# Northern muster

**Information for rural business in north Queensland**

**Producing quality food and fibre for a healthy bottom line**

## in this edition



Issue 27 April 2011

## editorial

Welcome to the Autumn 2011 *Northern muster*.

Many have had an exceptionally wet, wet season. There were also areas where there was major flooding with loss of livestock, infrastructure and facilities. Cyclone Yasi also caused major damage and loss. Through all this, we regularly witness the resourcefulness of country people to overcome hurdles and move forward. Well done!

With these sort of seasons and industry issues of the $, fuel and fertilizer prices, it becomes even more important to plan better and work smarter.

This issue of the *Northern muster* looks at update on the role of HGPs, market outlook, tick fever, weaner management, weed issues, looking into the coming dry, date claimer for a Swans Lagoon Field Day and more.

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Enjoy the newsletter, phone 13 25 23 for advice and contacting DEEDI staff. Please fill out the *Feedback sheet* and send it in.

We need to know what you are seeking, so let us know.

***Alan Laing***
***Editor***

Queensland Government

# Breedcow and Dynama free off the web

Breedcow and Dynama software is now available as a free download from the DEEDI website.

This download will install a new copy if you do not already have one, or it will update an existing copy without interfering with existing data files. The download will include an updated manual (.pdf file) and a shortcut to it so it can be accessed easily.

The web address is:
http://www.dpi.qld.gov.au/16_6886.htm
or http://agbiz.business.qld.gov.au/ (easier to type, and some other software there as well).

The Breedcow and Dynama package has had a number of command improvements over the past year, mainly to eliminate repetitive or otherwise complicated tasks.

The free download is in line with DEEDI's move to providing more services online. It also offers the opportunity to increase the already substantial impact of Breedcow and Dynama on industry. Over the past 20 years Breedcow and Dynama has been offered commercially on a succession of platforms, and in that time it has reached the owners of something like 10% of the national herd. It is used also by agriculture or primary industries departments of Qld, NT and WA, by organisations like Indigenous Land Corporation, and by consultants, valuers and legal practitioners.

The change in distribution aims to extend the benefits of Breedcow and Dynama software to an even wider catchment.

Breedcow and Dynama is a package of 'decision support' programs able to analyse the extensive cattle enterprise from at least three perspectives:

- Herd, profit and cash flow projection over 10 years (Dynama), with an accessory program (Investan) to compare Dynama scenarios, such as property purchase, and calculate investment analysis measures such as net present value (NPV) or change, internal rate of return (IRR=return on capital) on extra funds required, and annualised return (the annual equivalent of the NPV).
- Stable state herd comparisons (Bcowplus) for a first quick look at different husbandry packages or turnoff choices.
- Profit (gross margin) estimates for one class of animals (Bullocks and Cowtrade programs) to guide purchases or forced sales decisions.

Training is on hold until FarmReady gets some more money in July, but in the meantime please download Breedcow and Dynama and get stuck into it.

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# Hormonal growth promotants HGPs

Hormonal growth promotants are commonly used in northern pasture production systems to increase weight gain and reduce age of turnoff. The economical benefits of using HGPs are well researched.

## *What hormones are in HGPs?*

The hormones used in HGPs are safe for the consumer. If there is residual hormone left in meat when consumed, the hormone levels will be significantly lower that those levels found in other foods such as eggs, potatoes, and cabbage.

The action of hormones in HGPs is to cause increased anabolic activity which is associated with the accelerated growth response, and improved feed conversion efficiency. The active compounds in HGPs are synthetically produced derivatives of naturally occurring hormones. The hormones used include:

- **Female hormones**. Oestrogens (e.g. Compudose 100, 200 and 400 contain Oestradiol–17β). Zeranol is also classed as an oestrogenic compound.
- **Male hormones**. Androgens used are testosterone and trenbolone acetate (TBA).

The term 'aggressive implants' or 'combination implants' may be used to describe HGPs (e.g. Compudose G, Revalor G) which contain trenbolone acetate (TBA) and an oestrogenic compound and/or androgenic compound. The compounds act independently and result in an 'additive effect'. These are commonly used in the finishing phase of growth.

## *Delivery system*

There are two delivery systems: compressed pellets, and silicone rubber which has been impregnated. Most products are compressed pellet implants, except Compudose 100, 200 and 400. The latter are silicone rubber implants.

## *Pay out period or functional life*

The functional life is the period of time for which the implant releases hormone. It should be noted that the period of growth response, during increased anabolic activity, is longer than the period during which hormone is released from the implant.

