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NORTHERN MUSTER

Information for rural business in North Queensland

Managing breeder body condition

Seasonal nutritional deficiencies are the largest limitation to beef production in Northern Australia.

Improved pastures minimise sediment loss

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Welcome to Northern muster 41

Welcome to the winter issue of the Northern muster! There have been massive amounts of cattle on the move in the first half of the year. Despite another failed wet season across many parts, the vibe amongst most producers is optimistic. This is largely due to strengthening cattle prices on the back of strong competition from live export, and a positive seasonal climate outlook.

The dreaded 'Godzilla' El Niño weather pattern has finally come to an end, with outlooks forecasting little chance of a return. Confidence is growing around the suggestion of a La Niña forming, and with it, a strong chance of above average rainfall over eastern and northern parts of Australia. This is news our resilient agricultural industry has been waiting a long time to hear, and we hope that there is a big wet on the way.

Nonetheless, many areas are facing another long dry season. We encourage you to take time now to reconsider stocking rates and the number of head you can safely carry through to your typical break of season. Careful management of your pasture through this dry season will place you in a great position to capitalise on any early breaks and the predicted wet season rainfall.

After review by the Local Drought Committee, the drought status of the Cloncurry Shire was revoked by the Minister for Agriculture and Fisheries as of 1 May 2016. Producers in this area are now eligible to access freight subsidies through the Drought Relief Assistance Scheme (DRAS) for stock returning from agistment and restocking. Properties within the Cloncurry Shire can also apply for an IDP (Individually Droughted Property) to remain drought declared and continued access to DRAS subsidies.

Further north, the non-drought declared portion of the Mareeba and the whole of Tablelands shires were added to the drought declared list on 1 May 2016. Producers in both these regions now have access to Queensland Government drought assistance.

Drought declared producers are able to access DRAS fodder and water freight subsidies and emergency water infrastructure rebates as well as access other programs in the Queensland Drought Assistance Package. This includes relief from electricity charges, land rent rebates and water licence waivers as well as access to a number of community and mental health programs.

Producers are encouraged to visit www.daf.qld.gov.au and read about the DRAS guidelines to determine eligibility or contact their local Drought Coordinator.

We have recently welcomed Alice Bambling to the editorial team of the Northern muster. Alice joined the DAF FutureBeef extension team in Charters Towers in February and brings with her a range of skills to complement the team. Alice completed a Bachelor of Agricultural Science at the University of Queensland before spending the past three years working as an Agronomist in Emerald. Alice is looking forward to meeting and working with beef producers across the Burdekin basin.

We have some great articles in this issue covering a range of topics. If you would like further information on these or require assistance, please get in contact with your local FutureBeef extension officer.

We hope you enjoy issue 41 of the Northern muster. Please contact the editorial team with any inquiries 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

Melissa Holzgart, Jo Miller, Melissa Frazer, Rebecca Gunther, Alice Bambling

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Market report

Prices strong despite market uncertainty in Indonesia

Mustering has been in full swing since Easter and reasonable numbers of fat and boat cattle have come forward.

At our North Queensland export abattoir in Townsville, best bullocks in mid-July are receiving \$5.40 per kilogram dressed, while southern works are offering \$5.65 to \$5.75/kg. In early May the eastern states' weekly slaughter rate stood at approximately 151 000 head, but has slipped lower since then, a sign that fat cattle supply is tight.

The export scene for boxed beef remains the same with strong competition across all markets from our competitors.

Our biggest market in 2015, the US, is well down on requirements this year. Projections from the US expect they will import approximately 1.3 million tonnes of beef in 2016, which is back 16% on 2015. They have large wholesale supplies on hand, and for 2016, expect to produce approximately 11 million tonnes of beef, 11.3 million tonnes of pork and 18.6 million tonnes of chicken.

Our dollar value went into the high 70s for quite a while in the first half of 2016, fell down near 70 cents, assisting our export competitiveness, but seems to be on the increase again, into the mid-70s. Producers aligned to grass and feedlot supply chains with a good reputation seem to be receiving better demand and prices.

An increasing part of this success seems to be a favourable move by branded products to have a production story to tell the consumer-packaging includes links to websites for information on the management of the environment, animals and the people involved in producing the product.

A key processor is continuing to push ahead with developing a payment system based on carcase meat yield and quality. A value-based grading system has been in and out of favour for many years in the processing industry and over this time the technology has been continuing to improve and become more reliable.

