

Northern muster

Information for rural business in North Queensland

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Issue 31 March 2013



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Weed spreads in NQ

Key to treatment is early stage application

Calotrope moves in on North Queensland

CALOTROPE (*Calotropis procera*) is a spreading shrub or small tree in North Queensland, particularly in the Gulf of Carpentaria region. The weed has formed large dense infestations in recent years.

Calotrope has been moving steadily into new regions as a result of wind, water and possibly other dispersal mechanisms.

It has been present in the upper reaches of the Burdekin River catchment for more than 20 years, but is now appearing on properties south of Charters Towers. Landholders often find single plants in the middle of paddocks with no sign of any other calotrope plants. It is therefore likely that wind moved the calotrope seed to the paddocks.

Calotrope is a native of tropical and subtropical Africa and Asia. Distinguishing features include large grey-green leaves that are heart-shaped at the base and pretty white flowers with purple blotches at the tip. The weed also has a distinguishable large, mango-size inflated fruit which splits open when ripe, releasing many wind-dispersed seeds. The plant exudes a milky sap when damaged.

Calotrope is most frequently called rubber bush in the Northern Territory and Western Australia. Other common names include rubber tree, cabbage tree, kapok tree and king's crown.

If you live in North Queensland, controlling calotrope is more achievable in the early stage of invasion when there are only a few plants and little or no seed bank.

In the Gulf of Carpentaria, calotrope has shown that infestations rapidly expand once a few plants have established and reproduced. The rate of spread varies depending on habitat suitability and seasonal conditions, but prevention and early intervention provide the best chance of avoiding deleterious impacts and more expensive control later on.

The full impacts of calotrope are not known, but large thick infestations would affect pasture production and make mustering more difficult. The plant is potentially toxic although there are few reports of domestic animals dying from it. At times, animals will even heavily graze calotrope plants, helping keep the plant in check. This appears to happen mainly in areas where calotrope has been present for many years and often later in the dry season.

CHEMICAL CONTROL OPTIONS

The Australian Pesticides and Veterinary Medicines Authority (APVMA) minor use permit (PER8296) identifies chemicals that can be applied to kill calotrope in Queensland.

Individual plants can be killed using Access mixed in diesel at a rate of 1.60 using the basal bark technique. However, it is critical that the stems of plants are sprayed all the way around to the point of run-off, from about 40cm above ground, down to



MAIN PICTURE: Thick infestation of calotrope in the Gulf region. INSET: Calotrope have pretty white flowers with purple blotches at the tip and mango-sized inflated fruit that splits open when ripe, releasing many wind-dispersed seeds.

ground level. Cut stumping, although more time-consuming, is also a good option for small patches using Access and diesel. Plants must be cut as close to ground level as possible and the chemical should be immediately applied to the cut surface.

Metsulfuron methyl-based products such as Brush-off and Associate can be applied using foliar spray equipment, however it is critical to thoroughly spray the whole plant, including the stems. It is essential to add a wetting agent to the mixture. Research has shown that foliar spraying during the cooler parts of the day (morning and afternoon) brings the highest kill rates.

MECHANICAL CONTROL OPTIONS

The use of mechanical techniques such as grubbing, blade-ploughing or cutter-barring could be effective in suitable areas provided plants are cut off below ground. Treatments that break plants off close to ground level will not kill plants and they will vigorously reshoot and reach their former size within about 12 months. In a research study, medium-sized calotrope plants were cut off at 0, 10 or 20cm below the ground. All plants cut off at ground level (0cm) survived, while all plants cut off at 10 and 20cm below ground died. Seedling recruitment will occur after mechanical control, although the amount will obviously vary depending on how big the soil seed reserves are at the time.

Fire appears to be ineffective against adult calotrope as plants rapidly reshoot from the base

afterwards. Whether a regime of repeat fires could provide higher kill rates has not been tested but warrants investigation.

CURRENT RESEARCH RESULTS

MLA is currently funding research to better understand the invasiveness, spread and ecology of calotrope and to improve control options. Research is being undertaken collaboratively between the Queensland Department of Agriculture, Fisheries and Forestry, Charles Darwin University and the Northern Territory Department of Land Resource Management with input from a range of stakeholders.

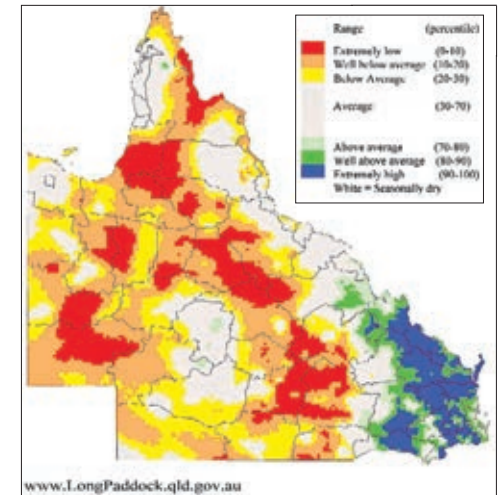
To date the research has found that:

- Pod production by plants can vary markedly between areas and appears to be dependent on the number of insects around to pollinate the flowers.
- The seed bank of calotrope appears to be short-lived, averaging about 12-24 months. Effective control is therefore achievable, provided new seedlings and regrowth can be controlled before reaching reproductive maturity and there is no seed coming from neighbouring infestations. The latter is a risk for calotrope through wind dispersal of seed.
- Herbicides on clay soil country in the Gulf of Carpentaria show promise when applied from the ground or air. They have the advantage of not only controlling the original plants but also seedlings that may emerge afterwards.

Shane Campbell, Biosecurity Queensland, Tropical Weeds Research Centre, Charters Towers, (07) 4761 5704, shane.campbell@daff.qld.gov.au



Dry or wet – tick fever a threat



Vaccination practical and essential

WITH the prolonged dry season over much of the state up to end of February (see map), conditions in some of the cattle tick-infested areas will have been unfavourable for ticks. Fewer ticks mean fewer cattle are immune to tick fever from natural exposure.

Vaccination with tick fever vaccine is essential when moving stock from clean country into tick-infested areas. It should also be seriously considered when stock move (for agistment or sale) from drier areas within the tick zone; and in fact, it should be considered for any movement within the tick areas.

Tick fever is caused by three blood parasites: *Babesia bovis*, *Babesia bigemina* and *Anaplasma marginale*. The life-cycles of these three parasites vary, but are perpetuated by cattle ticks feeding on infected or previously exposed cattle that have parasites circulating in their blood.

Cattle ticks are the transport mechanism that enables spread of these three parasites to susceptible stock. *B. bovis* and *B. bigemina* transfer through larval ticks picked up from the ground; *A. marginale* is mainly transmitted by direct movement of male ticks between cattle when they are close together in yards and trucks, or when camped under a tree.

Calves (3 to 9 months) that are exposed to infected ticks can develop natural immunity to tick fever without developing clinical disease. However, tick infestation does not guarantee immunity to tick fever. Very few ticks actually carry tick fever; and if you rely on tick exposure for long-term protection of your calves, thousands of ticks will need to bite the animals.

When we superimpose seasonal effects, property differences, breed effects and acaricide treatments, we can never be sure just how much natural immunity there is. Most survey work suggests it is a long way short of 100 percent. In a three-year trial in the 1990s throughout North West Queensland, on average 90pc of the yearlings in all shires were unexposed to one or more of the tick fever parasites. Breed is an important consideration in all this, as Bos Taurus types are much more susceptible than pure Brahman; and susceptibility increases as Brahman content decreases.

Be sure to monitor stock regularly and if necessary, implement a vaccination program to provide stock with sufficient immunity.

Lara Marwedel, Tick Fever Centre, (07) 3898 9655.



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New-look Northern muster

Editorial

Welcome to the autumn 2013 Northern muster

By EMMA HEGARTY and REBECCA GUNTHER
DAFF FutureBeef extension officers
Northern muster editors

THIS is the first edition of the *Northern muster* that is being printed in conjunction with the *North Queensland Register*. Online versions are still available for download online or via email.

To register to receive the online version, please subscribe on the FutureBeef website (www.futurebeef.com.au/resources/newsletters/) or by sending us an email at northernmuster@daff.qld.gov.au.

With the lack of rain around the area, we have not had a good start to the year, with cattle on the move in all directions. Many tough decisions have had to be made by producers and the season does not look like improving in the near future.

Management decisions made in these tough times need to be thought through carefully, as how you manage your herd and your pasture from now until it rains will impact how quickly you and your business can recover from this dry period.

This issue covers many hot topics, including marketing options, breeder management, carbon farming, pest management, biosecurity issues and the usual regular columns.

We hope you enjoy this issue and the new printed version in the NQR.

Phone 13 25 23 for advice and contacting DAFF staff.
Please register your details for future electronic editions.



Helping build the business of beef

WELCOME to the new-look *Northern muster*, a collaboration between the *North Queensland Register* and the Queensland Department of Agriculture, Fisheries and Forestry (DAFF).

The *Northern muster* aims to deliver the latest beef industry research and development, extension initiatives, and information from the FutureBeef Program for northern Australia.

The FutureBeef Program is a coordinated extension partnership between Queensland, Northern Territory and Western Australia agriculture departments and Meat and Livestock Australia (MLA).

The *Northern muster* is a well-regarded publication that's been eagerly received by its subscribers for a number of years.

This new format, distributed as part of the *North Queensland Register* and also available online, will introduce the *Northern muster* to a whole new readership, doubling our reach.

We hope you find the *Northern muster* a valuable resource and we would like to hear your comments. Please email us at northernmuster@daff.qld.gov.au and let us know what you think!

Once you've finished reading this issue, you can also access a free online treasure trove of research-based beef production and resource management information, tools, events, eBulletins, youtube video clips, recorded webinars and even past editions of the *Northern muster*.

Explore www.futurebeef.com.au for the latest information. If you can't access the internet, let us know and we'll send out a FutureBeef Technical Library DVD so you don't miss out.

Krista Cavallaro, FutureBeef manager,
krista.cavallaro@daff.qld.gov.au

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of the Competition and Consumer Act and with the Australian Association of National Advertisers Code of Practice. No endorsement by the Department of Agriculture, Fisheries and Forestry is intended or implied by the advertisement of any product in the *Northern muster*.

North Queensland women awarded

RIRDC recognises community advocates

NORTH Queensland women have taken out the two top places at the 2013 Rural Industries Research and Development Corporation (RIRDC) Queensland Rural Women's Award ceremony in March.

Alison Fairleigh from Ayr, a long-time advocate for mental health, took out the top spot, and well-known North Western personality Terressa Ford, from Hughenden, was a well-deserved runner-up.

The Minister for Agriculture, Fisheries and Forestry John McVeigh congratulated Ms Fairleigh, who was awarded a \$10,000 bursary to develop a pilot training program conducted with the Townsville-Mackay Medicare Local.

Alison co-founded RuralMH in 2010 to raise awareness of mental health issues in rural communi-

ties. Her mission is to ensure that mental health is seen to be just as important as physical health issues.

The pilot program Alison intends to develop will target farmers and fishers from Mackay to Townsville, and will concentrate on their ability to access mental health professionals.

Alison will begin development of the program in a couple of weeks, and by September she hopes to be able to trial the program in Mackay and Townsville.

Alison said she is lucky to work for the Mental Illness Fellowship of North Queensland, as they have thrown all their resources behind her endeavours.

Terressa Ford will travel to Canberra alongside Alison in September to take part in a business development course.

Terressa intends to continue with her plan for a series of workshops titled 'Around the Kitchen Table'.

There will be three workshops, each eight to 10 weeks apart, which will start in late June, with each workshop addressing a different topic – technology, finance and mental health. The workshops are designed to further up-skill and empower rural women in these areas to give them the confidence to make informed business decisions, be abreast of how to use the latest technology to benefit their families and business, and handle mental health issues.

Terressa was nominated by Dave Smith, DAFF Charters Towers, for the work she does with the Flinders Beef Challenge, and anyone who has been involved with the challenge will know of the workload Terressa has taken upon herself. Terressa is adamant that this award is not about one person, but about the magnificent effort rural women from all rural areas put into their communities.



Alison Fairleigh (front) and Terressa Ford with their respective awards.

