog is defined as a dog usually kept or proposed to be kept on rural land by an owner who is a primary producer, or a person engaged or employed by a primary producer. The dog must be used primarily for the purpose of droving, protecting, tending or working stock or being trained in droving, protecting, tending or working stock.

Wet season phosphorus—how, what, why and when?



country cattle should have access to phosphorus from the onset of the wet seasor

Although cattle prices are buoyant, family beef businesses across the north remain under significant debt pressure.

Businesses are searching for ways to cut costs and run their operations more efficiently.

Feeding wet season phosphorus (P) in P deficient areas and removing the calf as soon as possible after the wet can minimise the need and cost of dry season supplementation. The wet season is also the cheapest time to put weight on cattle because all other nutrients are in the green grass – for free.

On P deficient country you need to budget between \$10 to \$15 per breeder per year to maximise live weight gain and branding rates. Tips to ensure you are getting bang for every buck you spend on wet season phosphorus include:

• Understand your land type mix in each paddock and likely phosphorus needs of breeders, heifers and steers. With the exception of Frontage, Basalt, Downs and Goldfield soils most properties need to feed wet season phosphorus in North Queensland (see table 1).

Table 1 Land type phosphorus status and supplementation

Country or Soil Type	Phosphorus Status	Phosphorus required per breeder/day (grams)
Basalt, River Frontage Mitchell Grass Downs and Goldfields	Adequate	None – questionable economic response to P
Everything else (including grey clays south of Normanton & Burketown)	Marginal	5 - 7 grams (heifers are a priority group to feed in marginal P areas)
Deep Sands	Deficient	10 grams

- In the early stages of developing a phosphorus supplementation program start feeding in a paddock easily accessed over the wet season and closely monitor intakes. Trial feeding will help avoid costly outlays for large tonnages of loose lick, blocks or bulk bags that cattle may not readily consume.
- Phosphorus supplements need to be available all wet season or at least while cattle have access to green feed

Table 2 Pros and cons of phosphorus delivery systems

Loose lick	Blocks	Loose lick in bulk bags
Need lick sheds/covered troughs	Weather resistant in most cases	Reasonably weather resistant with limestone
Lower cost/kg of P	Higher cost/kg P	Lower cost/kg of P
Recipe can be changed to achieve target intakes	Set recipe	Recipe can be changed to achieve target intakes
Difficult to put out full wet season requirements	Adequate supplement can be distributed in paddocks before onset of wet	Adequate supplement can be distributed in paddocks before onset of wet
Labour intensive	Less labour intensive	Less labour intensive But need suitable lifting gear to distribute
Severe storms/cyclonic rain can spoil supplement	Storm resistant	Prolonged heavy monsoon rain can spoil supplement
Freight efficiency Option to increase P% and reduce freight cost/tonne of P	Less freight efficient as P% is usually lower	Freight efficiency Option to increase P% and reduce freight cost/tonne of P

- Keep paddock records of numbers fed and lick consumed. Use this information to adjust recipes and correct daily intakes. Intakes can vary enormously between paddocks and even water sources (bore or dam) can influence lick consumption.
- Compare the cost and practicality of various delivery systems (blocks vs loose lick vs bulk bags). See table 2.
- When getting lick quotes consider the percentage of phosphorus in the lick as well as cost per tonne. The P percentage in a supplement has a major impact on intakes required per head, costs per head, freight costs and workload in paddock distribution. Higher P concentration mixes will usually cost more per tonne but will be cheaper on a landed cost per unit of P.

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NORTHERN MUSTER Information for rural business in North Queensland



Maximising the value of cull cows and heifers

In a profitable beef enterprise cull females

are a major component of cattle sales income. For a stable herd where breeder numbers are not being built up, the number of cull females sold each year as a percentage of total sales, is a good indicator of the female death rate.

If the annual female sales figure is down near 40 per cent of total sales the herd has a high breeder mortality and management changes are required to improve the situation.

Cull females comprise of three groups surplus heifers culled before joining, breeding females culled for poor breeding performance, faults or temperament, and cast for age cows. To determine the bestselling strategy for each class of cull females, it is important to look at the productivity of the property's pastures, the overall herd structure and market requirements.

Cows culled after weaning a calf usually do not have enough condition to be killed immediately and provision should be made to carry them into the next summer to finish. Structuring the herd and management system to fatten cull females is usually very profitable because value is being added to an existing resource.