The boat trade money for light cattle slipped slightly for steers and heifers in early May. However, since the second quarter permit was

approved for Indonesia, prices have recovered to \$3.25 for steers and \$3.00 for heifers in the 270-360 kg weight range.

Heavy boat cattle in the 400-650 kg weight range delivered to Townsville in mid-July received \$2.95/kg. There is lot of uncertainty in the Indonesian live export market place at present, with up to 32 importers – feedlotters being charged with keeping beef prices artificially high into wet markets.

With domestic and export markets running fairly flat for the first half of 2016, the shortage of good slaughter and store cattle is keeping a floor in the market price, but if widespread drought-breaking rain does occur later this year we may see another mad scramble for cattle with prices to match.

China and Brazil

Over the last few years there has been much talk about the potential for Australia to export boxed beef and live cattle to China. With a population over 1.3 billion people China itself produces 87 million tonnes of meat, made up of:

- 57 million tonnes of pork
- 7.2 million tonnes of beef
- 4 million tonnes of mutton and
- 19 million tonnes of seafood, poultry and goat meat.

China is a very price-sensitive market for importers and Brazil has many advantages over Australia. These include processing costs only 30% of that of Australia's; an economy in recession with a very low currency value; very limited beef consumption under Brazil's current poor economic situation; and upward of 1.7 million tonnes of beef looking for an export destination.

In mid-2015 Brazil gained access to the Chinese market and quickly overtook Australia as their leading meat supplier. It's expected that they will send in over 200, 000 tonnes of frozen product to China in 2016, with Australia relegated to China's premium chilled beef markets. The Chinese market was building into a valuable destination for cheaper cuts from Australian exporters, but again it demonstrates the competitiveness and ever-changing situation with selling beef on the world market.

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Managing breeder body condition

Seasonal nutritional deficiencies are the largest limitation to beef production in Northern Australia.

Systems that control costs and improve the efficiency of a business are well worth considering for your management tool box. Segregating cattle classes can be an effective strategy to reduce costs and time, once set up.

Recent findings from the MLA CashCow research project found wet (lactating) cows at pregnancy testing that were in body condition scores (BCS) less than 3 (1-5 scale) had up to 22% lower pregnancy rates compared to lactating cows in BCS 3 or better. Furthermore, mortalities were 8% higher in lower BCS cows compared to those with a BCS 3 or better.

The graph below shows pregnancy rates across a group of dry (non-lactating), mixed age breeders on a central Queensland property. The graph further shows the impact of cow condition on conceptions with a significantly lower pregnancy rate achieved in cows in a BCS below score 3.

Careful management and manipulation of cow body condition is critical in aligning conceptions and consequent calving to an optimal time of year. Aligning calving to avoid dry season lactating reduces the nutritional burden on the cow when pasture quality is declining.

Segregating the female breeding herd into smaller groups is a method to strategically and cost effectively manage body condition and optimise the chances of producing calves consistently. Segregation can be done either reactively:

- based on body condition – for example, very poor condition cows with the highest risk of death (e.g. hospital paddock) and lowest probability of re-conception

or more strategically based on:

- age – heifers, 1st lactation, mature; or some even segregate on year brand.
- lactation status – wet or dry (this often results in cows being moved between groups each year)
- time of calving based on foetal ageing at pregnancy testing (identifies females likely to calve at optimal, late or out of season periods).

The most common segregation system is by age, separating maiden heifers from weaning and running them as a separate group until after their second mating. Research carried out by the Beef CRC has found that there is large variation in both weight and age when heifers reach puberty in Brahman based heifers, but it will generally need to be around 332 kg before they will cycle. Targeted weaning strategies can then be applied to help manage body condition, which will then increase the chances of re-conceiving.



First calf heifers, preg tested in calf.



Older cows and calves.

The CashCow project also found that young cows that had successfully weaned two consecutive calves performed the worst. Across all northern country types within the project area, only 50% of these young cows were able to get back in calf again within four months of having their second calf and only 11% in the tougher northern forest areas. The high nutritional requirements for these younger breeders make segregation essential for best practice management.

The mature cow group can also benefit from further segregation. The simplest method is to segregate mature cows by assessing their lactation status (wet/dry) at first round weaning. If they are wet (lactating) they have calved at a reasonable time of year (pasture quality is in the best condition) and, if weaned, will need little extra management input in preparation for the next calving/mating period.