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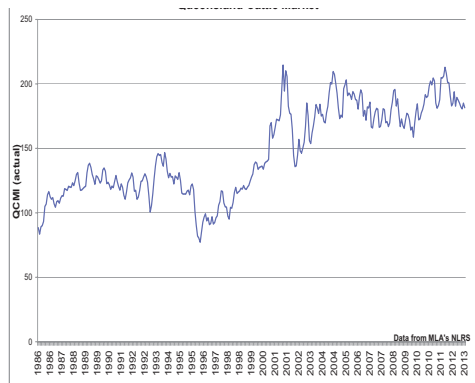
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Cost control and input issues

Moves to address beef price downtrend



1: The Queensland cattle market.

Low beef prices necessitate a focus on cost of production

BEEF prices have fallen 40 percent in real terms since 2001 and are currently trading around the 11th percentile of all beef prices over the past 25 years. The current downward trend in beef prices started last year in January 2012 and has seen prices decline by 17pc in real terms since then.

If current beef prices continue to decline further, many beef businesses will not generate profits in 2013, even before considering debt and interest cost obligations. Beef prices are always front of mind for beef producers and the decline in prices over the past 12 months has drawn much comment. But how do the current prices compare to long term averages?

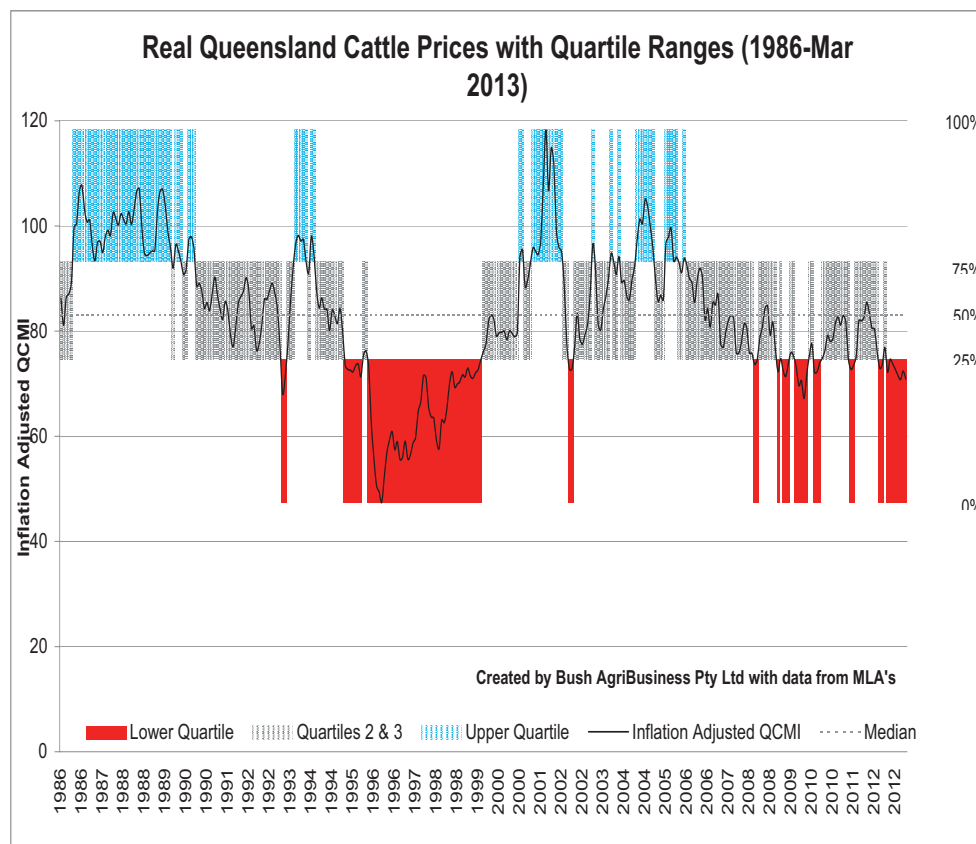
Figure 1. shows the QCMI (developed by MLA's NLRs, full explanation below) from 1986 onwards, the recent market fall can be seen, along with what appears to be an upward trend over time.

When looking at long term trends, as in figure 1, we need to take inflation into account to see the actual change in real prices. Adjusting for inflation is important because the costs of running a beef business are rising at least at the rate of inflation.

If the February 2013 QCMI average of 181.6 is adjusted for inflation it becomes 70.9. To explain the conversion, \$70.90 would have bought you the same amount of goods in 1985 that it would take \$181.60 in today's dollars to buy (based on Australian Bureau of Statistics Consumer Price Index for Brisbane). Therefore prices today are nearly 30pc lower, in real terms, than they were in 1985. The index was 100 in 1985, and adjusted, is now 70.9.

Figure 2. shows changes in real beef prices over 26 years, and where current prices are in relation to historical prices. QCMI is adjusted for inflation and also shows the quartile ranges of data. (Quartiles explain statistical distribution of data – 25pc of months will be in the lower quartile, 50pc in quartiles 2 and 3 and 25pc in the upper quartile).

The inflation-adjusted monthly average figure for



2: Real Queensland cattle prices, quartile ranges, 1986 to March 2013.

Cost control: points to note

GET THE BUSINESS EDGE

WHAT determines and how to influence CoP and other key performance indicators at herd and business level, and topics such as economic sustainability, succession, risk and debt management are addressed in the Business EDGE course from Katherine to Roma in coming months. The two-day intensive workshop was developed by Meat & Livestock Australia and Phil Holmes to give beef producers better management skills. Business EDGE presenters Ian McLean and David Counsell will deliver the workshop across Northern Australia, along with industry professionals Steve Banney, Graeme Busby, Steve Petty and Phil Holmes.

HOW THE QCMI IS CALCULATED

THE QCMI is an index which is representative of current market prices based on 132 categories of slaughter animals throughout selling centres in Queensland. The index is calculated by comparing current market prices to the price level in 1985 when the index started and was set to 100. So the average QCMI for January 2013 of 180.7 means that beef prices in January were 80.7pc higher than in 1985. This represents accurately the changes in the cattle market over time, however it does not take into account the inflation that has occurred over the past 26 years.

February 2013 is at the 11th percentile, meaning the market has only been at this price or lower for 11pc of the past 26 years. Real prices have fallen 40pc since the peak in 2001 and have only been lower than current levels for an extended time period once in the past 26 years – 32 out of 35 months from February 1996 to December 1998. So what does it mean for producers?

COSTS DECIDE PROFIT

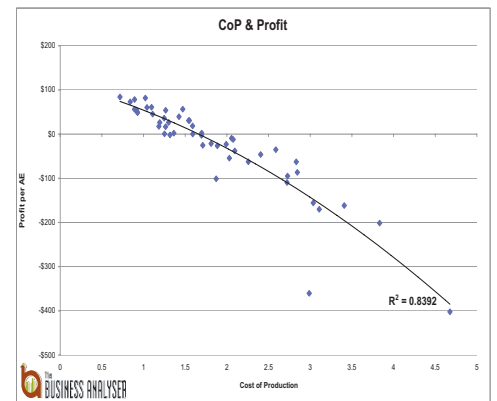
The current downturn will squeeze the low and often negative margins across the northern beef industry. If prices stay around this level through 2013, then a large percentage of producers will not make profits this

year and this is before considering interest costs. This is concerning information for an industry where many businesses are carrying high levels of debt.

Beef producers make their profits from the margin between what they get paid per kilogram of beef and what it costs their business to produce each of those kilograms. During periods of low prices, it is even more critical to know what the cost of production per kg of beef (CoP) is for the business, what drives that ratio and what opportunities exist to improve efficiencies. As the CoP is a ratio between kilograms of beef produced and costs, in some cases, it can pay to spend money to ramp up production in an effort to achieve a



3: Price received and profit.



4: CoP and profit.

lower CoP. While price is outside the control of producers, CoP is something they can influence. Analysis of beef businesses has consistently shown that price received explains little (<10pc) of the difference in profit between beef businesses. CoP on the other hand explains over 80pc, and operating margin (price received less CoP) explains more than 90pc of the difference in profitability between businesses.

Figure 3. shows the relationship between price received and profit per animal equivalent (AE) of benchmarked beef businesses across northern Australia from Bush AgriBusiness' benchmarking product developed for Northern Beef, The Business Analyser. It shows there is no clear relationship between price received and profit. Note that some businesses with an average price received of close to \$2 are not making a profit and businesses with price received less than \$1.50 that are profitable.

Figure 4. shows the relationship between CoP and profit; here is much stronger with profit rising as CoP falls. Also note all businesses with a CoP below \$1/kg are profitable. So whether the current market stays at this level, goes up or continues to go down from here, beef producers with the lowest CoP will be better off.

Profitable beef businesses in future will know their CoP, what it is doing and how to keep it down.

Ian McLean and David Counsell, Bush Agribusiness, 0401 118 191, ian.mclean@westnet.com.au





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Protein Meal	400g/kg	40.0%
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Sulphur	25.3g/kg	2.53%
Salt	384.2g/kg	38.42%
Potassium	3.893g/kg	38.9%
Magnesium	8.828g/kg	88.2%
Calcium	25g/kg	2.5%
Phosphorus	5.45g/kg	54.5%
Manganese	6.18 mg/kg	
Iron	18.45mg/kg	
Copper	0.825mg/kg	
Zinc	188.87mg/kg	
Selenium	26mg/kg	
TOTAL PROTEIN		37.5%



Ian Braithwaite talks breeder management systems at Wambiana.

Industry experts cover finance, production, environment

Breeder management systems

MORE than 80 graziers and industry stakeholders gathered in the Centenary Lodge conference room at Wambiana Station to hear specialist beef production veterinarian Dr Ian Braithwaite speak on breeder management systems. Other speakers, including Michael Lyons, Wambiana; Jeff Schrale, ANZ; and Peter O'Reagain, Department of Agriculture, Fisheries and Forestry (DAFF), spoke about challenges facing the industry and options for producers to manage them.

The key to Ian's presentation was the interaction of cattle production and business dynamics with a passion focused on profit rather than production. Ian told how a typical beef enterprise dealt with business, production and rangeland issues. These included high entrance equity levels, lending risk margins,

unpredictable cash flows and inadequate business indices. Some animal production and rangeland issues discussed were unmanaged calving patterns, failure to understand the biology of a breeding animal and its impact on calving intervals, low conception rates, genetics and failing to match stocking rates to carrying capacity. A breeder segregation system for northern herds was demonstrated. Putting simple theory into practice, the system combines wet and dry drafting and foetal ageing to segregate breeders into calving groups. It can deliver predictability of sales, allowing accurate forecasting of cashflow. Ian described how each calving group should be managed including the potential to rebreed in 12 months.

Michael Lyons spoke on selection traits he was using in the Wambiana bull breeding nucleus herd, with the main focus being fertility and how cows are

expected to have a calf each year. The herd has progressed to a stage where cows have raised six calves in six years. Michael said bulls could influence up to 40 calves in any one year so the selection pressure needed to reflect this. Bulls are only selected with above average growth and fertility EBVs. Michael showed attendees a number of bulls sorted into groups based on the number of consecutive calves of the dam.

Jeff Schrale provided an insight into how banks assess risk and key steps producers can take to mitigate lending risk. Peter O'Reagain explained matching stocking rates to carrying capacity and how getting this right is critical for animals to perform at their optimum level. This topic was of particular interest with producers facing the dry times seen this year.

Karl McKellar, FutureBeef Team, Charters Towers, (07) 4761 5153, karl.mckellar@dafq.qld.gov.au



Market matters

Industry under pressure as fires, now dry season bites

UNFORTUNATELY, at the time of writing this market report, our beef industry is under pressure from all sides across the region. The trouble began with a long dry season to end 2012, and many producers not getting a break in the season until well into January 2013.

To top this, we had a series of devastating bush fires which began in spring and have severely impacted many properties.

The late wet has not been good enough to allow these burnt properties to grow back a reasonable body of grass for their cattle numbers and fill all water storages.

Producers wishing to reduce cattle numbers because of a possible shortfall in grass and water supply later in the year, are experiencing a very difficult marketplace, with a big area of Queensland and the Northern Territory also experiencing a failed wet.

Meatworks and saleyards are booked out for many weeks ahead and store cattle prices are tumbling quickly. To add to this misery, numerous properties have been quarantined with an outbreak of BJD across northern Australia.

In 2012, our live exports were back 11 per cent to 617,301 head. Indonesia was still the largest destination with 278,581 head followed by Turkey 46,342; Malaysia 32,781; Egypt 32,800; and Philippines 30,105 head.