Silicone rubber HGP implants result in a pay-out of hormone at a slower rate and hence over a longer period of time and have a long period of anabolic activity. Scientific studies agree that the functional life of compressed pellet implants is in the vicinity of 60–120 days, and that anabolic activity is not stimulated beyond approximately day 140 after implantation.

Following implantation, hormone concentrations in blood plasma show an initial peak in the first 1–3 days and then the levels slowly drop off over the pay-out period.

## *Basic principles of using HGPs*

- The live weight gain response to HGPs is determined by the quality of the diet cattle are consuming at the time. The greatest economic response occurs when cattle are gaining weight rapidly. Further detail of live weight gain and carcass responses are given in the HGP Review article also in this edition.
- For the best growth response, an implant program should be continued right through until slaughter once the program has commenced.
- A greater response in weight gain can be achieved if cattle are treated more frequently with a new implant e.g. using four doses of 100 day rather than one dose of 400 day Compudose. In extensive northern production systems the cost:benefit in relation to extra handling and mustering has to be carefully considered.
- To maximize HGP response it is important to address other cattle health issues which may arise e.g. parasite infestations.
- Cattle treated with HGPs are eligible for MSA grading. (The European Union market will not take HGP treated cattle).
- The back of the middle third of the ear is the correct implant insertion site. If the implant is inserted too close to the base of the ear there will be more rapid absorption of the active compounds and the implants are likely to pay-out at a more rapid rate. This may lead to a greater incidence of problems such as prolapsed pizzles with some products.
- Read the labels to ensure recommendations are followed. This includes safe ages at which the implants can be used. HGPs are not recommended for breeding females.

Further information on the legal requirements for HGP users can be found at the following website: www.dpi.qld.gov.au/4790_6473.htm

A new MLA information booklet, *Using Hormonal Growth Promotants to Increase Beef Production*, is recommended reading. The booklet provides further information on the role of implants, and how best to apply them.

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# Review of hormonal growth promotants

HGPs are a reliable product for increasing liveweight gain to target market weight specifications, provided diet quality enables weight gain. HGPs also impact on other carcass traits such as fatness, so it is important to understand and manage implantation programs to ensure penalties do not occur when cattle are marketed.

A review of hormonal growth promotants was recently undertaken by Bob Hunter, CSIRO Livestock Industries for Meat & Livestock Australia. A priority was given to Australian reports and scientific data, particularly usage in the northern grass fed and feedlot sectors. The following is a summary of HGP responses in various traits, as outlined in the review.

## Growth response

Dependant on energy intake, Oestradiol implants (e.g. Compudose) give growth responses of 0.05–0.1 kg/day. When cattle experience both a wet season and a dry season when implanted with 400 day oestradiol, weight responses are usually in the range of 0.06 kg/day at a base growth rate of 0.3 kg/day, and 0.09 kg/day at a base growth rate of 0.6 kg/day.

On good quality pasture, combination implants which contain oestradiol and trenbolone acetate give growth responses as high as 0.2 kg/day. On high energy diets implants containing an androgen and oestrogen give a greater response than implants containing only oestrogen, for the first 100 days after implantation.

## Feed intake and feed conversion

A USA review of 85 feedlot experiments found an average increase in feed conversion of 8%. This means feed costs per unit liveweight gain are decreased when HGPs are used.

This review also found an increase in feed intake of 6%. This increase in feed intake is because the cattle are heavier not because the HGP increases feed intake.

## Fat composition of the carcass

At any given body weight HGP treated cattle are leaner by 5 to 8%. This is because protein deposition occurs at the expense of fat deposition. The degree to which this happens depends on the type of implant, the duration of the implant program, the stage of growth and maturity type of the cattle.

Implants containing androgens: testosterone or trenbolone acetate, produce leaner carcasses when comparisons are made. Repeat treatment with a HGP containing an androgen will increase the likelihood of reduced carcass fatness.

Implants which contain oestradiol, whether implanted once or several times, impact much less than the androgens on carcass fatness. Androgens have a direct effect on reducing carcass fat content whereas oestrogens have an indirect effect (cattle reach target weights earlier when animals are less mature and therefore less fat).

Implantation of young cattle in the early growth stage is likely to delay the onset of fat deposition. This is especially so in late maturing genotypes of higher mature weight. When aiming to reduce age of turnoff and market to fat specifications it is important to manage HGP programs to insure downgrading does not occur for inadequate fat cover.

The implants most likely to reduce marbling score are those which contain trenbolone acetate combined with an oestrogen. If implanted during the early stages of growth this likelihood is increased.