For this reason it is a sound strategy to reduce total breeder numbers if necessary to enable cull cows and possibly heifers to be fattened.

While mature cows can be fattened on light country it may not be feasible to fatten cull heifers as these animals have to be grown to a suitable weight as well as fattened. In these situations the live export and feeder heifer markets may be the most appropriate to target. For slaughter female markets critical considerations are:

- Carcases under 160kg are virtually worthless regardless of dentition and fat cover
- For 8 tooth females there is a marked lift in price when dressed carcase weight is 180kg or better. For each 20kg weight range there is usually a 5c/kg price increase (for example, 180-199kg to 200-219kg) up to 300kg at which point the price is constant to 420kg
- For animals with 0-7 teeth, the minimum weight requirements increase with dentition e.g. 180kg for 0-2 tooth and 0-4 tooth animals and 240kg for 0-6 tooth animals. As with 8 tooth animals there is usually a 5c/kg price increase for each 20kg increase in weight up to 300kg. For females with 0-2 tooth animals the maximum carcase weight is usually 359kg whereas for animals with more than it is 420kg.
- Eight tooth animals are worth considerably less (40-70c/kg) than animals with 7 teeth, whereas the price increase between the succeeding lower dentition categories i.e. 7 teeth to 5-6 teeth to 3-4 teeth and 0-2 teeth is relatively small at 5c/kg for each category.
- For 8 tooth animals the optimum fat depth is 3-12mm at the P8 site. For 0-7 teeth there is a higher minimum (5mm) and maximum (22mm). The penalties for not meeting minimum fat requirements are substantial, ranging from 15c/kg for an 8 tooth animal to 60c/kg for those with 0-2 teeth. The penalties for exceeding target fat specifications are relatively small up to 32mm i.e. 5-10c/kg

Cull cows can be more efficiently managed, finished and marketed if there is a good breeder management system in place. Whether the herd is year round or control mated the key is a strategy to identify and cull cows that fail to conceive and or raise a calf.

Pregnancy testing is a valuable tool as the pregnancy status is a critical consideration in deciding the best strategy for finishing and marketing. For year round mated herds, segregating animals on lactation and pregnancy status can enable targeted management practices to be implemented.

Having a paddock set aside for cull females with yard facilities, usable in most weather conditions allows for easier mustering and sale. Many producers find it useful to have a paddock for pregnant cull cows to calve out and after weaning these cows can be fattened to maximise sale values.

Agisting your replacement females onto good country (160kg plus annual live weight gain) results in improved heifer conception rates, and any pregnancy test empty heifers are at good marketable weights and condition. Sourcing agistment country in close proximity to meatworks and or areas that are accessible in most weather conditions, allows marketing of your cull females when price premiums are available.

Pasture development with improved grasses and or legumes such as Seca and Verano stylos may be an option where producers have a combination of reasonable soils and rainfall.

Using suitable sires that will produce a percentage of good crossbred progeny to boost growth rates of both males and females is another valuable tool to maximise income.

If you feel you're not maximising the value of your cull females set a plan on how to implement some of the above options into your property management. Having a specific cull female paddock of suitable area and water infrastructure set aside may require a reduction in total breeder numbers, to ensure stocking rates match carrying capacity and enable good annual live weight gain. For more information, please contact:

Bernie English Beef Extension Officer Mareeba 0427 146 063

Rob Caird Beef Extension Officer Mareeba 0459 984 143

Mick Sullivan Beef Extension Officer Rockhampton 0428 104 374



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BOOKINGS PHONE

Peter 0407 682 036 or Melissa 0458 888 209 cmh@outlook.com.au





EDGE network training packages revamped!

Meat and Livestock Australia's (MLA) new and improved EDGE*network* training packages are designed to provide tailored, comprehensive and practical learning opportunities to producers and stakeholders.

The EDGE packages available are Grazing Fundamentals EDGE, Breeding EDGE, Business EDGE, Grazing Land Management EDGE and Nutrition EDGE. Each package complements and connects; providing producers with the skills and knowledge to enhance business and livestock management and positively influence profitability, sustainability and productivity in their business.

Knowledgeable industry leaders and technical experts were consulted and directly involved in the review process. The packages now include the most up-to-date knowledge, research findings, best practice recommendations, and tools and strategies.