The horse meat scandal in Europe has seen beef sales affected in their neck of the woods, especially sales of processed meat products such as beef patties and ready-to-eat meals. In the long term we may see an increase in demand for our Australian product, which still has a good image.

The Australian dollar has continued on the wrong side of parity for our export markets but on a brighter note, China's beef imports for early 2013 are promising. There is an increased market share for EU cattle and the US herd is at its lowest cattle numbers since 1952.

AUSTRALIAN TOTAL BEEF EXPORTS 2012

■ Volume 963,779 tonnes. Up 1.5pc on the previous year, valued at \$4.77B.

■ Japan was our leading destination on value in 2012 with beef imports valued at \$1.5b. Followed by US \$1b; Korea \$648m; Taiwan \$210m; China \$149m; Russia \$149m; and Indonesia \$120m.

■ Volumes – Japan 308,537 tonnes; USA 224,007t; Korea 125,957t; Taiwan 38,281t; Russia 34,953t; China 32,905t; Middle East 31,325t; Indonesia 27,100t; Philippines 25,700t; Chile-Brazil 19,160t; EU 14,100t; and finally Singapore 14,087t.

The increased flow of cattle through our abattoirs since the 2013 season started has resulted in record February beef and veal exports of 80,534 tonnes. China and the Middle East were big improvers but more traditional destinations such as Japan and Korea are still very slow, with February exports to Japan the lowest since 2003.

Weekly kill numbers in Queensland the week before Easter have hit record numbers – 82,866 head. Plus, Roma saleyards are running at capacity with 13,000 head sold this week at one yarding and Longreach overflowing with more than 5000 head from large private and corporates such as AACo.

Saleyard volumes for 2012: Roma 312,574 head; Dalby 214,358; Cloncurry 200,311 (mainly clearing dip numbers); Blackall 153,393; Charters Towers 126,168; Longreach 124,651; and Gracemere 114,899.

The release of guidelines, specifications and audit requirements etc. for a national Australian standard for pasture fed beef is slowly grinding forward. The standard will require cattle to have continuous access to pasture, be MSA graded, have lifetime traceability and not be confined for intensive feeding.

Hopefully such an assurance system will assist our eligible pasture fed beef to access niche markets both on domestic and international customers.

MSA grading numbers in 2012 have continued to rise with 2.265 million head graded, and compliance also up at 94.2pc. Producers are beginning to see some serious premiums for MSA-graded beef of upwards of 30c/kg dressed weight.

CHINA-ASIA

The 2012 year produced record sales into this region valued at A\$814m, which is 47pc above the five-year average. The South East Asia area accounted for 18pc of our overall export values in 2012.

UNITED STATES

The expected recovery in demand and supply of Aussie beef into the US is still not materialising.

Experts have predicted with the declining US cattle herd numbers, demand for export beef will rise.

Tonnage exported from Australia to the US so far this year is well behind tonnages exported during the same period in 2012.

Another drama for Australia is unfolding with the USA pushing for a free trade agreement with the EU and if ratified, will give them the jump on us with competitiveness again.

JAPAN

Japan has relaxed age restrictions on US beef imports from 20 months to 30 months. The 20 months or younger beef condition was only implemented back when there were serious concerns of mad cow contamination with US beef imports.

KOREA

In Korea the USA has moved into its second year of tariff reduction for their beef imports, and despite several delegations from Cattle Council Australia and National Farmers Federation, nothing seems to be happening on an inter-government level, which is required for a deal to be struck for our beef imports.

Bernie English, FutureBeef team, Mareeba, 0427 146 063, Greg Brown, Meadowbank Station, Mt Garnet.



Scenario 1 – sell male and excess female weaners at 6 months age
Scenario 2 – sell males and excess female culls at 18 months age
Scenario 3 – sell males and excess female culls at 30 months age

	1. 4,000AE	2. 4,000 AE	3. 4,000AE
Total breeders mated (no. hd)	2,739	2,459	2,137
Calves weaned (no. head)	1,411	1,267	1,101
Female sale price avg (\$/hd) cull cows and heifers	\$435	\$465	\$493
Male sale price avg (\$/hd)	\$289	\$445	\$592
GM/herd	\$270,153	\$322,393	\$347,247
GM/AE	\$67	\$80	\$87

Strategies show better ways to lift bottom line

Consider your cattle marketing options

ALL properties strive to maximise the profitability of their operation. Factors such as rainfall distribution and type of wet season will impact on annual live weight gain, branding and deaths rates.

In addition, cost of production and cattle prices all affect the bottom line.

Increasing reproductive efficiency, or number of calves per 100 cows, is the key to increasing overall herd profitability. Producers with breeders in the northern dry tropics must carefully consider their cattle marketing strategies.

With branding rates often on the wrong side of 50-55 percent, and death rates over 3-5pc, a growing animal (steers, cull heifers-cows) will often gain more value annually than the breeder cow unit.

This means don't sell young cattle or weaners unless the price is very high or the season dictates differently such as this year. It is usually better to reduce breeder numbers and free up paddocks to put extra weight on your sale cattle.

To demonstrate the economics of various selling strategies three scenarios have been run through the BreedCow herd modelling package. Each scenario has a herd of 4000 adult equivalents (AE), with growing cattle gaining 100kg per year in the northern dry tropics. Weaning rate is static at 51pc with cow mortalities at 4pc and male death rates around 2pc.

Bernie English 0427 146 063, Joe Rolfe 0427 378 412, Rebecca Gunther 0417 726 703, FutureBeef Team, Mareeba and Cloncurry.



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Far northerners must make the most of every raindrop

Keyline ploughing proves its value for water management in a parched region

WHILE much of southern Queensland has been inundated by rainfall, the far north wet season has been unusually dry.

This can be confirmed by John and Kathy Colless, who are successful graziers at Wetherby Station north of Cairns. John said rain had been scarce this year so water infiltration during a rain event was particularly important. John Colless said over the years some paddocks had become compacted, leading to poor water infiltration. John and Kathy want to make the most out of the rainfall that falls on the property.

Previously they have worked with Northern Gulf Resource Management Group (NGRMG), a regional group supporting sustainable land practices, and learnt that keyline ploughing was a great way to reduce compaction, therefore increasing water infiltration and by its design making better use of rainfall events and nutrients.

The Collesses engaged the services of Tablelands mapping coordinator, Trevor Parker and sustainable industries officer Kristjan Sorensen from NGRMG to develop a keyline ploughing plan for the property.

Trevor and Kristjan marked out the keyline for each paddock to guide John's ploughing. Kristjan said with such an unusually dry wet season, keyline ploughing is a great method to better utilise rainwater, reduce compaction, improve infiltration, keep nutrients on the property by reducing run-off and improve soil health. Also with a simple attachment to the plough, seeding and the addition of soil amendments can be done in the one pass. This was important as John's paddocks had become grass dominant and needed some legumes such as stylo to give his



MAIN IMAGE: Trevor Parker marks out the keyline.

INSET: An example of the keyline plough lines which has lifted and aerated the soil with minimal impact on soil structure. This reduces nutrient and water loss by improving water infiltration, reducing run-off and directing flows away from the gullies.

pasture a much needed lift. So what is keyline ploughing? Keyline ploughing founded by Australian P.A. Yeomans, is a method of ploughing using a pattern based on the natural topography of the land. Classical keyline ploughing uses a plough designed by Yeomans which aerates the soil with minimal disturbance and without destroying its structure. This is important for soil health and to prevent erosion. Essentially keyline ploughing improves water infiltration, improves soil health and moves water from the gullies to the ridges thereby keeping rainfall and nutrients on the property and minimising erosion.

The essential basis of keyline ploughing is a detailed topographic map which allows identification of the keypoint. The keyline ploughing pattern can then be planned based on the keyline of each slope, so directing precious water to the ridges. Trevor Parker said "a topographic map containing farm infrastructure is an essential component for any farm



planning exercise". Graziers in the region are utilising NGRMG's mapping services to improve production, improve soil health and to better utilise rainwater.

They are using this mapping and extension service to design a keyline plan for their property so as to better manage their water and soil.

Trevor Parker said keyline was not just about ploughing but much more and if a new farm was being developed, keyline principles would be an essential tool to locate fences, contour banks, roads, irrigation infrastructure, buildings and dams. But first of all you need a good topographic and infrastructure map as a basis to design your plan.

Trevor Parker or Kristjan Sorensen, (07) 4092 1088.

Carbon farming information tent at FNQ field day

Mareeba, May 29-30, 2013

WANT to find out more about how to improve farm productivity through carbon farming? Northern Gulf Resource Management Group, Southern Gulf Catchments, Terrain NRM and Cook Shire Council are hosting a carbon farming information tent at the Mareeba Rotary field days on the May 29-30, 2013.

Here you will be able to find out the nuts and bolts about the Australian Government's Carbon Farming Initiative, hear from our most eminent scientists on the topic and talk to local field staff about local situations.

The program is led by keynote speakers Dr Christine Jones, internationally renowned soil ecologist Ben Keogh, managing director of Australian Carbon Traders and Alan Lauder, author of the book *Carbon Grazing – The Missing Link* with a range of expert speakers from DAFF, local land managers and carbon businesses.

For information on the Mareeba Rotary Field Day visit www.fnqfielddays.org.au or for further information on the carbon farming information tent contact your regional NRM group or Melanie Brennan at Wombat Creative, email mel@wombatcreative.com.au or phone 0421 252 153.

IN addition to this, and following the success of the 2011 FNQ Rotary Field Days, Northern Gulf Resource Management Group, Terrain NRM and Cape York NRM are again joining forces to provide a natural resource management tent full of information relevant to your area on Landcare, property mapping, grant opportunities, soils, weeds, ferals and more.

This is an opportunity to catch up with extension staff about what's happening in your local area and see what programs might be applicable to your property. The NRM tent will be right next to the CFI Tent – hope to see you there.

Gulf country graziers get the lowdown on important rural-related topics

Northern Gulf Graziers Forum packed

THE third Northern Gulf Graziers Forum saw more than 80 people file into Mt Surprise for a two-day forum on March 19 and 20. Northern Gulf Resource Management Group (NGRMG) and the Etheridge Shire Council worked with a group of local graziers to organise the event. The graziers selected the topics and chaired each of the sessions over the two days, and had huge support from the wider grazing community. Topics discussed included a debrief on the 2012 bushfires with Queensland Rural Fire Service; a review of the functionality of disaster and drought relief arrangements; options for management of stocking rate and carrying capacities in fire affected areas to allow for soil and pasture regeneration.

Presentations outlining ongoing projects within the region included the opportunity to use satellite



imagery to enhance grazing management through remote sensing for land cover, fire scars and flood inundation. Noeline Ikin, NGRMG CEO, chaired a session on land use planning for the Gilbert and Staaten River catchments. There were also sessions on

LEFT: More than 80 people headed to Mt Surprise for the third Northern Gulf Graziers Forum.

a proposed business improvement package for grazing enterprises in the region, and discussion on trespass and firearms legislation by Queensland Police.

At the relaxed 'beach theme' dinner Troy Setter, chief operating officer of AA Co, spoke on where the northern beef industry was currently positioned, and future projections. Troy gave an insight into practical management changes AA Co had made to their grazing enterprises to increase profitability and resilience to changing market dynamics. One of the most recent significant changes was herd 777 segregation to identify calving groups to allow for more targeted management, marketing, and increased sale options for commercial herds.

On day two Debbie Crump, spoke on developing a training program on animal health and drug handling based on a New Zealand model. One idea is an animal medical kit similar to the Royal Flying Doctors kit to treat sick or injured animals.

Michael and Sandra Clive, Crosby Brosnan and Creen lawyers, spoke on the Personal Property Securities Register (PPSR), and the importance of checking the register before purchasing capital items. Michael and Sandra also spoke on succession planning, managing inheritance of assets, use of testamentary trusts, and developing a clear plan to ensure your wishes can be upheld.

Minister's adviser Andrew Freeman spoke on changes to the Vegetation Management Act in a follow-up to topics addressed in previous forums. He also spoke on lease renewal and the process of developing land management agreements.

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Rural women show way

United front will secure future of industry

National Rural Women's Conference

NORTHERN Gulf Resource Management Groups Grazing Lands officer, Naomi Hobson, attended the National Rural Women's Conference (NRWC) and 2013 Rural Women's Summit in Canberra from February 18 to 20.