The dry cows can be segregated and managed as a separate single group or be pregnancy tested and further segregated into non-pregnant and pregnant. Segregating these classes should reduce dry season supplementation costs by not having to feed all breeders. You can target feed and keep condition on wet cows and young heifers, whose total energy requirement is often greater than the animal's ability to consume feed energy.

For segregation to be worthwhile cattle should be separated by at least mid-way through a dry season while there is still plenty of standing feed available and cows are still in reasonable condition. Good grazing management that allows access to a plentiful pasture supply is critical to make any system work. Matching stock numbers to available pasture quantity is critical. The Cash Cow project confirmed nutrition to be the primary limiting factor

affecting reproduction performance in most cases. Pasture budgeting is a useful tool that allows you to assess how much feed is available and the number of stock a paddock can carry for a period of time.

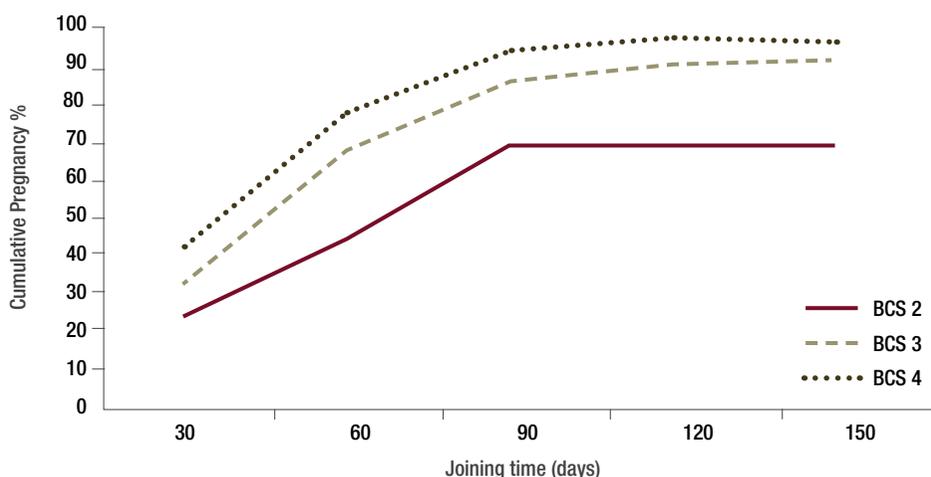
It is also important to consider the nutritional quality of your available pasture. The most accurate way to measure pasture quality and the animal's current performance is to use the tool near-infrared spectroscopy (NIRS). NIRS estimates the diet quality of grazing cattle in terms of protein and energy from dung samples. From this the level of nutrition required to correct the nutrient shortfall can be determined and supplements can be altered to suit the animal's different requirements. Seek information from your local FutureBeef extension officer if you are interested in undertaking faecal NIRS monitoring on your property.

Experience across many large northern properties indicates that segregation is a useful strategy to enhance fertility, reduce breeder mortalities and lower the cost of annual feed bills. It is important to note that any system that incurs extra costs (including setup costs) should have an economic evaluation to determine what financial risks are involved.

Further information on the CashCow project can be found by visiting www.futurebeef.com.au/resources/projects/completed-projects/northern-australian-beef-fertility-project-cashcow/

More information on segregation and breeder management can be found on the future beef website www.futurebeef.com.au/knowledge-centre/breeding-and-genetics

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Improved pastures minimise sediment loss

A demonstration was conducted over two wet seasons to compare soil movement across two different sites. The demonstration was carried out on Goshen Station near Mount Garnet in the Upper Herbert River catchment, north Queensland.

Both sites have the same slope, soil and land type (red earth) and received the same rainfall. Sediment traps were used at both sites to measure soil movement.

Site one consists of well-managed improved pasture, dominated by Keppel pertusa, Rhodes grass with some Seca and Verano stylo (Image 1). The stocking rate applied in the paddock where site one is located is one adult equivalent (AE) to four hectares. The pasture composition provided over 90% ground cover.

Site two is located through a fence (in a different paddock) 100m away from site one. It consists of native pasture species, predominately kangaroo grass and spear grass,

underneath tree cover (Image 2). Ground cover was measured at 60% however most of this was from unattached leaf litter. The stocking rate applied in the paddock where site two is located is one AE to eight hectares.

Consistent across both wet seasons, site two had three times more soil movement than site one. The sediment loss results for both sites across two wet seasons are shown in Table 1.