To suit a wider audience the three-day workshops (Grazing Land Management, Breeding, and Nutrition EDGE) now have different delivery options. They can be run over three consecutive days, three separate days (a week to a fortnight apart), or as two consecutive days plus another day at a later date.

Business EDGE is a two day workshop. During an EDGE workshop, participants receive a comprehensive set of workshop notes, a workbook to complete activities that reinforce the principles and concepts learned during the workshop, and information on how to apply these to their own unique property situation.

Grazing Fundamentals EDGE

A new one-day workshop called Grazing Fundamentals EDGE has also been developed. The principles covered at the workshop provides links to the more detailed and skills-based EDGE workshops and Stocktake

The Grazing Fundamentals EDGE workshop aims to give the producer a broad understanding of the environment in which they operate and the core principles behind successfully maintaining grazing land condition and long term productivity. Understanding and successfully managing the land and natural resources of a grazing business is the essential foundation for the success of that business.

The core principles covered include:

- environmental regulators of pasture growth and quality
- long and short-term carrying capacity
- basic principles behind successful grazing systems
- local pasture growth patterns
- how soil type influences pasture growth
- land condition
- forage budgeting.

Feedback from past participants about what aspect producers found most valuable included:

- "Production point, when to spell, what to look for in assessing land condition."
- "Different grazing systems, pasture stability and resilience."
- "Pasture management and identification." "Feed budgets and land condition."
- "The explanation of AEs and determining carrying capacities"

Breeding EGDE workshop

The Breeding EDGE workshop has been developed to enable beef producers to improve herd reproductive and production performance and business profit, through refining and improving current breeder herd management and genetic improvement programs.

The specific benefits to beef businesses are:

- a more efficient and profitable breeder herd – more calves weaned from the same number of breeders mated in a given 12-month period
- more breeding females cycling and getting back in calf, and less reproductive wastage in foetal, neonatal and calf loss
- fewer breeder and heifer losses
- more fertile bulls plus elimination of subfertile or infertile bulls, and those likely to break down
- a breeder herd management plan, including bull management, specific to your business

- selection of bulls with the measured genetic merit for the key traits you identify to take your herd forward in a more profitable direction
- genetic improvement strategies and systems that compliment your production system
- breeding objectives develop and designed for your own genetic improvement program, and matched to associated selection criteria
- improved knowledge in reproduction and genetic improvement principles.

Business EDGE

The Business EDGE was developed by MLA to meet producer demand for improved financial literacy and better business skills. It is the key training product for developing the business skills of grazing business managers nationally.

The main architect of the Business EDGE is farm business advisor Dr. Phil Holmes, Holmes



All the workshops topics, plus others not listed, are linked very closely from a planning. operational management and biological context. It is therefore beneficial and necessary, to address these in a carefully progressive and coordinated way in the one workshop. This is unique to Breeding EDGE.

The workshop activities are directly applicable to each participant's own beef business. Workshop activities provide opportunities for individuals to work on key areas of herd management and genetic improvement in one's own beef business.



"Business EDGE contains the key business concepts and skills modern grazing business managers need to understand and improve business performance," Dr Holmes said.

At the workshop participants will learn:

- key management accounting concepts and principles, and how to apply them to your business
- how to generate and interpret key financial information on your business
- how to set up your financial system to provide key information for management
- to determine if your debt is creating or destroying wealth and how much of it your business can afford
- to determine if all the family needs and aspirations can be funded by the business
- how to assess and manage agricultural business risk
- to 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.



AH-VISE is an educational volunteer organisation comprising of a dedicated team of volunteers from all around Australia, who enjoy to give to others. We support rural and remote outback families who are looking for help in their remote school rooms. These include families, mothers and fathers, who teach their own children at home due to their geographic isolation.

If you are a person who loves helping others and have teaching background then you will fit in with our fantastic team of volunteers!

Farmers don't like to admit when things are tough, and they are some of the proudest and most resilient people in Australia. But sometimes they need our help, especially before it's too late. Aussie Helpers stays in touch with 1,000's of farming families around Australia to ensure their well being and survival through good and bad times.