At the conference, Ms Hobson not only had the opportunity to meet some truly inspirational women doing incredible things for agriculture and their communities, but also had the opportunity to be a voice for the women in our region.

The week started with celebrations for the 20th birthday of Australian Women in Agriculture; the organisation connects Rural Regional and Remote (RRR) women across Australia, and the world. For 20 years they have brought the challenges facing RRR women to the attention of policy makers which has resulted in positive action. Prime Minister Julia Gillard sent a video message to the group congratulating them on their successes over the past 20 years while Opposition Leader Tony Abbott and Minister for Agriculture, Fisheries and Forestry Joe Ludwig also sent congratulatory letters to the group.

Ms Hobson said, "It was a fantastic afternoon and I would encourage all the women in our region to have a look at the organisation's website; it is a great way to network and meet other women passionate about agriculture - www.awia.org.au."

The theme for the NRWC was 'BIG. Big Inspiration, Big Challenges, Big Business and Big Networks'. Throughout the conference participants had the opportunity to listen to a number of speakers including Simon Crean, Minister for Regional Australia, Regional Development and Local Government; Miriam Silva, former Elders Executive and COO of Fleet Partners; Elizabeth Broderick, Australia's Federal Sex



Dinner in the Great Hall at Parliament House with special guests, Governor-General Quentin Bryce, and special guest speaker Maggie Beer.

RIGHT: Naomi Hobson (back row, middle) with fellow members of Australian Women in Agriculture (AWiA) who attended the conference.



Discrimination Commissioner; Mary Retallack, National RIRDC Award Winner 2012, as well as a host of other presenters.

One of the hardest hitting presentations at the conference was presented by Catherine Marriott, founder of 'Influential Women'. Ms Marriott spoke about big business inspiring women to lead effective agricultural conversations. In her presentation, Catherine Marriott spoke about how Australian producers are losing their social licence to operate.

She described a social licence as 'the capacity to operate with limited government regulation because people believe and trust what we are doing and how we do it'.

When talking about how we maintain our social licence, Ms Marriott spoke about having value-based conversations with people. She suggested that we can spurt out all the facts and figures that we like about production and how much the live export ban, for

example, is costing our industry, but really, most members of the public are concerned about animal welfare, and just want to know that we care about that too.

It is the same as you going to your accountant. You don't necessarily want to know the ins-and-outs about how they do your tax - you just want to know and trust that they are doing it properly.

Participants were also treated to a fantastic dinner in the Great Hall at Parliament House with special guest, the Governor-General Quentin Bryce, and special guest speaker for the evening, Maggie Beer.

Ms Hobson said that "throughout the conference a recurring theme seemed to be that agriculture is at a point where if we do not step up and share our stories about who we are and what we do, someone else will step in and do it for us; which experience shows us may not be a correct or truthful depiction of us and our industry. In order to provide a secure future for RRR

areas, we need to connect and network with each other to form a united front when dealing with issues and challenges facing all people in RRR Australia."

The conference was followed by a Rural Women's Summit, bringing together 52 women from across Australia to discuss issues facing rural, regional and remote women.

Actions arising from the summit will be composed into a final document which will be presented to the Commonwealth Government for review.

Some of the key topics which came up during the summit included telecommunications, education, improved health and support services, food security and foreign investment.

Naomi Hobson said that the forum and conference has given her a lot of inspiration for the Naturally Resourceful Women's Workshop which NGRMG is organising for April 2014.

Contact Naomi Hobson, (07) 4062 1330.

Putting names to faces at Spyglass

Welcome to new Spyglass Research Facility staff

QUEENSLAND'S Department of Agriculture, Fisheries and Forestry is proud to welcome three new staff members to Spyglass Beef Research Facility, Charters Towers. These are Livestock Supervisor Sean Reed, and station hands, Greg Lee and Christine Zirbel.

Sean Reed brings to Spyglass over 25 years' cattle industry experience. Sean has worked in pastoral companies, private enterprises, government primary industry departments from the NSW New England region, and throughout the Top End of the Northern Territory.



Much of Sean's grazing experience is in extensive grazing through working on the Tipperary group of stations for 10 years, and as manager and assistant manager at Douglas Daley Research Station in the

Northern Territory over a period of seven years. He has the knowledge to make a private operation "work" as well as understanding the issues faced by the northern beef industry such as low fertility rates.

Time spent at research facilities will ensure the integrity of research results. He is well experienced to lead a team of station hands and is keen to explore and apply new technologies such as ultrasound for pregnancy testing and precision management techniques. Sean's knowledge and experience of livestock management, animal husbandry, animal welfare and staff management will provide great strength to the Spyglass team.

Greg Lee joins the team as an experienced stockman and horseman. He has been involved in the cattle industry for 37 years. He is currently the livestock supervisor/caretaker at DAFF's Swans Lagoon Research Station.



However, the majority of Greg's working life has been as a station hand on private stations including Landers Creek Pastoral, Glenroc Station, Wootton Vale Station and Kirknie Pty Ltd.

In Greg's time as manager at Glenroc, he helped the station to become more profitable through better managing the breeding herd, which included applying the knowledge of better bull selection and pregnancy testing. He has a wealth of experience in stock management, the general operations of a cattle station, chemical applications, fencing, machinery, and equipment repairs. Outside of work, his interests include being clerk of the course at Burdekin and Bowen Races and is a past president of the Burdekin Horse Club.

Christine (Chrissy) Zirbel is keen to be involved with agricultural research. Chrissy trained at Longreach Pastoral College and has over seven years experience working as a station hand on large-scale

beef and stud cattle operations in Northern and Western Queensland from Nebo to Cloncurry including: Gipsy Plains, Junee and Plattaway stations.

At times, Chrissy has taken on the caretaker and/or management roles for the property.

She has experience in livestock husbandry, livestock management and movement, and many aspects of weaner training to achieve quiet cattle.

To the Spyglass team, Chrissy brings knowledge of chemical application, property maintenance, welding and metal fabrication, and intense herd record keeping skills.

As an enthusiastic horsewoman, she has completed the Ian Frances Horsemanship clinic and the Bob Simms Shoeing School. Chrissy is an active member of the Australian Campdraft Association.



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NORTHERN RURAL GROUP

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New faces for 2013

Southern Gulf Catchments directors

Welcome to new board members at Southern Gulf Catchments Ltd

In 2013 SGC welcomed some new directors to the board of management:

Sophie Keily – director, tourism and other industries:

Raised in Mount Isa, Sophie is the owner and licensee of Jays Real Estate. Jays is a family-owned business in its 33rd year of operation.

It was established by Sophie's parents John and Jackie Thinee.

While having grown up in the business, Sophie is also a teacher and has lived and worked across a large number of states in Australia in assorted remote mining towns.

As a passionate Mount Isa local with a love for the region and as someone having a personal interest in the environment, Sophie believes strongly that the tourism and other industries sectors are important custodians for the protection of this spectacular and unique part of Australia, for future generations.



Councillor Shane McCarthy – director, local government: Born and bred in Hughenden Shane has strong links with the region with his father being third generation grazier in the Richmond district and mother fourth generation in the Julia Creek district. All but five of his 41 years have been working and living in the pastoral industry. He has worked as a ringer, roustabout, contractor and finally a pastoralist. Married with three wonderful girls, he lives on the family property Arrara Station, south of Hughenden. A first-time councillor with Flinders Shire Council he has a passion for the land and keeping it sustainable so future generations can appreciate it as much as he does.



Brian Atherinos – chairman: Brian has lived and worked in the Mount Isa region for the majority of his life. He brings a genuine passion and enthusiasm for growth and development to the position of chairman. Although a chef by trade, he has more than 18 years' experience in business management within the tourism and hospitality industry. Brian has prior knowledge and experience with Southern Gulf Catchments operations in his previous position as tourism and other industries director, while also chairing the finance and audit committee.



Dr John Taylor – director, conservation: John has worked in the rangelands for more than 30 years, in roles ranging from an ecologist/researcher and research manager in CSIRO, to a professor at a university. Most recently, he has been involved in developing educational programs to build the capacity of rangeland managers and NRM facilitators for 'triple bottom line' i.e. economic, environmental and social outcomes. He brings wide board and committee experience, and is currently the president of the Australian Rangeland Society.

SGC projects improve grazing management

Producers helped with infrastructure

SOUTHERN Gulf Catchments (SGC) has been working with producers to develop property infrastructure aimed at improving production efficiency and protecting biodiversity.

In the past two years, SGC worked with landholders to manage more than 17,000 hectares of native habitat through infrastructure development for grazing.

On-ground works included:

- Fencing to manage stock access to creek systems.
- Fencing to land type to manage grazing pressure.
- Additional off-stream water sources for stock to spread grazing pressure and reduce visitation to creeks and waterholes.

State and federal governments have identified areas and native species in the Southern Gulf region targeted for protection. Southern Gulf Catchments works with landholders to protect these priority areas and species by completing actions in the Back on Track – Actions for Biodiversity document.

Funding for the projects has been provided through the Federal Government's Caring for Our Country program and the Queensland Government's investment in regional NRM outcomes.

While the key objective of the funding is to protect native species and habitat, landholders benefit directly from financial assistance for property infrastructure and an increased ability to manage grazing distribution and timing.

Mike Borello, Mount Emu Plains said SGC had helped him move forward with a property development plan. It had given them greater control over black soil country and more management options. Key achievements since 2011:

- 17,193 hectares of native vegetation protected through improved grazing management and infrastructure development on three grazing properties in the Southern Gulf region.
- Barr Creek Stage 1 – bore equipped with solar power pump, tanks and troughs to manage grazing pressure across woollybutt (*Eucalyptus miniata*) woodland and mixed eucalypt woodland on sandy plains. Both regional ecosystems were listed as 'of concern' by the former DERM.
- Barr Creek Stage 2 – bore equipped with solar pump, tanks and troughs to assist with managing grazing pressure in habitats listed as 'of concern'.
- Mount Emu – turkeys nest installed with poly tank, 10km of pipeline and 9.5km of fencing to manage grazing pressure on the riparian area of Porcupine Creek, upstream of Porcupine Gorge National Park.
- Maiden Springs – more than 7.5km of pipeline with tank and trough to manage stock watering at natural springs located within a large gorge system.

A further two projects are currently under way and due to be completed by June 2013.

Larissa Lauder, Southern Gulf Catchments, (07) 4743 1888; projectsupport@southerngulf.com.au

Southern Gulf weed management groups gain funds

Prickly acacia targeted

SOUTHERN Gulf Catchments is very pleased that two of our regional weed management groups have been successful in securing funds from the State Government's Everyone's Environment grants program.

Congratulations to Nelia Pest Management Group and the Upper Gilliat Weed Management Group on receiving \$100,000 each to control prickly acacia on at least 20 properties.

The main goals of both groups are:

1. Control prickly acacia in highly infested areas and property buffer zones.
2. Prevent the spread to other parts of the property.
3. Prevent seeds from spreading downstream from their current locations and re-infesting neighbouring properties.

4. Restore the natural grasses on the property and restore production capacity.

The Upper Gilliat group consists of 10 cattle stations situated in the upper parts of the Gilliat River, a sub-catchment of the Flinders River in the Southern Gulf region. Landholders got together as a group in 2009 with a common goal – control of prickly acacia.

This was a high priority as their properties' economic viability was seriously threatened, as was biodiversity conservation in the region.

Working with Southern Gulf Catchments the group has so far received four rounds of funds since 2009-2010, with more than 40,000 hectares being treated and re-treated. Landholders have more than matched funds dollar for dollar over this period. This latest round of funding will significantly advance prickly acacia control on these properties, with ongoing benefits downstream and in McKinlay Shire.

The Nelia group of some 36 properties around the township of Nelia (50km east of Julia Creek) formed over grave concerns about the spread of prickly acacia following good wet seasons from 2009-10.

While the work of some individual Nelia group landholders was recognised, in the past they had limited support and funds for integrated weed management plans. This State Government funding of \$100,000 will kick-start this progress.

The group has at least 36 members but not all can feasibly be funded. Planning and priority sessions will confirm the exact number of properties involved in order to target strategic areas.

The funding will go to about 30 per cent of the group's members with emphasis on implementing a 'good neighbour policy', cleaning up property buffer zones and rewarding properties which have been maintained 'clean'.

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Industry issues in focus

North West Graziers' Forum for Cloncurry

Working together to get results in tough times

THE North West Graziers' Forum will be held in Cloncurry on May 20 and 21 to address some of the key issues facing local graziers, including the prospect of dry times ahead.