## Meat tenderness

The HGP effect on tenderness and eating quality is negative as assessed by taste panels. The negative effect is increased if there is a larger cumulative dose of hormone from repeat implantation over the animal's life. This is especially the case when combination implants are used.

The individual effects of trenbolone acetate and oestradiol in combination implants appear to be additive in increasing meat toughness.

The review points out that the effect on meat tenderness from implant programs containing only oestradiol has not been adequately addressed. However is it known that when oestradiol 17$\beta$ was used in repeated 100 day intervals this lead to a reduction in meat tenderness.

## Ossification score

Treatment with both oestrogen and androgen HGPs results in higher ossification scores, and the effects are more dramatic when HGPs are applied at a younger age. Higher ossification scores indicate advanced skeletal maturity and reduced eating quality. The number of implants used in a program also has an impact on skeletal maturity.

## Dark cutting meat

The incidence of dark cutting is potentially increased when steers are treated with androgens, particularly with trenbolone acetate. This is more the case if steers are slaughtered during the payout period. The hormone may result in increased physical exertion which depletes glycogen stores. If this should happen prior to slaughter, it may result in dark cutting meat.

## Meat Standards Australia (MSA) and HGPs

MSA use a computer model to predict meat eating quality. The model uses a number of measured parameters including weight, fat cover, ossification score, hump height, marbling, meat colour and pH, when calculating a grade for different muscles.

A negative score for HGP treatment is applied by the MSA model and is specific for different muscles and different ageing periods. The model does not differentiate between different HGP implants or implant programs. HGP cattle are not excluded from grading MSA but the negative score for HGP treatment makes grading more

difficult. For HGP treated pasture fed cattle to grade Boning Group 10 or better, good scores are needed for weight, ossification, hump height, marbling, and fat cover, to counteract the negative scoring for HGPs.

The MSA model also applies a penalty for *Bos indicus* content as measured by hump height. This penalty is significantly greater than the penalty applied for HGPs.

The majority of cattle from feedlots will have been HGP treated and will grade MSA. This comes from good scores for weight, ossification, hump height, marbling and fat cover which compensate for the HGP penalty.

## Conclusions

The effect of HGPs on improving weight gain and enabling producers to meet market weight specifications at a younger age is well proven. When comparisons are made, HGP treated cattle will have increased frame size and mature weight, and lower body fat composition.

It is important to review carcass feedback data to determine if inadequate fat cover is resulting in downgrading of carcasses (or carcasses missing out on eligibility to grade MSA). This problem is more likely to occur with later maturing genotypes or their crosses. However the problem can also arise if weight for age has been improved through breeding and cattle are now slaughtered heavier at a younger age and have yet to reach maturity. While attention should be paid to improvement in genetics and nutrition, it is also important to manage implant programs. If the current HGP program involves repeat implantation, particularly if commencing at an early stage of growth, the program should be reviewed. If the last implant in the program contains both oestradiol and an androgen, then the likelihood of the HGP contributing to reduced fat content of the carcass is increased.

Beef producers consigning cattle MSA may wish to review their HGP program if it involves multiple implants and use of a terminal combination implant. The continued use of HGPs in a less aggressive program is possibly an economical option. While MSA does not directly distinguish between single or multiple implant strategies, or type of implant, a less aggressive program may result in improved ossification, fat cover and marbling scores. However in northern Queensland pasture systems this issue is still to be thoroughly researched and investigated.

The new MLA information booklet, *Using Hormonal Growth Promotants to Increase Beef Production*, provides clear and unbiased information on best practice use of HGPs. This includes information on designing implant strategies to suit different market end-points, finishing regimes, management systems and other factors. Using hormone growth promotants to increase beef production can be obtained from the MLA website: www.mla.com.au/publications, or by phoning MLA on 1800 023 100.

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# Is 2011 a year for woody plant invasion?

If you are riding on the back of a series of good wet years, watch out for woodland and woody weed thickening and invasion. Massive recruitment and episodic survival of tree seedlings and woody weeds often coincides with exceptionally wet years, floods or a series of wet years. What will be result from the 2010/2011 extremely high rainfall years? Prickly acacia exploded across the Mitchell Grass Downs in the high rainfall years experienced in the mid 1950s and 1970s. A study of soil organic carbon isotypes by Steven Bray (DEEDI) in 2006 demonstrated that 64% of 44 sampled sites across the Burdekin catchment had thickened over the last 50 to 100 years. In most rangeland grazing land types, tree basal areas greater than 10 $m^2$ per hectare will drop pasture yield by more than one-third (Edge Grazing Land Management). Graziers need to be photographing and monitoring for evidence of increased woody plant survival, especially in areas where remnant and regrowth vegetation and/or reef regulations restrict management options. Graziers should plan to implement management methods over the next two years, whilst new seedlings and saplings are less than two metres in height. These young woody plants are more vulnerable to mortality by fire, competition or mechanical and chemical methods.