We encourage you to be part of Aussie Helpers by getting involved with the AHVISE program.

www.ahvise.org.au

NORTHERN MUSTER Information for rural business in North Queensland



Business EDGE workshops are delivered in northern and rangeland Australia by Bush AgriBusiness who will be holding workshops in regional Queensland in 2017-18, at the following locations:

- Charleville, Mar 5-6, 2018
- Goondiwindi, Mar 8-9, 2018

The Business EDGE comes with a full money back guarantee, if it doesn't help you to understand and run your business more profitably, your course fees will be refunded in full, no questions asked.

Here is some feedback from past participants.

- "We have been looking at our business through a dirty windscreen for a long time, you guys in two days have cleaned that windscreen for us." Dysart
- "Course was exceptional, it has given me the tools to continue to learn and develop better business skills and improve financial analysis and ultimately profitability." Katherine
- "Is a bit above where I was thinking realised this is where I should be thinking." Springsure
- "Great value because it's industry specific and presenters are industry specialists." Biloela
- "A fantastic investment of time if you truly want to gain financial literacy and not pass the responsibility to others." Brisbane
- "The workshop has given me the tools to scrutinise our business without emotion and make informed decisions - I would encourage other producers to enrol." Hughenden

Grazing Land Management **EDGE**

The Grazing Land Management (GLM) EDGE package is designed to provide producers and other land managers with the tools to manage pastures in a way that improves beef production and meets suitable ground cover levels essential in promoting infiltration and conserving soil.

The GLM EDGE package is integral to promoting lasting change via a range of pasture management tools. An understanding of grazing ecosystems, soil health, land condition and perennial pastures (and their role in maintaining land condition) are key when designing the best practical approaches for grazing land management.



The ability to assess carrying capacity and adjust seasonal stocking rates using forage budgets are skills that enable producers to achieve productivity whilst maintaining resilient landscapes and viable businesses.

Knowledge and skills learnt at the workshop include:

- how to allow for climate variability when planning livestock management and build a seasonal climate profile for your property
- how land types influence productivity and how to recognise dominant land types in your region
- how soil properties and soil health influence plant growth
- how to identify key pasture plant species in your region and their role in land condition and pasture stability
- · what land condition is, how it's assessed and how to manage livestock to maintain or achieve good land condition
- assessing long-term carrying capacities of paddocks and properties, accounting for land condition and distance from water
- forage budgeting to manage variation in pasture available
- appropriate tools and strategies to improve land condition and carrying capacity on your property, including managing selective grazing.

Nutrition EDGE

The Nutrition EDGE workshop is the most comprehensive nutrition workshop program for ruminant cattle in northern Australia. It has been designed to enable producers to:

- establish the value of their pasture feed base including the amount of available feed and the quality of the diet
- determine animal nutrient requirements for various classes of stock and the gap between what the pasture is providing and the animal requirements. This forms the basis for how animals are managed nutritionally

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- · identify the most cost-effective and practical means of addressing nutritional deficiencies or targeting higher fertility or growth rates
- evaluate options for addressing nutritional deficiencies or targets rather than defaulting to a supplementary feeding program
- understand what the supplement types are and what nutrients each group effectively provides, then to be able to assess various supplements on their ability to deliver effective levels of nutrients
- calculate cost comparisons between supplements on a nutrient basis rather than a tonnage basis based on the primary limiting nutrient in the diet.

In the recently revised edition of the Nutrition EDGE workshop notes, the modules have been split into 7 modules from the previous 5.

All of the information in the Nutrition EDGE package is based on rigorous scientific research and well-established ruminant nutrition principles. The new package includes more comprehensive information on water quality, diet quality, phosphorus research outcomes, and the factors that affect pasture and diet quality.

It discusses the F.NIRS (faecal near infrared spectroscopy) diet quality technology and how this can be used to make management decisions, and useful observations that can be made in the paddock, in conjunction with testing, to produce the most cost-effective solutions for each individual property.

The Nutrition EDGE workshop takes a systematic approach to addressing nutritional issues on-property, and looks at all aspects of management, including activities to evaluate possible technologies, or supplementary feeding program.

For more information or to express interest in a workshop please contact:

Breeding EDGE

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Business EDGE

Ian McLean on 0401 118 191 ian@babusiness.com.au. More information is also available at www.babusiness.com.au/thebusinessedge

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NORTHERN MUSTER Information for rural business in North Queensland



Grazing for the next generation



David, Alice and Mac Nicholas

David Nicholas took over the management of his family's property, Paynes Lagoon, located on the Herveys Range Road near Townsville, in the mid-90s, with a vision of sustainable production of high quality grey Brahman cattle.