Hosted by Southern Gulf Catchments Limited (SGC) and the Pastoral Industry Advisory Group (PIAG), the forum will provide an opportunity for graziers to access expert information and strategies directly applicable to their businesses here in the North West.

Charlie Hawkins from Malakoff Downs, near Hughenden, chairman of PIAG, said: "In tough times, it's even more important to work together to achieve the best results for our businesses and the industry. The forum will give us some of the tools and contacts to be able to do this."

Speakers and panel discussions will cover topics including:

- Analysing and maximising business performance.
- Herd management and performance.
- Land management including weeds and pasture.
- Legal matters.
- Health and well-being during tough times.



The forum is free of charge and includes presentations and interactive discussions with industry representatives, scientific experts, and case studies from local graziers, plus networking and social opportunities.

Larissa Lauder, the Sustainable Grazing Project

officer for SGC, states: "Our goal is to provide access to professional advice, but also showcase the great work being done locally and often very quietly".

● For further information on the North West Graziers' Forum contact Larissa Lauder at Southern Gulf Catchments Limited on (07) 4743 1888, projectsupport@southern-gulf.com.au

Gregory River weed survey – by canoe

LATE last year, Southern Gulf Catchments conducted an aerial weed survey, mapping the spread of rubber vine along the Gregory River.

Members of the Gregory River Landcare Group were also concerned about the spread of bellyache bush, which has recently been designated a Weed of National Significance.

We decided there was a further need to get on the ground and have a closer look. As long stretches of the river are only accessible by hiking through the wilderness or paddling down the river in a canoe, we chose the easier option of doing the survey using a Canadian canoe. SGC provided assistance with logistical support.

Being experienced canoeists, both myself and Jeremy Hayden from the Landcare group volunteered to do the weed survey. Charles Curry (SGC) and Eve Sprawling were our land party and moved the cars each day to the next campsite at 20 kilometre intervals further down river.

We started halfway between Riversleigh Station and 'the Nobbies'. Every couple of kilometres, we landed on alternate sides of the river and took GPS waypoints and photographs. In this way, over three days, we surveyed 65 kilometres of river to the Gregory Township.

The good news was that in the first "wilderness section" we found very little rubber vine and no belly-



LEFT: Mark Van Ryt and Jeremy Hayden setting off for another day of canoe weed surveying along the Gregory River.

ache bush. However, after 'the Nobbies', large stretches of the riverbank became covered with vine and many old trees were broken down by the weight of the rubber vine.

The survey proved experienced paddlers could easily access these relatively inaccessible parts of the river and Jeremy (who works with Global Imaging Systems) was able to collate all the waypoints and photographs in a report for Southern Gulf Catchments. The data is a record of what the river looked like at this time and in future, we can plan weed management strategies and return to each site and see what changes have occurred.

Mark Van Ryt, secretary, Gregory River Landcare Group, (07) 4743 1888.



BELOW: Jeremy Hayden marking points with a GPS along the Gregory River.

Drought relief assistance

Online help for producers

MANY producers are now feeling the pinch as the dry season starts to set in with little relief from the wet season this summer. Assistance may be available to individual producers through Individually Droughted Property (IDP) declarations.

Producers need to be drought declared to access assistance through the Drought Relief Assistance Scheme through the Queensland Department of Agriculture, Fisheries and Forestry.

The specific information on what is available through the Drought Relief Assistance Scheme and the guidelines applicable to these subsidies can be accessed through this link:

www.daff.qld.gov.au/4789_16001.htm

Producers who believe they already meet the criteria and are in need of assistance should apply for an IDP.

Application forms for an IDP can be accessed directly from this link: www.daff.qld.gov.au/documents/Environment/IDP-Application-Nov-09.pdf

For more information visit www.daff.qld.gov.au or call 13 25 23.

Progardes Desmanthus

Legume for semiarid clay soils: an update

SINCE writing the article 'New pasture legumes for clay soils in dry environments', for the last issue of the *Northern muster*, some 10,000ha of Progardes (www.progardes.com.au) have been sown across North, North West and Central Queensland on various land types. These include Mitchell grass downs, cleared gidyea/boree, cleared blackwood and brigalow, and Barkly and Gulf land types. Agrimix Pty Ltd and various graziers undertook planting Progardes using numerous methods, including aerial seeding into:

- dry native grass (Mitchell grass).
- freshly pulled and/or old pulled gidgee/boree country.
- a fully cultivated seedbed.
- blade-ploughed country.
- burnt country.

Other methods included fully disc cultivated and airseeded, and partially tyne cultivated and airseeded.

The results of these various planting methods are pending.

Chris Gardiner, James Cook University, 0419 203 037; christopher.gardiner@jcu.edu.au; Iain Hannah, Agrimix Pty Ltd, 0407 429 924; iain@agrimix.net.au; Nick Kempe, Agrimix Pty Ltd, 0407 366 212; nick@agrimix.net.au

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Over a career spanning 35 years, Alastair Henderson has spent most of his professional life in the pastoral cattle and sheep industries of northern Australia as a station employee, a respected veterinarian and as a manager with operational and profit responsibility for major pastoral groups and single client operations.

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- South QLD **Caroline Mantova** 0427 928 955



Project seeks to recover degraded pasture lands

SOILS4GRAZING is a joint project between Southern Gulf Catchments and the Queensland Government's FutureBeef team to assist producers recover pastures on degraded, but otherwise productive land types.

The project is investigating the use of mechanical treatments to restore productive grazing land, increase vegetation cover, and promote storage of carbon in the soil. It aims to identify the most suitable methods for different land types. Grazing land condition is the capacity of land to respond to rain and provide useful feed for livestock. Grazing land condition is graded on a scale from A to D, with A having 100 percent carrying capacity for cattle and D only 20pc.

D condition sites typically have none or very little vegetation and the water tends to flow across the surface rather than soak through. It is very difficult for pasture to establish on D condition sites without mechanical intervention.

The first stage of monitoring has now been completed on three stations across the region:

- Rosevale, Hughenden.
- Granada, Cloncurry.
- Herbertvale, Camooweal.

Herbertvale and Rosevale have had the rehabilitation treatments put in place, but works at Granada have been delayed until further rain.

WHAT HAPPENS DURING THE TRIAL?

Each of the three properties involved in the trial has provided an area of at least 20ha currently in grazing land condition D. This area has been fenced off from livestock and divided into four treatment plots.

Three of the plots will be mechanically treated using the following methods:

- Shallow water pondage
- Contour ripping
- Siral ploughing or
- Crocodile seeding.

RIGHT: Assessing pasture, vegetation, soil condition and water infiltration at the Rosevale A/B reference plot.



Water infiltration rates were recorded at each site prior to mechanical treatment by measuring water level drop inside the ring over 15 minutes.



Despite the light wet season, the mechanical treatment has had a profound effect on the previously scalded 'D' condition site at Rosevale.

The fourth plot will not receive mechanical treatment but stock will be excluded for part of the year to simulate wet season spelling.

The study also includes two reference plots in A/B and D condition of the same land type outside the fenced area. The A/B condition site gives a comparison of what the country should be like while the D site will be used to check if improvements in land condition are a result of treatments or other factors.

Fencing off the sites will help to manage timing and duration of grazing as livestock will be part of the rehabilitation process once pastures re-establish.

Shallow water pondage will be used on all three sites. This method has successfully rehabilitated tens of thousands of hectares in the Western Division of NSW since the 1950s. The project aims to evaluate it in North West Queensland.

ASSESSING THE SITES

Treatments will be assessed twice a year for three years to record changes in land condition, potential carrying capacity, water infiltration rates, and soil organic carbon levels. A key objective is to see if soil carbon levels rise if land condition and vegetation cover increases. Soil carbon accumulates slowly, so it is unlikely changes will be detected during the three-year term of the project. Computer models will estimate potential increase in carbon storage based on increased infiltration rates, pasture yield and overall land condition. However, one measurement will be taken during the trial to establish base soil carbon, and follow up will be conducted over 10 to 15 years.

RESULTS SO FAR:

At all three sites low rainfall has cut seed germination and has delayed treatments at Granada, Cloncurry. But some results are visible from early photographs.

Larissa Lauder, sustainable grazing project officer, Southern Gulf Catchments, (07) 4743 1888; projectsupport@southerngulf.com.au

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Graziers in digital age

'Dashboard' aims to save labour and time management costs

Digital Homestead Project – Grazer Reference Group Meeting

THE Digital Homestead Project involves collecting property data on animals, pasture and/or weather by remote technologies (e.g. walk-over scales, satellite images, GPS collars, weather stations) and developing a product where all this information can be viewed back at the homestead on the one simple, user-friendly computer screen known as the 'Dashboard'.

The first meeting to consult with industry to ensure the Digital Homestead project is heading in the right direction, to develop a practical and relevant product, took place at Spyglass Beef Research Facility in March. A small group of local graziers, DAFF Future Beef extension staff, Charters Towers and Cloncurry, and project members met at Spyglass. Dr Luciano Gonzalez, CSIRO, Townsville, described the technology being used at CSIRO's Lansdown Research Station, including walk-over weighing scales, weather stations and cattle monitoring technology. Dr David Henry, CSIRO, Melbourne, spoke of 'Dashboard' protocol in the process of being developed. Measures that could be included on the 'Dashboard' include livestock measurements and pasture, weather, water levels and other external information. The 'Dashboard' could also include an 'Alerts' section to highlight any critical elements of these measures that need immediate attention.

Professor Philip Pearce, JCU, Townsville, facilitated three discussion groups tasked with listing the issues regarding measurements that could be useful and how they should look on the 'Dashboard'.

For walk-over weighing, it was requested that both liveweight and liveweight gain be displayed along with the ability to have the number of animals meeting a particular weight range (e.g. >600kg). For pasture, they would like to see a map showing the distribution



Steve Anderson explains how he has been training cattle in preparation for the use of walk-over weighing scales at Spyglass.

of feed availability and possibly an alert, such as, the feed will be at a critical level in four weeks' time.

GPS tracking collars were thought to be useful if placed on bulls. Knowing the bulls individual location (by indicating a dot on a paddock/property map on the computer screen) was seen to be a useful management aid for mustering, and for control mating. Tracking collars were seen as key to implement virtual fencing, which has the potential to be a useful tool, but unfortunately implementing the technology is currently outside the scope of this project.

The group had a site visit to Red Dam at Spyglass where manager, Steve Anderson, described how he had been effectively training cattle in preparation for walk-over weighing scales. By locking them off water and molasses over night, Steve explained that in the morning the cattle voluntarily walked through the race into the water and molasses. In time walk-over weighing scales will be placed where the race was. Steve also mentioned how he is in the process of designing equipment to train weaners to walk over weigh bridge.

The aim of implementing these technologies and the 'Dashboard' is to save the grazer labour and management costs, and allow more accurate and timely management decisions. It is aimed to do a cost benefits analysis of these technologies to gain an understanding of the difference between how much they cost and how much time and money they will actually save the grazer.

The two-year Digital Homestead project is a joint effort between CSIRO, James Cook University (JCU), Qld Dept Agriculture Fisheries and Forestry (DAFF) and Queensland University of Technology (QUT).

The project is financed through the Queensland Government Smart Futures fund. The technology is being developed and tested at CSIRO's Lansdown Research Station.

If you want any information on the project, or if you would like to be involved and put your ideas forward, contact Dave Henry, project leader, CSIRO (03) 9731 3231, dave.henry@csiro.au; Angela Anderson, FutureBeef Team, Spyglass (07) 4787 8361, angela.anderson@daff.qld.gov.au

Students, teachers trialling pulses

Queensland DAFF and Atherton State High School partner in Gateway Project

DAFF extension officer Olivia Pisani is working with Atherton State High School Agricultural teacher Cameron Harris, and his students on the Gateway Schools Project.

The Agribusiness Gateway Schools Project aims to help young people make a successful transition from school into further education and/or employment in agriculture related fields.

Atherton State High School runs a small Charolais breeding herd on the school property; and to see how pasture production can be improved on the available area a legume trial was established.

The trial was established on a site about 600-700 square metres on February 21 following

a good couple of weeks of rain.

Three pinto peanuts (*Arachis pintoi*) varieties were sown, including Amarillo and Bolton; two relatively new *Arachis glabrata* varieties were also sown including Prine.