For reef catchments, tree grass balance is also a key factor to consider for achieving the ReefPlan ground cover target of greater than 40% ground cover at the end of the dry season. Low ground cover associated with thickening woodlands can result in erosion risks, reduced infiltration and excess runoff. Stay on top of your trees and woody weeds before they stay on top of you!

## *The need to progress grazing industry benchmarking in reef regions*

Governments and community are demanding industry benchmarking systems that can track progress towards environmental outcomes such as reef water quality and help industry promote the good practices already in use by most producers. Since 2009, AgForce has represented the grazing and grains industries in the voluntary Reef Rescue partnership initiative led by the Australian Government Caring For Our Country program, involving six Regional NRM Groups and other key industry groups. The Grains BMP process previously developed through the Fitzroy Basin Association (FBA), Department of Employment, Economic Development and Innovation (DEEDI) and AgForce has helped provide simple useful benchmarks for the innovative grains industry across Central Queensland. A Grazing BMP system applicable to the whole Queensland beef industry is currently under development through a grazier reference group coordinated by DEEDI and FBA with support from AgForce and Meat Livestock Australia Ltd (MLA). Grazing BMP pilot modules will be released over central Queensland during the next eighteen months.

The long term plan is that aggregated information from the Grazing BMP will help the beef industry provide benchmarking and hard evidence that the state's cattle producers are sustainable, progressive and achieving environmental outcomes. To help the beef industry report to ReefPlan and community on factors affecting soil erosion and reef water quality, Kevin McCosker, Lea Diffey (DEEDI) and Michael Quirk (MLA) have been working on a simple, generic grazing practice and land condition benchmarking framework. The intent is for this grazing framework to be useful for other industry initiatives and to be eventually applicable to the entire Queensland beef industry.

## *Can you help share land management success stories from reef regions?*

AgForce Projects need your help to provide quotes, pictures, video clips and information on successful grazing land management from regions draining into the Great Barrier Reef. The voluntary AgForce – Reef Rescue Partnership project wants to help promote and share grazier success stories amongst other graziers and also to profile these achievements to urban and government-based communities. Your story and experiences can help fellow graziers and your beef industry to demonstrate the high levels of environmental stewardship and sustainable practices already being achieved. Any information on costs and benefits will help support adoption of these practices and ideas. Graziers helping graziers will be promoted through an array of visual methods such as You Tube videos, digital postcards, brief summary fact sheets along with 'Placestories' being used as an online social networking software for managing, producing and mapping stories from digital photos. If you would like to share your successes and be involved in this industry initiative, please contact AgForce Reef Rescue Project Officer.

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# Breed as a risk factor in tick fever disease?

Cattle ticks are thriving after the wet weather that many areas of Queensland have experienced during the past summer. With this comes an increased risk of tick fever and producers are reminded that a vaccine is available and that they should urgently consider vaccinating their cattle if they haven't already done so.

Breed of cattle is an important factor when assessing the risk of tick fever. *Bos indicus*-type cattle are popular in northern Australia, amongst other reasons, because of their resistance to ticks and tick fever. Approximately 70% of all beef producers in the region are using cattle with greater than 3/8 *Bos indicus* infusion. However, to meet market specifications, there has been a trend to increase the proportion of *Bos taurus* in crossbreds and this change makes cattle more susceptible to ticks and tick fever.

A MLA-funded trial conducted in the mid-1990s at the Tick Fever Centre of what is now the Department of Employment, Economic Development and Innovation (DEEDI) showed *Bos indicus* cattle to be much more resistant to *Babesia bovis*, the most important cause of tick fever in Australia, whereas British and European *Bos taurus* breeds were quite susceptible. Crosses of the two species that were popular at the time showed resistance somewhere in between. However, all breeds of cattle, including pure *Bos indicus* showed severe disease when exposed to anaplasmosis, another important form of tick fever caused by *Anaplasma marginale*.