A long-time member of the Dalrymple Landcare Committee (DLC), Mr Nicholas is a firm believer in grazing to keep the land in good order for future generations. Mr Nicholas and his children, with the help of his assistant manager lan Collins, all collectively work towards a productive future.

Getting involved

For many years Mr Nicholas has worked closely with extension officers from the Department of Agriculture and Fisheries to improve management practices across the property.

Always keen to get involved, the Nicholas family are currently involved in a heifer management producer demonstration site reference group and have recently enrolled their herd in the Northern Genomics project.

A firm believer that you 'don't know what you don't know', Mr Nicholas is always keen to attend events to further his learning. He regularly makes an effort to be involved in workshops, field days and projects and encourages his children to do the same.

Mr Nicholas was one of the first producers to undertake a Grazing Best Management Practices (BMP) assessment in the Burdekin.

He attended a pilot workshop with other members of DLC in 2013. Mr Nicholas believes the Grazing BMP Program and its associated extension support is very beneficial for the industry.

Since 2013 he has gone on to complete a reassessment of the business and received Grazing BMP accreditation in 2016. Mr Nicholas remains a strong advocate of the

He believes 'if people haven't been involved they should get on board because of how valuable the data is for the industry'. Looking at the bigger picture he sees it as an opportunity for graziers to demonstrate responsible use of their land and their dedication to the welfare of their cattle.

Gully rehabilitation

On top of a long list of other workshops, events and learning opportunities, the Nicholas family recently agreed to host a gully rehabilitation project on Paynes Lagoon; a good example of their commitment to applying sustainable grazing practices.

In 2015 an initial assessment was undertaken on a small gully in a paddock bordering the Herveys Range road. The gully was approximately 300 metres long, five to 10 metres wide and 2.5 to 4 metres deep with fairly dispersive soils typical of the Upper Burdekin. It proved an ideal site to demonstrate one particular method of mechanical rehabilitation to address gully erosion.

The project is a joint effort between the Nicholas family and DAF with funding assistance from NQ Dry Tropics through the Australian Government Reef Program that supports the reduction of sediment from grazing properties impacting on the Great Barrier Reef.

In 2016 after receiving the necessary environmental management permits, trees were cleared to survey and construct a 250 metre diversion bank above the gully. This was designed to reduce the volume of runoff entering the site. Topsoil was excavated and subsoil used to construct the bank.

A water spreading structure was created at the outlet of the bank and topsoil was replaced over the bank channel to promote grass growth. As experienced and proficient machinery operators Mr Nicholas and his son Will conducted the earthworks (predominantly using a dozer) with guidance from Department of Agriculture and Fisheries extension officer Bob Shepherd.

"The project budget was \$13,500 so it isn't cheap, but it is a demonstration of what can be done with the type of machinery that many graziers have on their properties," Mr Shepherd said. There is also significant in-kind contributed by the Nicholas family.

Deep contour rips were established above the diversion bank to reduce to volume of runoff flowing into the diversion bank. The gully itself was filled with subsoil, reshaped and compacted prior to topsoil being replaced and seeded in May 2016.

The area between the diversion bank and the gully was also deep ripped along the contour to reduce the volume of water entering the rehabilitated area. All disturbed areas and rip lines were sown with Keppel Bluegrass. Legumes were not planted at this site in an attempt to discourage cattle from grazing the area. A fence was established around the entire site to allow for exclusion of grazing during rehabilitation and controlled grazing in future.

Due to some rather heavy and unseasonal winter rain in June 2016, the spreading of the topsoil over the site was delayed. Fortunately, once the topsoil was spread it appeared to respond reasonably well. The small 'paddock' is currently being spelled and has been ripped at key intervals to make the most of opportune rainfall.

A small scale field day was held post onground works with local graziers to discuss what was done. A follow up field day will be held in a couple of years to demonstrate the recovery.

DAF extension officer Kate Brown has worked closely with the Nicholas family to implement not only the gully rehabilitation project but also achieve Grazing BMP accreditation.

"It is extremely pleasing to work with such a proactive family. The understanding and enthusiasm the Nicholas family have towards learning and sustainable land management is admirable," she said.

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