The legumes chosen exhibit a range of growth habits and, having performed well in hay production trials at the Walkamin Research station, it will be useful to see how they perform in established grass pastures representative of dairy/beef fattening systems on the Atherton Tableland.

It is hoped the establishment of these legumes will help agricultural teachers and students appreciate the benefits of these plants in pastures and the benefits of well-adapted and productive legumes in general.

Olivia Pisani, FutureBeef Team, Mareeba, 0467 804 870.



ATHERTON State High School Agricultural students sowed legumes into their established grass pasture in February to see how it will benefit their small Charolais breeding herd. The trial will:

- Identify which commercially available legumes would successfully establish in pre-established pastures.
- Look at the rate in which the legumes establish.
- Monitor how the legumes compete with pasture.
- Look at which legume species are preferentially grazed.
- Involve students to develop skills in establishing a trial site, monitoring and evaluation.
- Increase student knowledge of industry trial work.

Nitrate safety, effectiveness focus of study

Reducing methane emissions in the northern cattle herd

ABOUT 11 percent of Australia's greenhouse gas emissions are attributed to methane emissions by livestock. While direct emissions from agriculture are exempt from liability under the existing carbon price mechanism, this may change. There are also opportunities for producers to interact with the carbon market, where income can be earned by reducing emissions, via the Carbon Farming Futures scheme.

Whichever way you look at it, there appears to be growing momentum to curb methane emissions from ruminants. One of the challenges for the northern beef herd is to develop strategies where any reduction in methane emissions is aligned with productivity gains.

Attempts to reduce methane emissions from ruminants are focusing on a wide range of areas including genetics, rumen microbiology, forages, production systems and dietary additives.

While a number of dietary strategies that reduce methane emissions have been identified, applications that require high inputs of capital, labour and intensive management are unlikely to provide a widespread solution, particularly for the northern cattle herd.

One possible solution is the use of dietary nitrate in dry season supplement blocks. Nitrate has been demonstrated to (1) reduce methane emissions, (2) replace urea as a nitrogen source in rations consumed by ruminants.

Given that a large proportion of graziers supplement their herds in the dry season with urea, it is worth exploring whether nitrates can offer an alternative for cattle consuming low quality forage diets.

However, much of the research in this area has been conducted on small ruminants (sheep/goats), using high-quality diets and often containing high levels of energy – a very different picture to diets than typically grazed by cattle during the northern Australian dry season.

Furthermore nitrate can potentially become toxic if nitrite accumulation occurs during the transformation of nitrate to ammonia by rumen microbes.

A team of researchers from Ridley AgriProducts, James Cook University and CSIRO have embarked on a project aimed at determining whether nitrate supplement blocks can become a safe, effective and economically viable methane abatement for graziers.

This project is funded by Ridley AgriProducts and the Australian Government Department of Agriculture, Fisheries and Forestry Carbon Farming Futures Filling the Research Gap Program with management support from Meat & Livestock Australia.

Initially the project will examine adaptation, safety thresholds and feeding frequency effects when nitrates are fed in conjunction with low quality forage. Experiments will then quantify the magnitude of methane abatement using CSIRO's Lansdown respiratory chambers as well as production improvements.

If these controlled experiments are effective, the trials will then move into the paddock for assessment over two successive dry seasons.

Matt Callaghan, 0429 899 622, matthew.callaghan@ridley.com.au

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Valuable aid in getting pasture balance right

FutureBeef's free Stocktake Plus app

Simplified forage budgets for northern graziers

HELP is available to balance pasture supply to animal demand through the new Stocktake Plus app, the first FutureBeef app for northern graziers

At this time of year it is worth considering how much pasture you have until break of season, usually mid to late January for North Queensland, and how that matches to the animals you have on hand.

With such a varied season for Northern Queensland (floods, fires, above and below average rainfall across the district) it is worth doing a forage budget to see if you can capitalise on extra pasture or if you need to lighten the load.

The Stocktake Plus app has been developed after extensive industry consultation, and is designed to be a practical, work-anywhere (including outside phone range) decision support tool to help with some key grazing land best management practices. The Stocktake Plus app is now available for both Apple and Android devices and best of all, is free to all users.

It's an initiative of the Queensland Department of Agriculture, Fisheries and Forestry through the FutureBeef program and Meat & Livestock Australia.

DAFF FutureBeef extension officer Jane Pryor led the development of the app, in conjunction with collaborator Steve Banney, who runs his own consultancy business.

The Stocktake Plus app:

- Assists in monitoring grazing land condition by logically guiding the user through the process, storing information, producing reports, including long-term carrying capacity calculations based on the information you enter.
- Guides the user through a basic or more detailed forage budget.
- Stores rainfall records.
- Stores stock numbers – converts to AEs, displays current stock on land condition reports and can bring stock numbers through to the demand section of the forage budget.

● Directs users to their monitoring sites using the GPS function.

● Helps the user identify what land type they are on, using the land type mapping of Queensland.

● All information is backed up securely on the internet (only accessible by the user).

Each function can be used independently, which means if you only want the forage budget functionality, you can do this. Similarly if you want to link all their information from monitoring stock, land condition and rainfall, you can do that too. The app was designed to be visual, logical and prompted for ease of use and, importantly, to work without the need for 3G /4G phone reception.

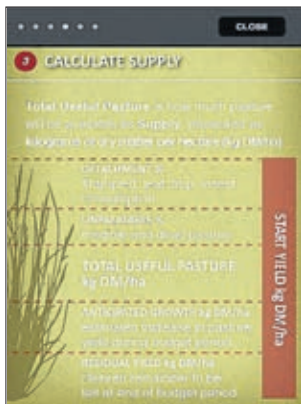
WHY IS FORAGE BUDGETING IMPORTANT?

Forage budgeting is a process for balancing forage supply (existing and anticipated pasture yield) and forage demand (how much the animals will consume) over a defined period.

A forage budget allows landholders to calculate objective numbers to support their decisions based on observations and experience.

A forage budget can also help plan for seasonal variability in pasture quantity. For example, a forage budget may indicate that between May and January you can carry 400 Animal Equivalents (AEs) in a particular paddock with a certain pasture yield.

This gives you an option to either buy in more stock (to take your animal demand to 400 AEs) and/or devise a targeted sell-off plan if grass growing rain is not received by a specified date.



A screenshot view of the new Stocktake Plus app.

This means you are selling your cattle earlier than those who decide to hold stock until seasonal conditions deteriorate further and animal condition declines. You are also taking better care of your pastures.

[1] 1 AE = a 450kg dry beast maintaining its liveweight.

WHEN SHOULD I DO A FORAGE BUDGET?

Forage budgets are recommended for the end of the growing season (April or May for northern Australia) or each time livestock are moved between paddocks.

The grazing period can be days, weeks, months or a season. A dry season forage budget is usually from the end of the growing season e.g. May, to a date when you are likely to have a bulk of fresh pasture growth e.g. mid to late January.

HOW DO I CALCULATE THE FORAGE BUDGET?

Using the new FutureBeef Stocktake Plus app you will be guided through the process of completing a forage budget. The app has in-built support and tools to help you get the information you need about your pastures to get the answers you want, immediately while you are still out in the paddock.

Results from a forage budget within Stocktake Plus include:

- How many days your current feed will last with the number of AEs you have.
- The number of AEs and/or current class of stock your paddock will carry to the end date.

THEN WHAT?

Forage budgets are not a 'set and forget' tool, you need to continue to monitor both your pastures and livestock during the grazing period to ensure you have the balance right. This information helps plan your stocking rate strategy for that paddock and grazing period, ensuring that animal productivity is optimised and land condition is maintained or improved.

More information can be found at www.stocktake-plus.com.au

Jane Pryor, FutureBeef Team, Rockhampton, (07) 4936 0238, jane.pryor@daff.qld.gov.au

Positive results from reef run-off survey

Continued support is vital

QUEENSLAND'S Department of Agriculture, Fisheries and Forestry (QDAFF) is surveying graziers in catchments adjacent to the Great Barrier Reef Marine Park, to gauge how effective their land management practices are in minimising sediments, nutrients and pesticides in run-off flowing to the reef. The data from these surveys is collated to provide the basis for an annual industry benchmark report.

Results from the 2011 benchmark report indicate a positive outlook for Queensland graziers, with the majority being able to demonstrate good land management practices that present a low risk of causing soil erosion or poor quality run-off flowing to the Great Barrier Reef.

QDAFF's program leader, Kev McCosker, said while there has been a good response to the initial round of surveys, continued industry-wide support from graziers would be beneficial.

"Information on Queensland's grazing industry practices will improve the community understanding of the industry and its efforts to manage grazing lands sustainably. It will also help direct the research, development and extension services needed to improve land management, particularly in higher risk areas," Mr McCosker said.

"The 2011 Benchmark Report confirmed that over 50 percent of surveyed graziers have adopted new improved practices that maintain land in good to very good condition or improve land in poorer condition.

"This shows that graziers are open to new ideas and management techniques and are keen to demonstrate their good land stewardship."

Graziers willing to participate in the grazing survey are encouraged to contact the department on 0427 427 305 to register their interest.

The surveys are strictly confidential, take about 1.5 to 2 hours on the grazing property, and cover the key areas of grazing land, herd and business management, animal health and extension needs.

Graziers looking to evaluate their land management practices to identify specific improvements can also take part in the Grazing BMP Program. This program helps property owners develop action plans to improve the economic and environmental performance of their enterprise. To register, visit www.grazingbmp.com.au

Sue Carstens, FutureBeef Team, (07) 5453 5813.

Making breeding more profitable



Charles Williams, Riverside, Nebo, viewing live spermatozoa under the microscope at ALC Brahmans, Nebo.

Breeding EDGE workshops

MANY breeder herds are run with minimal inputs and management, with reproductive rates often indicating a 65-80 percent branding from five to 12 months of mating. It would be more desirable to have the breeder herd functioning on the same basis as interest and tax, e.g. within a 365-day inter-calving interval. During October and November 2012, Breeding EDGE workshops at Bowen and Nebo involved 34 producers from 20 beef businesses. The theme was tools to lift returns from breeding herds. Since the workshops, 15 attending businesses have consulted facilitators to help adopt practices in their herds. Changes to breeding programs have started, artificial insemination programs have used superior sires, and different breeds have been introduced. What could you achieve in your herd?

Lauren Williams, FutureBeef Team, Mackay, (07) 4967 0732, lauren.williams@daff.qld.gov.au

The benefits of ageing beef

JUST as wine or cheese mature with age, beef can also be improved with time. Ageing is a process that occurs as the muscle fibres in meat are slowly broken down by enzyme action. This results in muscle fibres being weakened and as a result, aged beef and sheep meat can be more tender.

Ageing can occur on the bone, or through vacuum packaging (cryovac), but will cease when product is frozen. Figure 1 illustrates, at a microscopic level, how enzymes continue to act in the meat post slaughter, resulting in a slow breakdown of the proteins that make up the muscle fibres.

This ageing process weakens muscle fibres over a period of 28 days to result in a more tender meat

product. The rate of ageing decreases over time with most improvement seen in the first 21 days. It is important to note however, that good chilling and food safety considerations need to be taken into account.

The Meat Standards Australia (MSA) grading model determines the ageing effect for each cut within a carcass. It is important to note that not all cuts will benefit from extended periods of ageing. For example, the tenderloin does not benefit from extended ageing whereas a striploin and rump will. It is possible for primals to be aged on the bone for up to 14 days; however, the edges of the meat may tend to spoil and have to be trimmed.

The following list shows the ageing rates of cuts of

meat in order from the greatest to least benefit from ageing: Striploin, Cube roll, Rump, Tenderloin, Topside, Oyster blade, and Brisket.

The minimum ageing period for all MSA product is five days. This is calculated from the production date. MSA predicts the impact of ageing on eating quality for up to 35 days. This information is found on the carton end panel of a box of beef. For example, a cube roll can be sold as:

- MSA 3 – grill, roast or stir fry after five days' ageing.
- MSA 4 – grill or roast after 14 days' ageing.
- MSA 5* – stir fry after 21 days of ageing.