Since that trial, there has been increasing infusion of other exotic breeds, including Wagyu, Senepol, and Tuli, into the northern Australian beef herd. Wagyu, a *Bos taurus* breed, descended from native Asian cattle which were crossbred with various European breeds in the late 1800s. Black Wagyus are the most common in Australia. Senepol were developed in the Caribbean Island of St Croix from N'Dama cattle (a *Bos taurus* breed but with some insect and disease resistance) imported from Senegal in the 1800s, and by infusion with Red Poll cattle since 1918. The Tuli is a pure African Sanga breed further developed at the Tuli Breeding Station in Zimbabwe since 1945. It is regarded as a *Bos taurus* breed and was introduced to Australia in 1990 by CSIRO via an embryo transfer program.

Many northern Australian pastoralists and the larger pastoral companies have also now standardised their base breeding herds as composites, with cattle containing infusions of these exotic genotypes in combination with *Bos indicus* and British and European *Bos taurus* breeds.

Whilst Senepols and Tuli are hardy, adaptable and able to withstand the rigors of the tropical and African environments respectively, little information is available on the susceptibility of these breeds and their crosses to tick fever.

In 2010, the Tick Fever Centre received MLA funding to assess the susceptibility of currently popular breeds and composites so as to better advise cattle producers on the breed-associated risk of tick fever with the newer genotypes. Senepols, Tulis and Wagyus were compared to a European *Bos taurus* breed and pure *Bos indicus*. In addition, two crossbred (or composite) groups were included. Composite A comprised 75% *Bos taurus* genotypes, including 25% Senepol and Composite B contained 50% *Bos taurus* genotype.

In the trial, cattle were artificially inoculated with virulent tick fever organisms rather than allowing them to become infected naturally via ticks. Susceptibility to *Babesia bovis* was assessed first followed by that to Anaplasma marginale. Each animal was monitored after inoculation for the level of tick fever organisms in the blood, as well as the development of anaemia (loss of red blood cells) and, in the case of *Babesia bovis* infection, fever.

The results of the trial were compared with those of the trial conducted in the '90s. Pure *Bos indicus* cattle were quite resistant to *Babesia* infection in both trials while pure *Bos taurus* breeds were, as expected, quite susceptible. Tuli, Senepol and Wagyu cattle were as susceptible to *Babesia* infection as European *Bos taurus* with marked anaemia and fever, and the majority of the animals required specific treatment. The results for the Tulis and Senepols in particular were interesting given their development in tick fever endemic countries, and their selection for 'hardiness in such an environment.

In this trial, the composite or crossbred groups had intermediate susceptibility to *Babesia* infection, based on parasite levels and the degrees of anaemia and fever that resulted. All the breeds, even pure *Bos indicus*, and cross-breds were quite susceptible to infection with *Anaplasma marginale*. These results were also consistent with the results from the first trial in the mid-1990s.

An economic analysis, based on the results of the first MLA trial and 1998 cattle prices showed the benefit to cost ratio for vaccination was strongly positive for anaplasmosis in all breeds; was strongly positive for babesiosis in *Bos taurus* breeds; but was also beneficial in crossbreeds for *Babesia bovis* (which is consistently the most common parasite causing outbreaks of tick fever disease). These

returns are outlined in the table below:

| Cause of tick fever | Maximum return for each $1 spent on weaner vaccination over eight years (based on 1998 prices and breed susceptibility) | | |
|---|---|---|---|
| | Bos indicus | 50% crossbred | Bos taurus |
| Anaplasmosis (*Anaplasma marginale*) | $22 | $40 | $53 |
| Red water (*Babesia bovis*) | $1 | $5 | $55 |
| Red water (*Babesia bigemina*) | $1 | $2 | $44 |

## *The take home messages*

1. All breeds of cattle, even pure *Bos indicus*, are very susceptible to *Anaplasma* infection
2. Whilst pure *Bos indicus* are quite resistant to the effects of *Babesia* infection, this effect declines quite quickly as the *Bos taurus* content increases
3. Even exotic and tropically adapted breeds such as Tuli and Senepol (which are *Bos taurus* breeds) are quite susceptible to all forms of tick fever
4. As a rule of thumb, if you decrease the *Bos indicus* content, the tick fever risk will increase
5. A good wet season will increase the level of tick fever risk—ticks will be present in greater numbers and will appear in areas where they are not ordinarily found.
6. The most reliable way to protect cattle against losses due to tick fever is to vaccinate. The decision to not vaccinate against tick fever needs to be a conscious decision based on analysis of the risk.