Table 1 Sediment loss results (in grams)

	Site 1: Cleared and well-managed improved pastures	Site 2: Native pastures under heavy tree cover
Year 1 soil movement	680	2236
Year 2 soil movement	720	2376

Wet season spelling: good for your pastures and your pocket

Beef businesses in the north Queensland dry tropics rely on native pastures for their cattle's daily feed. Over time, due to overgrazing and set stocking, many producers have caused significant decline in their perennial pastures and land productivity.

The only management tool available to producers to improve this decline is wet season spelling of native pastures.

Most paddocks across our northern extensive grazing properties have a mixture of soil types. The more fertile soils are often preferentially grazed by stock over other areas resulting in overgrazing.

The lack of adequate fencing and waters is a serious constraint when considering a wet season spelling program, especially in low productivity country.

Low profitability in the industry over the past 25 years has also limited on property infrastructure development. Hopefully we have a time period in front of us with some reasonable cattle prices above the costs of production.

It will be important for beef businesses to spend this extra income on projects that will have long-term economic benefit to the business, like infrastructure for wet season spelling.

At this time of the year most properties have finished their first round of mustering; weaners are likely being processed, trained and tailed while sale cattle are being marketed. But how many graziers have been taking note of their pastures during mustering? Producers need the skills to recognise if their current stocking rate and grazing management is impacting on their productive perennial pastures.

Our Far North FutureBeef Team has recognised the decline in productive perennial pastures across many properties. Some of the better soils have lost all their productive pasture species and only grow weeds and unpalatable grasses, while timber thickening is a major cause of productivity decline on the lower fertility soils. Research work across the North with wet season spelling has given promising results across several sites (Tables 1 and 2).

Two sites were selected, one near Einasleigh and one near Georgetown, where it was identified that perennial pastures were in decline, weeds and annuals were dominating, and cattle productivity and sustainable stocking rates were

The results of the demonstration show that well-managed improved pastures that maintain over 90% ground cover have minimal soil movement when compared to native pastures under heavy tree cover.

The key to minimising soil movement is maintaining over 50% effective attached ground cover, especially at the break of the season when heavy storms are received (Image 3).

The Upper Herbert River region has been used for cattle grazing since the early 1900s. Over the past three decades the timber thickening problem has rapidly developed (Image 4). The timber thickening problem is having a significant impact on grass production.

Very little native grass can grow under thick tree canopy leaving the soil surface covered by little grass and a lot of unattached dead leaves, which does not prevent soil movement during heavy rain.

For further information about this demonstration please contact:

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Image 1 – Site 1: Sediment trap in improved pasture paddock with over 90% ground cover.



Image 3 – Showing a good balance of trees and grass.

Table 1 Wet season spelling results Einasleigh Town Common site

	Year 1 Pasture Yields (kg/ha dry matter)	Year 4 Pasture Yields (kg/ha dry matter)
Weeds and poor annual grasses	440	376
Good perennial grasses	606	1500
Total yield	1046	1876

Table 2 Wet season spelling results, Georgetown site

	Year 1 Pasture Yields (kg/ha dry matter)	Year 4 Pasture Yields (kg/ha dry matter)
Weeds and poor annual grasses	982	812
Good perennial grasses	492	857
Total yield	1474	1669

Note: Georgetown site was heavily grazed over each dry season.

falling. The sites were locked up as soon as the first rain was received (around December-January) and left ungrazed until seed set. Paddocks were then grazed over the dry season.

The information presented in Tables 1 and 2 demonstrates that with wet season spelling every year over four years the pasture composition and yields improved dramatically.

Land condition was assessed using the 'ABCD land condition framework'. The ABCD framework provides a standard means of assessing and

Wet Season Spelling

Allows good perennial pastures to seed and strengthen.

- Improves land condition, pasture yield and sustainable stocking rates.
- Buffers the effects of rainfall variability.
- Builds fuel for effective fires.

rating grazing land condition and is based on an assessment of key indicators of current soil, pasture and woodland condition. Table 3 demonstrates the change in land condition at the Einasleigh Town Common site from year 1 to year 4 with a shift from C/D condition to A/B condition. Further information on the ABCD land condition framework can be found at www.futurebeef.com.au/knowledge-centre/grazing-land-management/land-condition/

Table 3 Change in land condition, Einasleigh Town Common site

	Land condition (%)		Ground Cover (%)
	A/B	C/D	
April 2008	24	76	65
June 2011	84	16	92

Pastures need to be locked up during the wet season until the perennial grasses have seeded. This timing will vary depending on

Leucaena learnings

Attendees at a recent Leucaena conference and field day saw first-hand how the new 'Redlands' variety – bred by The University of Queensland (UQ) with Meat & Livestock Australia (MLA) funding – is performing and what it takes to successfully establish Leucaena in North Queensland.