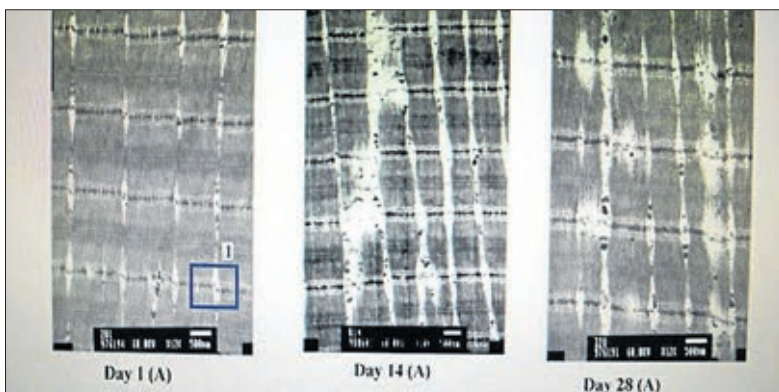
*MSA 5 is the highest quality product under MSA grading.

There are circumstances where carcasses will not be able to age. If the pH of a carcass falls too quickly, during chilling, it will be heat-shortened. When this happens the enzymes that enable the ageing process to occur are destroyed resulting in the product not being able to age at all.

It is important to know that MSA product cannot be sold as MSA to the consumer until it has met its minimum ageing period for a particular eating quality level. Often you will be provided with ageing options to best suit the market or customer you are supplying.

Be sure to specify your eating quality requirements when ordering MSA beef from your supplier.

For more information, look for the Tips and Tools at www.mla.com.au/msa



RIGHT: A microscopic view of how ageing weakens muscle fibres, over a period of 28 days, leading to a more tender meat product.



Aussie team's strong bid

High placings in US meat judging contests

Paddock-to-plate look at American livestock industry

EMMA Hegarty (FutureBeef extension officer, Cloncurry) and Brad Robinson (manager, Kerwee Feedlot) travelled to the US in January to coach the 2013 Australian National Meat Judging team.

During the month-long visit, the team of five students from across Australia competed in three meat judging contests and travelled almost 10,000km across 10 US states training, competing and visiting facilities and industry organisations.

The trip provides the students with an understanding of the American livestock industries from paddock to plate with visits to ranches, feedlots and processors covering beef, pork and lamb facilities as well as visits to US retail outlets.

As a team, the students competed strongly at the contests, placing fourth at two contests and receiving nothing below a fourth place in all categories at their final contest in Texas. Individual students took out lamb judging and several other individual placing awards.

The national team is selected from the annual Australian Intercollegiate Meat Judging program, sponsored by Meat & Livestock Australia, the Australian Meat Processors Corporation and industry.

Sponsorship is sourced from industry with several families, businesses and companies getting involved with the program each year. The program aims to encourage students to stay in the meat and livestock industries. Participants are recognised for their attendance and graduates are sourced through the program for agri-related positions across Australia each year.

NEW FEED EFFICIENCY RESEARCH IN US

Technologies are continuing to develop around the world in all aspects of beef production. The recent tour of the US exposed the team to new research into genetics, reproduction and feed efficiency, yard design in feedlots, and more environmentally friendly options to reduce the stress caused on the environment in the feedlot industry. Two methods of increasing feed efficiency were found of particular interest.



The 2013 Australian National Meat Judging Team trained in several beef processing facilities across the US.



The students learnt to quality and yield grade beef, lamb and pork carcasses and primal cuts to the US grading systems.

INCREASING USE OF AGONISTS

The ongoing drought and continual rise of feed prices has made feed efficiency become increasingly more important. The use of agonists as a feed additive in the US has been increasing since they were introduced in 2004 to increase average daily gain.

The additives, depending on the variety, are fed to feedlot cattle for their last 20 to 40 days on feed. They work by directing more energy to muscle production rather than fat deposition. This leads to an increase in hot standard carcass weight (HSCW) and rib eye area, but fat thickness remains the same.

While this does sound advantageous, it can potentially reduce marbling and quality grade due to the increase in lean meat.

There are currently two types of agonists available in the US – Optaflex (ractopamine hydrochloride) and Zilmax (zilpaterol hydrochloride). While Zilmax can be used only in licensed feedlots, it does provide a greater improvement in feed efficiency (14-40 percent compared to 9-21 pc with Optaflex), increased HSCW (up to 28lbs) and rib eye area (up to 1sq inch). However, tenderness and marbling are negatively affected. While Optaflex does not provide as large a change in feed efficiency, HSCW or rib eye area, it has minimal impact on meat quality.

Agonists are yet to be used in Australia, but it is believed they may become approved for use over the next five years.

THE LACTATE-USING BACTERIA

Recent research in the US has been looking into *Megasphaera Elsternii*, a lactate-using bacteria, which decreases the transition time required by cattle entering a feedlot to go on a high energy concentrated ration. The benefits of the bacteria are that it:

- Reduces the costs of hay and forage required.
- Decreases the days required on feed.
- Reduces the number of step-up diets and time required to reach a finishing ration.

This micro-organism plays the important role of ensuring that lactic acid does not build up at times

when the rumen is going through the transition phase of a low concentrate diet to a high concentrate diet.

High lactic acid concentration leads to 'acidosis' and possible death. The problem is that the bacteria generally have a low population in the rumen when cattle enter the feedlot as they are used to eating a low concentrate diet.

Research has shown that by supplying the bacteria in the form of a drench to feedlot cattle, they can be

introduced on to high energy rations much quicker.

A trial completed by Kansas State University demonstrated that cattle reached the top ration nine days sooner with no detrimental effect on performance.

The drench has been shown to ultimately increase the efficiency of individual animals which in turn increases their productivity.

Emma Hegarty, FutureBeef Team, Cloncurry, 0467 808 340; emma.hegarty@daff.qld.gov.au



North West GRAZIERS' FORUM



Cloncurry Shire Hall May 20 & 21, 2013



Hosted by Southern Gulf Catchments the forum is **FREE** of charge and will feature guest speakers and interactive discussions on the grazing industry in the North West.

Topics include:

- analysing and improving business performance
- optimising herd management and performance
- managing your land – including emerging weeds and pasture issues

WHEN: Monday 20th May & Tuesday 21st May

WHERE: Cloncurry Shire Hall

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**** REGISTRATIONS ARE ESSENTIAL TO ATTEND THE FORUM ****

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Parasite control key to weight gains

Shifting market focus leads to good rates

Production background

NORTHERN Territory beef producer Dougal Brett knows the importance of maintaining the good health and welfare of his cattle to achieve high weaning rates and meet market specifications.

Dougal and wife Emily manage 23,000 high grade Brahms, including 10,500 breeders, on the 1960sq km Victoria River District family-owned property Waterloo Station, 140km south-east of Kununurra.

With a downturn in the live export market, the Bretts have shifted their market focus, this year sending 80 percent of their turnover for backgrounding on agistment at Blackall and Augathella before finishing through Grassdale Feedlot at Dalby.

All cull heifers and a large percentage of their steers are fed for 70 days through the Mort and Co-owned feedlot, dressing out at 240-320kg for the trade market to China.

Mr Brett was the lucky winner of \$500 worth of Bayer products at the Northern Territory Cattlemen's Association Annual Conference in Alice Springs in March.

He said controlling parasites and pests such as buffalo fly was critical to ensuring cattle could meet market specifications.

According to the Department of Agriculture, Fisheries and Forestry, trials in the wet tropics have shown that buffalo fly can reduce beef cattle production by up to 16pc.

"Buffalo flies are a big problem at this time of year and if cattle have fly scabs they are rejected for live export," Mr Brett said.

"We use Baymec Pour-on for fly control and internal and external parasites and really like that product," he said. "We get a lot more weight gain that way, otherwise the cattle walk the weight off if they are troubled by flies."

The Bretts use Co-Ral Plus and Cylence Ultra ear



Dougal Brett, Waterloo Station, NT, is achieving good buffalo fly and tick control using Bayer products.

tags to control flies on the steers that they background in the Douglas Daly region over the wet season for live export from Darwin.

They are also planning to use the easy to apply tags on all steers and heifers at Waterloo Station in the future.

To control ticks, cattle are treated with Bayticol Dip and Spray, the leading dip in the north, before being trucked for backgrounding. Bayticol Dip and Spray formulation is non-stripping, not affected by water quality and simple to mix up (1L per 1000L).

Mr Brett said he had a good relationship with Bayer representatives Mick O'Grady and David Steffensen, who help him design effective fly control programs.

"I've been using Bayer products in the nine seasons I've been at Waterloo and the reps provide good support," he said.

"They will always come out and visit to discuss any problems and provide solutions."

For more information about buffalo fly and tick control visit www.farmadvisor.com.au

Fixed-time AI saves time, labour and drives profitability

The beef producer

ANNIE Donoghue of Barranga, Bauhinia, has completed two seasons using a Bayer BoSynch4 synchrony program, with some slight variations on dosage and timing.

"Of the four AI programs we carried out this season with 1200 Bos Indicus content heifers, three were fixed-time," she said. "One of the greatest benefits we've found is the massive time and labour saving."

"The heifers were inseminated over a four-week period during which time we were still able to do other property work."

"These programs have been successful for us. The analysis of our pregnancy results has shown pregnancies to FTAI this season in a range from 44pc to 54pc."

"It has helped us to maximise the number of pregnancies we have to AI within the season; in turn maximising our genetic gain across the herd."

"Running a program without heat detection is also beneficial when feed reserves near yards are strained. At the time we didn't have a large bank of feed, so it was critical we could keep the heifers in paddocks away from the yards for the majority of the time," Mrs Donoghue said.

The cattle vet

RIGHT: Dr Enoch Bergman focuses on fixed time AI for increasing genetic gain.



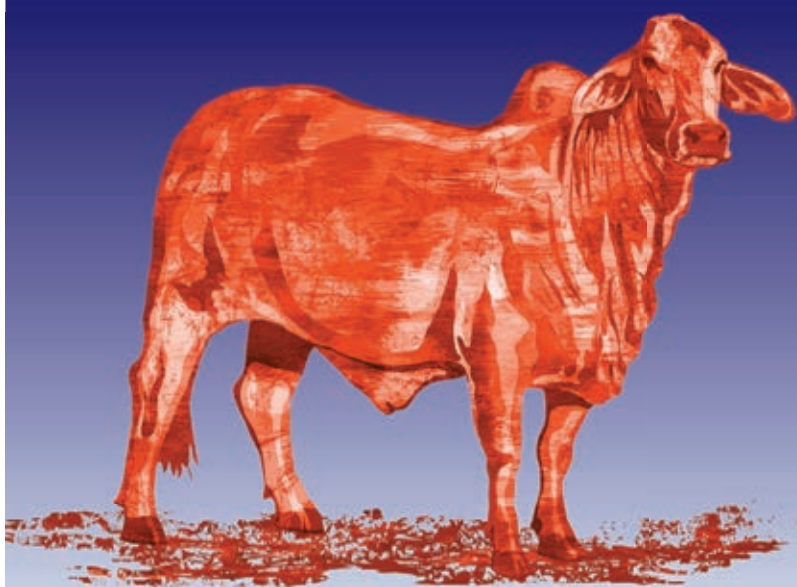
DR Enoch Bergman has built his career around identifying strategies to improve beef herd reproduction to drive greater profitability.

He travels widely, speaking with producer groups. In particular Dr Bergman focuses on the use of fixed-time AI (FTAI) as a cost-effective and efficient means of increasing genetic gain. "The use of ovulation synchronising technology like the Bayer BoSynch4 synchrony programs, which permit FTAI, has the potential to deliver a range of benefits," he said. "These include less labour requirements, tighter calving periods and heavier weaners at weaning."

In FTAI programs, cattle are inseminated without oestrus detection to achieve a highly satisfactory pregnancy rate.

For more information on fixed-time AI and BoSynch4 programs visit www.farmadvisor.com.au

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For more information contact Bayer Animal Health 1800 678 368

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How to meet 'specs'

Field day draws in producers

RIGHT: UltraMac fat-depth scanner being put to use to predict compliance to the P8 fat-depth specification.



BELOW: Measuring pH and temperature during the MSA-grading process in the chiller.



Helping CQ producers meet meat specifications

GEOFF Teys captured the attention of producers at a market-compliance field day held on November 20, 2012, at Lowesby, north of Rolleston.

Geoff's informative presentation included the partnership between the Teys family and Cargill, as well as the drivers of meat consumption, the value of Australian exports, and the importance of MSA in the business of Teys Australia for delivering a high-quality, consistent product to the customer.