Further general information about tick fever can be found at our website or by contacting the Tick Fever Centre:

***Tick Fever Centre***
*Biosecurity Queensland*
*280 Grindle Road, Wacol Qld 4076*
*Ph 07 3898 9655*
*Fax 07 3898 9685*
*Email tfc@deedi.qld.gov.au*

***DEEDI***
*Ph 13 25 23*
*Visit www.biosecurity.qld.gov.au and search for 'tick fever'*

# Stock theft

Although the image of a swaggie shoving the jumbuck in his tuckerbag in the song Waltzing Matilda is thought of in nostalgic terms by many, cattle and sheep rustling and other forms of rural crime are unfortunately still common in Australia today.

A National Farm Crime Survey (NFCS) undertaken in 2002–2003 found that 17% of farms surveyed experienced some type of crime relating to their farming operations. The definition of 'farm crime' includes theft from the farm (livestock, materials, equipment, produce, fuel, vehicles and machinery etc), and damage/vandalism to farm property. The location and size of farm had an impact on the type of crime: highly accessible farms were more likely to experience theft of farm machinery and equipment, theft of farm vehicles and damage/vandalism, theft of tools and spare parts and farm residence robbery; while very remote farms experienced the highest levels of livestock theft, illegal hunting and fishing, theft of materials, and illegal dumping of waste. (For more information of the National crime survey visit http://www.ag.gov.au/farmcrime/index.html).

The unique socio-demographic make-up of farms can enhance opportunities for theft. Some of the factors that have been identified include:

- Remoteness of and distance between properties
- Improved transport infrastructure creating ease of access
- Increased population instability
- Increasing value of livestock and other farm materials
- Relaxed attitudes towards security.

Suggestions for crime prevention measures include:

- Install and use locks on buildings and gates
- Maintain a presence on the property, and vary routines
- Keep inventories (including photographs) for equipment, stock, vehicles and house contents
- Mark personal and farm property with a unique ID number
- Consider crime prevention equipment e.g. alarms, security lighting, no trespassing signs
- Maintain fences and buildings in good condition
- Minimise storage of farm consumables (fertiliser, chemicals etc)
- Use watch dogs
- Participate in neighbourhood watch groups.

Originally designed to improve product integrity and market access, and assist with the management of disease and chemical residue issues, the National Livestock Identification System (NLIS) also assists in reducing theft. NLIS allows individual animals to be identified and tracked from their property of birth through to slaughter. NLIS legal requirements for identification and tracking apply to persons in charge or dealing with cattle, sheep, pigs and goats. For more information, visit http://www.dpi.qld.gov.au/4790_6000.htm or phone 13 25 23.

Brands and earmarks are used to prove ownership of livestock but are not compulsory, except for cattle and pigs when they are being sold. However, they are recommended to avoid ownership disputes over stray animals. To legally use a registered brand or earmark in Queensland, you need to submit an application to the Registrar of Brands. For more information, visit http://www.dpi.qld.gov.au/4790_5206.htm or phone 13 25 23.

While there are many livestock insurance policies on offer, most only cover stud or high value animals. Read the contract carefully to ensure you understand what the policy is offering.

Lengthy intervals between checks of stock and the possibility of loss due to natural causes, may make determining whether a theft has occurred very difficult, and many victims do not report farm crimes. Over 30 police officers are dedicated to investigations of stock and rural crime offences throughout Queensland. These squads are based at Mareeba, Charters Towers, Cloncurry, Rockhampton, Longreach, Kingaroy, Charleville, Roma, Toowoomba and Forest Hill. For more police information on preventing rural crime, and the contact numbers of the Stock and Rural Crime Investigation Squad offices visit http://www.police.qld.gov.au/services/property/ruralCrimePrev.htm. For information on marking property for identification, see http://www.police.qld.gov.au/services/property/ or visit your local police station.

Anyone wishing to anonymously provide information in relation to stock theft can ring Crime Stoppers on 1800 333 000.

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# After the cyclone

Seeing a mob of cattle crushed under trees is heartbreaking enough. Add to that thousands of kilometres of fencing that needs rebuilding, trees to clear and sheds to replace and you have a situation that's enough to give you long term headaches.

Many of the grazing properties that were in the path of February's Cyclone Yasi experienced large infrastructure and cattle losses. Cattle have been lost through wandering or fallen debris.

Grazing properties inland from Ingham to Babinda suffered the most.

Graziers started calling natural resource management group NQ Dry Tropics soon after the cyclone swept through north Queensland. They wanted to know what affect the damage had on funded projects they had either started or were planning for.

NQ Dry Tropics works with graziers in central and north Queensland to improve the quality of water that runs off properties. It helps fund extra watering points, fence to land type to encourage even grazing pressure and spelling of paddocks, fencing along rivers or streams and erosion control works.