The events were held in May by The Leucaena Network in Atherton, Queensland, with the support of MLA and Queensland's Department of Agriculture and Fisheries (DAF).

Conference

The focus of the conference was integrating Leucaena into the grazing management systems of the north.

The discussion focused on the local research trials, including establishing Leucaena amongst standing timber and the palatability trial (both on Whitewater Station, near Mount Surprise). The palatability trial – being conducted by UQ with the support of MLA, DAF and Whitewater Station management – compares 'Redlands' with 'Cunningham' and 'Wondergraze'. The superiority in psyllid resistance of 'Redlands' over 'Cunningham' and 'Wondergraze' was clearly visible. Both trials are showing significant opportunities for future pasture improvement across the north.

Pasture and legume management and grazing options were also discussed, as they are significant considerations for graziers as they seek to improve pasture protein levels and improve animal productivity.

UQ wrapped up the conference by reporting on their latest research: the palatability trial, leucaena row spacing, soil moisture management and the most recent findings on managing leucaena toxicity.

Field trip

A field trip followed the conference, visiting Whitewater Station, to enable delegates to review the MLA/UQ palatability trials and the local legume and grass trials conducted by DAF.



Conference goers inspect the new 'Redlands' variety of Leucaena at Whitewater Station.

Leucaena producer demonstration site update

Mount Surprise producers are also hosting a MLA-funded Producer Demonstration Site (PDS) that is investigating and evaluating Leucaena plantings under established timber on Whitewater Station.



Signage about the Leucaena trial on Whitewater station.

To date the learnings suggest that careful planning and timeliness will deliver success to those producers who are unable to clear country for extensive Leucaena plantings. Challenges to overcome include planting equipment, soil and rock management, seedbed preparation and chemically controlling weeds (typically existing grass). However, none of these are insurmountable.

Establishment tips

The key points to consider for successful Leucaena establishment in the forestry country are:

- Plan: prepare a friable seedbed; conduct a soil test; and ensure good soil moisture prior to planting.

- Aim to control weeds in a five metre wide strip (in wet areas consider a raised bed or raised row configuration).
- Manage weeds vigorously by any means possible in the intervening fallow period before planting. Cultivation will be more expensive than using herbicides, but it is critical in hard-setting soils.
- Ideally, procure or hire a parallelogram tyne planter for precision seed placement with a fertiliser box.
- Plant Leucaena in double rows if possible at around 2 kg/ha of scarified and correctly inoculated seed.
- Ensure no weed pressure for the first three to six months after planting with either herbicides or careful inter-row cultivation.
- Lastly, seek advice from The Leucaena Network or your friendly, local DAF officer.

Patience and attention to detail will provide the desired results.

The Network is willing to host further training in your area, providing there is a minimum of 10 people willing to participate and costs are covered.

The Leucaena Network can be contacted at 0490 142 408 or via admin@leucaena.net.

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Image 2 – Site 2: Sediment trap nearby in the thickly timbered country with mostly unattached dead leaves as ground cover measured at 60%.



Image 4 – Showing the timber thickening problem that seriously reduces grass production.



a



b

Figure 1: a) shows the Einasleigh town common at the beginning of the research in 2008, largely in C/D condition. b) shows the Einasleigh site in 2011 after 3 wet season spells now in majority A/B condition.

the type of wet season each year. It is also important to avoid overstocking the recovering pastures during the following dry season. Retaining good ground cover and stubble for the break of season storms will reduce runoff and dramatically improve grass growth.

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News from the Northern Gulf

It has been a busy couple of months for the Northern Gulf Regional Management Group (NGRMG), Regional Landcare Facilitator (RLF) and the Department of Agriculture and Fisheries (DAF) far north FutureBeef Team with two Breeder Management workshops and the Meat & Livestock Australia (MLA) BeefUp Showcase being held.

Breeder Management workshops

Mid-April saw Breeder Management workshops and pregnancy testing training be delivered by well-known veterinarian Dr Ian Braithwaite. The events were facilitated by Melissa Bethel from NGRMG and FutureBeef extension officers Rebecca Gunther, Joe Rolfe and Tim McGrath.

The first workshop was held at Rocky Springs Station, Mount Surprise followed by one at Magowra Station, Normanton. Attendees were able to view and palpate dissected reproductive tracts, to help better understand the anatomy of a cow, before moving on to live animals.