The 50-plus strong crowd took full advantage of the opportunity to question Geoff about the big industry issues, from AusMeat standards (whether ossification will ever replace dentition) to halal markets, the EU quota, the carbon tax, and animal welfare.

Field day host Ian McCamley spoke about his experience as part of the MLA sponsored 'Market Compliance Producer Demonstration Site (PDS)'.

Like Geoff, Ian is always on the lookout for new technology that could improve his business, and the PDS offered the chance to test the UltraMac fat-depth scanner in a bid to improve compliance at the abattoir for the P8 fat-depth specification.

Ian and his team used the scanner to make conscious decisions about which animals were ready to send to the works, and to look more closely at which animals (based on past performance) were unlikely to achieve the necessary weight gain and fat depth cost-effectively if they were sent back to the



Measuring marbling on a carcass during MSA grading assessment in the chiller.

paddock, given current and expected conditions.

Site coordinator Peggy Kerr (DAFF FutureBeef) presented some of the project results. Abattoir data indicated the main reasons for non-compliance for the EU market were dentition, meat colour and P8 fat.

For the MSA market, company specs, meat colour and pH were the main reasons for non-compliance.

Failure to meet abattoir specifications (such as dentition, carcass weight and boning group) rendered just over 18pc of MSA-compliant carcasses unworthy of a premium price. Carcasses with two to four teeth were represented in nearly every boning group from

1-15 (boning group 1 is the highest eating quality). Carcasses with six teeth were represented in boning groups 3-12, and eight-tooth animals were in boning groups 8 and above. Despite meeting MSA requirements and being of reasonable eating quality, six to eight teeth carcasses are discounted for not meeting specifications (no more than four teeth and up to boning group 8 or 11 depending on the company).

A significant relationship was found to exist between the ultrasound fat score and P8 fat measured at the works, indicating that the fat scanner was a very useful tool for predicting compliance to the P8 fat-depth specification. The producers who have been part of the PDS are now aware of the opportunity to improve P8 fat compliance by using the ultrasound scanner.

Meat colour and pH can be addressed through management decisions, nutrition and genetics. In a large-scale operation, particularly when trading cattle, there are always going to be animals that cannot meet all the specifications to achieve the highest price on the grid. Producers need to consider the cost of putting those animals back in the paddock and whether they will achieve a significantly higher price per kilogram if held on-farm.

A key message for producers is that first you need to identify your own compliance issues via the information available through MSA and abattoir feedback. If you don't measure it, you can't manage it!

Laura Devlin, FutureBeef Team, Emerald (07) 4983 7419, laura.devlin@deedi.qld.gov.au

What, when, where

GRAZING LAND MANAGEMENT WORKSHOP – ALPHA

Tuesday, April 30–Thursday, May 2

THIS three-day workshop will help you to:

- Assess the condition of your paddocks and improve their carrying capacity.
- Understand the relationships between pasture, water, soils, woodlands, biodiversity, fire and weeds.
- Determine the financial impact of a range of grazing management options.

Contact Laura Devlin on (07) 4983 7459, laura.devlin@daff.qld.gov.au

CLERMONT SHOW CATTLE COMMITTEE CATTLEMEN'S CHALLENGE

Laurel Hills Feedlot Weigh Day, Friday, May 17

- 8am – Cattle weighing and inspections.
- 10am – Discussion topics: Feedlot industry and yard-weaned cattle.
- 12.30pm – barbecue lunch.

For more information and RSVP, David Moller, (07) 4983 5318, Natalie Finger, (07) 4983 3338, snfinger@bigpond.com

NORTH WEST GRAZERS FORUM – CLONCURRY

Monday–Tuesday, May 20–21

SPEAKERS and panel discussions will cover topics including:

- Analysing and maximising business performance.
- Herd management and performance.
- Land management including weeds and pasture.
- Legal matters.
- Health and well-being during tough times.

Contact Larissa Lauder on (07) 4743 1888, projectsupport@southernqulf.com.au

MLA BEEFUP FORUMS

PRACTICAL tools and information to beef up your business.

- Theodore, May 15.
- Wandoan, May 16.
- Mount Garnet, week of June 3 (dates TBC).
- Tully, week of June 3 (dates TBC).

To register for any of the above forums, 1800 675 717.

MLA RICHMOND FIELD DAYS AND RACE MEETING

Richmond Racecourse

Friday–Saturday, June 14–15.

President: Marty Rogers, (07) 4741 8600.

Secretary: Camilla Rogers, 0428 347 904.

Email: richmondfielddays@mail.com

FNQ Field Days, Kerribee Park–Dimbulah Road, Mareeba

Wednesday–Thursday, May 29–30.

Visit www.fnqfielddays.org.au

NORTH AUSTRALIAN BEEF RESEARCH COUNCIL – 2013 MEDALS

THE North Australia Beef Research Council is now seeking nominations for the 2013 NABRC Medals. The NABRC Medals are designed to highlight the achievements of people who have achieved excellence in production; research and development; and communication/extension in the north Australian beef industry. There are three primary medal categories – producer, scientist/researcher and communicator/extension. If you know someone who meets the criteria, please nominate them now.

This information, together with the achievements of previous NABRC Medal winners, is available on the NABRC website: www.nabrc.org.au. Nominations close on Tuesday, June 4.



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Min Iron	0.20%
Min Magnesium	0.30%
Activated Zeolite	5.00%



Rabobank western beef challenges



McKinlay Shire Challenge cattle at Eddington, prior to being trucked to Mort & Co's Grassdale Feedlot near Dalby.

Poor wet season provides extra element

Changes to format enforced by dry conditions

A LESS than impressive wet season experienced by most of inland Queensland has certainly added an extra challenge to the three shire beef challenges in the North West. Thanks to the passion and dedication of all three groups, however, the challenges are continuing, albeit with some slight improvisation.

FLINDERS SHIRE BEEF CHALLENGE

The Murray family at Uanda, south of Torrens Creek, were due to induct the 2013/14 lot of challenge cattle in March. The group were keen to compare liveweight gain on pulled gidyea/buffel country with the performances recorded on Mitchell Grass Downs over the previous three challenges.

The group met in February at the Prairie Hotel and decided that, due to dry conditions, no cattle would be put in a paddock for the challenge this year. However, the group will put the time to good use by continuing to meet every two to three months and inviting guest speakers on topics of their choice to use the time productively.

The social aspect of the days will help the community see through the dry season ahead with the next gathering planned for Glendower on April 21. The gatherings will continue throughout the year, with everyone welcome, including neighbouring shires and those who have never been involved in the challenges before. Come enjoy the experience.

Terressa Ford, Flinders Beef Challenge secretary, Hughenden Station, (07) 4741 1546, email greg.terressa.ford@bigpond.com.au

RICHMOND SHIRE CHALLENGE

Since the installation of Precision Pastoral's Remote Livestock Management Systems (RLMS) drafting function in October 2012, the Richmond Shire Challenge and walk-over weighing (WOW) and remote camera technology, PDS cattle have been drafted three ways:

- Group 1 – bush with no lick.
- Group 2 – high-protein meal-production lick.
- Group 3 – 30 percent urea-based lick.

Additional yards were set up adjacent to the main water yard so that as the animals exit the main yard, they cross the RLMS weigh bridge and then are drafted into their lick yards by the RLMS drafting function. Additional water troughs were installed in the lick



Treatment Group 2 animals enjoy their production lick while others look on at the Richmond Beef Challenge.

yards to ensure animals could have access to both lick and water in the same place. Those animals not receiving lick could only access the water trough in the main water yard. The RLMS drafting function has been working well.

Recently, it was discovered that the animals receiving lick were bypassing the first water trough, crossing the weighbridge and only drinking from the trough in their yard. Hence, as the animals receiving lick crossed the weigh bridge, they were 20kg-30kg of water lighter than those animals receiving no lick that had to drink before crossing the weighbridge.

The group discussed this issue at the weigh day and decided the only option was to shut off the main water trough and install a third water yard to collect accurate data on the different lick treatment groups. This is now under way.

The host paddock at Wilburra Downs has managed to get under a little more rain than most in the area but lacks bulk to carry the cattle through to the end of the year. The group decided to continue feeding the dry lick recipes and begin feeding the Group 1 (no lick)

animals M8U plus rumensin in their new water yard.

The group aims to hold the animals with this feeding regime to try and avoid the current low prices due to the flooded market. It was agreed to weigh the animals again in May to reassess the situation and make a decision on how to market them.

It is hoped that this drought strategy will emulate what producers in the area are already doing and the equipment will give some indication to the effects.

Due to the small number (29 head) of animals in each treatment group, the data will not be statistically significant and any results can be used only 'with a grain of salt'.

March 21 Weigh day results				
	Overall	Group 1 – no lick	Group 2 – production lick	Group 3 – 30% urea
Liveweight (kg)	436 (332 – 540)	437	440	432
ADG (kg/hd/d) since Nov 8 2012	0.53 (0.13 – 0.82)	0.52	0.56	0.52

Figures in brackets are the minimum and maximum values

The figures in the table are based on the static manual weigh day weights collected in November and March and should be used as an indication only. The results are not statistically significant.

MCKINLAY SHIRE CHALLENGE

Due to the dry season at host property, Eddington Station, the McKinlay Shire Challenge cattle had to be moved. Members of the group investigated various options that were discussed at the weigh day and made the decision to send the cattle to a feedlot to custom-feed them until slaughter.

Within the week, all challenge cattle were trucked to Mort & Co's Grassdale Feedlot near Dalby, landing by March 27. Given the long trip, the cattle were given a few days rest in a well-grassed paddock and April 2 was their first day on feed in their pen.

The McKinlay Shire Challenge group is now planning a bus tour to visit Grassdale to view the feedlot, cropping and grazing enterprises. Challenge participants will also be able to watch the cattle being processed at the chosen abattoir and chiller assessment when the animals are ready to be sold.

The inaugural Flinders Beef Challenge steers in 2007/08 were also lot-fed prior to slaughter. It will be

interesting to compare the liveweight, carcase and economic data at the end of the year.

At the weigh day, the opportunity was taken to inspect the HGP implant site on all animals which received Compudose 400 at induction to look for infection, lost pellets or those pellets that had been inserted too high in the ear. Out of the 81 animals implanted, Todd Donaldson from Elanco found:

- one infection.
- two missing pellets.
- 48 implants placed too high in the ear.

Todd gave the group an overview of these results and reminded them of the importance of hygiene with the applicators and the correct placement of HGP pellets in the middle third of the back of the ear between the two lines of cartilage. Placing the implant too high can contribute to infection and, due to increased blood flow high in the ear close to the head, the implant can be absorbed more quickly, leaving the animal without growth promotion for the fully intended period.

Todd also discussed with the group the modes of action of different implants and how this affects what implant to use in which situation. Implants containing oestradiol-17β stimulate the pituitary gland to release the animal's own natural growth hormones, resulting in increased muscle cell production.

However, 'combination' implants contain oestradiol and trenbolone acetate (TBA). TBA operates by increasing protein accumulation inside the muscle cells, thus producing bigger muscle cells.

Liveweight gain benefits from combination implants containing TBA can be lost if cattle are not turned off or reimplanted. Todd recommended that combination implants should ideally be used as terminal implants to avoid production losses.

The McKinlay group were also treated to a presentation from international guest Don Close. Don is currently the VP Food & Agribusiness Research and Advisory for Animal Protein with RaboAgrifinance, where he specialises in the cattle and beef complex.

With a total of 36 years of livestock marketing experience in his home country, Don gave an interesting overview of the US and international beef industries that was well received by all in attendance.

To show their appreciation, the McKinlay group presented Don with an Akubra hat to wear while he is on his travels in Australia.

Emma Hegarty and Rebecca Gunther, FutureBeef Team, Cloncurry, (07) 4742 1311.

March 20 Weigh day results			
	Overall	Group 1*	Group 2**
Liveweight (kg)	438 (268 – 602)	340 (268 – 412)	490 (398 – 602)
ADG (kg/hd/d) since Nov 7 2012	0.47 (0.08 – 0.81)	0.56 (0.31 – 0.77)	0.42 (0.08-0.81)

*Group 1 had an induction weight of 200-230kg
 **Group 2 had an induction weight of 380-420kg
 Figures in brackets are the minimum and maximum values



LEFT: Don Close was presented with an Akubra hat by the McKinlay Shire Beef Challenge.



The yard set up at Wilburra Downs – main water yard in background, RLMS equipment and separate lick yards with own water troughs.