The cyclone has affected this work somewhat with some graziers saying they might have to withdraw their interest in an approved project due to other priorities. NQ Dry Tropics is working with them to find a way they can go through with projects.

As well as helping landholders, NQ Dry Tropics is also interested in the damage the cyclone caused to natural resources. Staff chartered a helicopter to photograph and map damaged areas.

The most obvious damage was felt by trees which were blown over or broken off. In many areas tree canopies are nonexistent which doesn't bode well for wildlife.

NQ Dry Tropics' Julie Harrison said it was a good chance to talk to graziers about how they fared and how they're going about rebuilding.

She visited O'Brien's property Kinrara, 120 kilometres west of Ingham, where at least 50 per cent of trees were destroyed and a lot of fences damaged. A mob of cattle sheltering under trees was crushed into the mud when the trees fell.

Julie said, 'The devastation to the landscape was overwhelming but the spirit of the landholders and the rural community is inspiring.

'The landholders we spoke to said they were getting a lot of phone calls from people in town asking if they could come out and help clean up.'

Like most property owners in the area the O'Brien's have lost cattle to neighbours because fences are down. They will have to wait until they or neighbours muster before they have any chance of reclaiming their stock.

Fencing and clearing fallen trees are by far the biggest headaches. While NQ Dry Tropics can't fund fencing materials it is looking at whether it can help graziers to replace fence lines where they will best benefit productivity, waterways and wildlife.

It's an opportunity to help realign fences to suit land types and protect rivers. Call NQ Dry Tropics to find out if we can help you.

Julie said what was really interesting is that for some landholders communications were cut off for a week after the cyclone.

Julie said, 'When I was growing up on a property in the southern Gulf we had HF radio which we could use to communicate anywhere.

'Now many properties do without them and rely on mobile or landline phones. But they can cut out in a natural disaster like Cyclone Yasi.' She said.

'Graziers couldn't even contact their children to see if they were okay and if there was a medical emergency how would they call for help? Not to mention just getting general information about flood and rain conditions in their area.'

If you want help to realign fences or any other information about how NQ Dry Tropics can help you call us on 4724 3544.

NQ Dry Tropics
LAND & WATER SOLUTIONS

*Footnote - NQ Dry Tropics helps graziers improve productivity and environmental sustainability thanks to Reef Rescue, an Australian Government's Caring for our Country initiative.

# Current bush – a prickly and very sneaky problem

Current bush, conkleberry, berry bush or technically, *Carissa ovata*. Whatever it's called, this native shrub can become a big problem for grazing management. And our results from the Meat and Livestock Australia funded Wambiana trial show that it can sneak up and get out of control with little warning.

Carissa is seldom grazed and even in the barest paddocks shows few signs of browsing. It occurs widely but particularly likes slightly heavier soils like those dominated by box trees. With overgrazing and reduced fire it can get very dense and form almost impenetrable thickets.

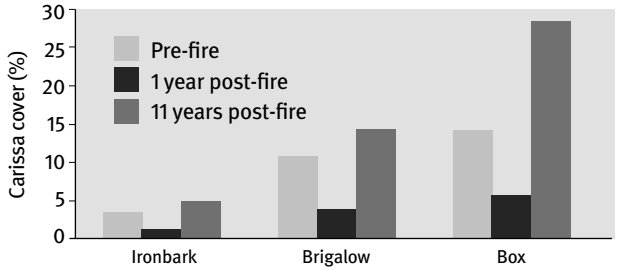
Very little grass grows under Carissa clumps except in very wet years. Even when it does, it is generally not grazed because of the prickles. Carissa also reduces forage production in grassy areas adjacent to clumps by direct competition for water and nutrients.

Ecologically, Carissa does have some benefits. Work by CSIRO at the Wambiana trial show that soils under Carissa clumps are usually very friable and relatively fertile due to the litter and soil invertebrate activity below the canopy. Rainfall infiltration is thus exceptionally high in Carissa patches, reducing runoff and soil erosion. In overgrazed paddocks, Carissa can also be 'nursery plants', providing refuge to palatable, less grazing tolerant grasses. These plants can then provide the seed for pasture recovery when management improves.

Because Carissa grows relatively slowly, it is easy to think that it is not spreading. However, our work at Wambiana shows that it can build up to significant levels in a few short years, potentially having a big impact on carrying capacity and production.