In addition to the practical training, Dr Braithwaite emphasised the importance of balancing your cows, grass and cash flow. Retaining an out of season calver that will produce a light second

round weaner may give you a return in 2-3 years. However selling her as a PTIC (preg tested in calf) will give immediate cash flow to help pay the bills. The feedback from attending producers was very positive. A common theme from the feedback was that business management training is especially useful and more is needed across the beef industry.

BeefUp showcase

NGRMG teamed up with MLA, the Gulf Cattlemans' Association (GCA) and DAF to organise and host the BeefUp Showcase at Mount Surprise on 1–2 June. The event was well attended, with over 100 registrations and a chance to see the Maroons beat the Blues (again!) on Wednesday night.

Attendees were given information on the latest market research and development occurring, live export updates, as well as informative sessions on business management and succession planning delivered by specialists Ian McLean, Peter Whip and Barb Bishop.

The balance of cattle, grass and finances was again covered by GCA president Barry Hughes and industry leader Roger Landsberg. Dr Gehan Jayawardhana from the Northern Territory also delivered an extremely informative and amusing session on productive reproduction techniques.



Rocky Springs Breeder Management workshop participants.

Mike Digby, from the Australian Rangeland NRM Alliance, was on hand to present the latest updates within the NRM Spatial Hub and give a demonstration of this exciting tools capabilities.

There was also a mastermind session involving all attendees to workshop the future direction of MLA research.

Trade exhibits were well represented over the two days. The forum concluded with a trip to Whitewater Station, where MLA, DAF, NGRMG and The University of Queensland have been conducting trials regarding the new psyllid-resistant *Leucaena* species, 'Redlands', and several species of legumes and improved grasses.

Upcoming events

Upcoming events across the Northern Gulf include the Gulf Kids Environment Day, which is being held in Croydon on 26 August. The event will see over 180 school children, parents and teachers engage with the RLF and the Gulf Youth in Ag Team to learn about sustainable fishing practices. This is sure to be a fantastic day, so make sure you register and come along. Visit the Gulf Youth in Ag Facebook page (www.facebook.com/gulfyouthinag) for more information.

If you have any sustainable agriculture related activities, workshops or schools that you would like organised in the Northern Gulf region please contact:

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BeefUp your business

MLA BeefUp days are held throughout northern Australia and are developed by Regional Beef Research Committee (RBRC) members in collaboration with the BeefUp Coordinator and MLA staff.

MLA's BeefUp days have been developed:

- to create awareness of what MLA is and does
- to create awareness of what research and development (R&D) is occurring that is relevant to producers in attendance
- to create awareness of the role and responsibilities of the RBRC
- to create awareness and participation in regional R&D
- to have input into regional R&D needs
- to provide practical tools and information to beef up your business.

Expert discussions focus on the key profit drivers of beef businesses, and sustainability practices that can make a significant difference to an enterprise's bottom line.

While the specific content of the BeefUp day varies, the aim is to deliver programs with clear, practical information, and tools that have been developed from sound R&D outcomes. This ensures that producers can take home, and immediately put into practice, on-farm what they have learnt. Therefore helping northern beef producers make more money from their beef production enterprises.

Upcoming locations and dates:

Capella	Tuesday 6 September
Chinchilla	Tuesday 13 September
Charleville	Thursday 29 September
Katherine	Tuesday 11 October
Kingaroy	Wednesday 19 October

For more information about BeefUp forums contact:

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Dr Ian Braithwaite outlining the static herd model.



North-west innovators shine at Weed Control day

A Weed Control Innovation Forum and Field Day was held in Richmond on Wednesday 27 April 2016.



Fox Helicopters demonstrate how to manage the threat of rubber vine from the air at the Richmond Field Day.

The event was an initiative of Southern Gulf NRM, funded through the Regional Landcare Facilitator program and supported by the Department of Agriculture and Fisheries' War on Western Weeds project.

Southern Gulf NRM Chief Executive Officer Andrew Maclean said in recent years there has been somewhat of a revolution in new ways to manage weeds and the control tools available to landowners.

'North-west Queensland is impacted by several serious weeds including prickly acacia, which is overrunning our Mitchell grasslands, rubber vine that is choking out our river systems and calotrope which is continuing to spread across the Gulf plains,' Mr Maclean said.

Weed control in the region has long been a priority for Southern Gulf NRM. The field day brought together, for the first time, innovations that have been developed almost solely by north-west innovators for specific Southern Gulf weed problems.

'Grazier and industry innovators have developed devices for controlling weeds more effectively and efficiently,' Mr Maclean said.

'Local innovators have looked at local weed problems and developed local solutions. The result is a new toolbox of options for land managers and graziers to draw from.

'The event also provided attendees with a unique opportunity to see control demonstrations firsthand and speak with inventors about the benefits of adopting weed management processes,' said Mr Maclean.

Examples on display included the aerial ignition of rubber vine for improved fire management, by Fox Helicopters and the weed sniper developed by Cloncurry Mustering Company for prickly acacia control.

In addition, the event featured over a dozen speakers including weed researchers, grazing industry innovators and pasture scientists.

Landowners who attended were able to benefit from a wealth of knowledge on display, participants of the event were provided the latest research on weeds, and learnt how to identify emerging threats, such as, bellyache bush and parthenium.

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Real-time foot-and-mouth disease plays vital education role

DAF Biosecurity Inspector Rachael Palfreyman recently returned from overseas after being selected to attend foot-and-mouth disease (FMD) training in Nepal.

The trip was funded as part of the Biosecurity Preparedness Program (FMD) and provided firsthand experience of what FMD looks like and measures to take to limit its spread.

The training, delivered and facilitated by the European Commission for the Control of FMD, allowed attendees to gain practical experience on identification, lesion aging and epidemiology skills.

'The trip to Nepal and participating in the training really strengthened my understanding of FMD,' Rachael said.

'I have always known that a FMD incident would be a disaster for Australia, but seeing it in person and conducting investigations into real outbreaks has opened my eyes considerably.'

FMD is highly contagious, being able to be spread by clothing, people, animals, animal products and even (under specific circumstances) by wind. It is not a disease that you can definitively diagnose in the field; you must have it confirmed in an accredited laboratory. All the while, the disease can be spreading while you wait.

'You must be able to age lesions correctly to determine which samples to collect; otherwise your tests can return false negative results. My experience showed me how terrible this disease is and how lucky Australia is to be FMD free.'



Rachael Palfreyman conducting an epidemiological interview with colleague Dr Najuma Joshi and Nepalese farmer Mr Ramhudar Karki during an FMD outbreak.

With hands-on training and working with peers, knowledge is gained and shared amongst attendees.

'The training played a vital role in educating attendees from countries like Australia, where we haven't had an FMD incident since 1872 and, therefore, many of us have not seen the disease in person,' Rachael said.

'Our presenters explained to the Nepalese veterinarians that for us seeing FMD was like meeting the Queen, which they found quite amusing given they see FMD all the time.

'Identifying affected animals, assessing the transmission risks of it spreading to other farms and areas, as well as preparing control programs was beneficial.'

'Having information on current and previous FMD outbreaks assisted training participants in preparing a report that will be provided to the Nepalese government. The report content will provide recommendations on potential control methods of FMD in Nepal, which will be difficult for geographical and religious reasons.'

As a whole, Rachael enjoyed her experience; the icing on the cake was when she returned home.

'Queensland border security was being tested on my return as part of their airport security protocols. Security Officers were waiting at the gateway and immediately identified me when my passport was scanned,' Rachael said.

'It was great to see that our systems do work and that airport security is taking FMD seriously.'

Further information regarding FMD can be found at www.biosecurity.qld.gov.au/FMD.



Mouth lesions of a FMD affected cow.

Townsville to host 5th Pest Animal Symposium

Townsville will host the 5th Queensland Pest Animal Symposium in November, where the focus will be on the control of pest animals including feral pigs, feral deer and aquatic species.

The event, coordinated by the pest animal branch of the Queensland Weed Society, is expected to attract experts in the field, as well as land managers looking to hear about the latest practical solutions.

This year's theme is Options, Obstacles & Outcomes with the symposium covering topics such as new and existing management tools; decision support; costs and benefits; community initiatives; social issues; resource issues; cutting-edge research; and the what, where and why of options, obstacles and outcomes.

With prevention a critical component of management, 'All land managers are faced with a future of limited time and money to undertake effective control of the problem,' said Townsville City Council NRM Team Leader, Angela Wicks.

'We would like to invite you to come and hear more about our shared stories of working together and integrating techniques through the Toolbox approach. In addition, how this has been implemented statewide for traditional species as well as invertebrate species such as pest ants.'

Land managers attending this event can interact with a range of pest management practitioners and contribute to tour options.

These tours are heading in all directions from Townsville and hope to display first hand and practical results that address the threats by pest animals to sustainable agricultural industries, the environment and the community well-being.

Stakeholders from North Queensland involved in this event include staff from local government, universities and NRM groups.

'Community input by participating in this event will enrich the conversation and increase the learning for everyone.'

The 5th Queensland Pest Animal Symposium (QPAS) is being held on 7–10 November 2016 at Rydges Southbank, Townsville.

Two dynamic keynote speakers have been confirmed for the Symposium program: Professor Don Hine, School of Behavioural, Cognitive and Social Sciences, University of New England and Dr Mark Read, Great Barrier Reef Marine Park Authority.

Other symposium highlights include:

- welcome Reception at Townsville Picnic Bay S.L.S.C.
- two days of Symposium sessions, posters and trade displays
- full day study tours
- Symposium dinner at Townsville Brewery Banquet Centre
- Industry breakfast.



At a recent Dalrymple Landcare Group meeting near Charters Towers members discussed feral chital deer management. This knowledge and expertise would be welcome at the Pest Animal Symposium, Townsville, 7-10 November 2016.

'The organising committee would like to thank our sponsors: Townsville City Council, NQ Dry Tropics, Animal Control Technologies Australia, FNQROC and technical contributor Department of Agriculture and Fisheries, as their support makes it possible to hold these events in regional Queensland.'

The Symposium program and registration are available at www.pestanimalsymposium.com.



New biosecurity laws for livestock producers

Biosecurity Queensland is urging livestock producers to be aware of the new biosecurity laws and what they mean for their business. Queensland's new *Biosecurity Act 2014* commenced on 1 July 2016.

A new cattle tick framework commenced on 1 July 2016. It provides producers with more options for managing cattle tick on their property. The framework supports reduced travel times and costs for producers impacted by cattle tick and provides more flexibility for low risk activities such as moving livestock to feedlots and abattoirs.

It also allows for accredited certifiers – people trained to inspect and certify livestock as free from ticks. Accredited certifiers can issue certificates at any location, not just a dip or clearing facility. This allows livestock to be certified at their place of origin and moved directly to their destination, saving the producer additional loading, travel and costs.

All producers still have an obligation to report cattle tick and tick fever in the free zone. Infested properties in the free zone need to ensure their livestock are tick free before they are moved and eradicate the ticks from their property. Biosecurity Queensland will continue to provide surveillance for cattle ticks in the free zone to identify and monitor high risk areas, and to ensure that eradication programs on infested properties are effective.

The property identification code (PIC) system is continuing. If you keep designated animals, you are considered a registrable biosecurity entity and must register your details with Biosecurity Queensland. This is similar to the previous property registration requirements – the terminology of who must register is a little different, but what is considered a designated animal remains unchanged.

You must register if you keep:

- One or more cattle, sheep, goats, pigs, bison, buffalo, deer, members of the camel family, members of the equine family

- 100 or more designated birds – those that are raised for human consumption (poultry) or the production of eggs for human consumption (e.g. chickens), or that have been released into free flight since they started being kept in captivity (e.g. racing pigeons)
- One or more bee hives.

In most cases the owner of the animals needs to register because they normally have ultimate care and control of the animals. If you keep livestock, when you register as a biosecurity entity a PIC will be issued. If you already held a PIC you were automatically registered as a biosecurity entity on 1 July 2016 and registration will remain effective for three years.

A major theme of the new laws is that of shared responsibility – that everyone is responsible for managing their own biosecurity risks. The laws introduce the general biosecurity obligation, meaning livestock producers must take an active role in managing biosecurity risks under their control and must ensure their actions do not spread plant and animal pests, diseases or contaminants.

You are not expected to know about all types of pests and diseases, however you are expected to know about those that you could potentially come across as part of your daily activities. You need to ensure you can recognise and manage the various pest animal and plant species present in your area. Under the Act, and as part of your general biosecurity obligation, you must take specific actions to limit the spread and impact of these pests, known as restricted matter, by reducing, controlling or containing them. You must not share, sell, trade or release restricted matter into the environment unless you are authorised to do so in a regulation or under a permit.

There are also new reporting requirements and restrictions on the movement of some restricted matter contained in newly introduced biosecurity zones. These zones can be specific to the type of restricted matter being managed, for example red imported fire ant biosecurity zones and horticultural biosecurity zones.

To find out more about your responsibilities visit www.biosecurity.qld.gov.au or call 13 25 23.