As mentioned in previous *Northern Musters*, the Wambiana trial near Charters Towers was set up in 1997 to compare how different grazing strategies cope with rainfall variability. As part of the project, we also monitor Carissa cover and how this changes with time. We first measured Carissa cover in 1999, soon after the trial started. After this, the site was burnt using a relatively 'hot' fire in October 1999. Carissa cover was measured again a year after the fire in 2000, and then in 2010, a further 11 years after the fire.

In 1999 when measurements were first taken, Carissa cover (measured as a % of area) was lowest on the silver leaf ironbark country (3.5%) but substantially higher on the brigalow (10.7%) and box areas (14%). The 1999 fire had a dramatic effect on Carissa with cover dropping sharply across the three soil types. However, the fire killed few if any Carissa plants and with the good rains in 1999/2000 regrowth was rapid. Within a few years Carissa seemed to be back to its former levels and looking as strong as ever.




*Carissa cover pre-fire, one year post-fire and 11 years later on three land types at the Wambiana grazing trial*

This was confirmed by the recent 2010 measurements. More alarmingly, Carissa cover now far exceeds the levels first measured in 1999 before the fire. This change has been by far the greatest on the box soils with total cover increasing from 14 to 28 % between 1999 and 2010. In other words, despite an intense fire in late 1999, Carissa cover has doubled over 12 years. This means that about 30 % of the box area is not available to grow grass.

These box areas are often the most productive and/or palatable areas in the paddock, meaning that total paddock productivity could be reduced by far more than this amount. The reduced pasture production caused by the Carissa is also likely to increase the grazing pressure on the remaining grassy patches, increasing the chances of pasture degradation.

So, what can be done? Unfortunately, once Carissa is well established there are few, if any, economic methods of controlling it in large grazing paddocks. A single fire seems to do little more than reduce its cover for a few years, but will at least suppress the problem, giving the grass a chance to be competitive. However, work by Paul Back shows that fires are needed every six or so years to keep Carissa cover under control.

If Carissa is not yet a problem, managing for a healthy, competitive pasture will stop Carissa seedlings establishing and probably reduce the rate of spread of established clumps. Carissa seedlings or young plants might also be far more sensitive to fire than adults, so fire may at least stop the problem emerging and getting out of hand.

With the good wet season, this year would be an ideal time to use fire to stop Carissa becoming a major problem or at least keep it under control. To do this, start planning now so that paddocks are not grazed too hard and there is sufficient fuel to carry a decent fire. Spelling paddocks post-fire is also important to ensure that the pasture has a few months to regrow and recover from the burn.

In the end, the best solution to Carissa is to stop it becoming a problem in the first place. This involves maintaining a healthy pasture through good grazing management and using fire occasionally. Monitoring at permanent photo sites will also be essential to spot this prickly problem slowly sneaking up and getting out of control.

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# Melioidosis

**Melioidosis is a disease in humans caused by a soil bacterium called *Burkholderia pseudomallei*. The recent floods in Queensland have caused an increase in the number of cases seen this year. Even though meliodosis is not a common disease, an infection will usually require hospitalisation.**

**The disease occurs mostly in tropical areas, but is also sometimes seen in southern Queensland. During the dry season the bacterium is present in deeper soil layers, but during the wet season it can be found in the surface layers and in muddy surface waters.**

**The majority of infections occur when skin abrasions or wounds come into contact with wet soil or water contaminated with the bacterium. Very occasionally, it can be acquired through swallowing contaminated water, or through breathing in fine droplets of such water. Person-to-person spread is very rare.**

**Although many people have contact with wet soil or muddy waters during the wet season, not everyone is at risk of becoming ill with melioidosis. Adults with certain underlying diseases and conditions (e.g. diabetes, chronic lung or kidney diseases, excessive alcohol consumption, cancers and treatments which lower immunity) are at a greatly increased risk of the disease.**

**Melioidosis can present in several different ways. Most cases have a sudden onset, from a few days to three weeks after exposure to soil or muddy water. These acute cases can present as pneumonia with fever, cough and difficulty breathing or as blood poisoning with fever, confusion and shock. Acute melioidosis can be very severe, and almost always requires hospital inpatient management. Even with hospital care several melioidosis deaths occur in Queensland each year.**

**Other cases present more slowly, months or even years after exposure. These less acute cases can range from superficial skin infections such as ulcers, to abscesses in organs such as the spleen and prostate. Such cases of melioidosis can still be severe, and most require inpatient care.**

**The treatment of melioidosis initially requires intensive antibiotic therapy as well as management of any lung or kidney failure, shock etc. Therefore admission to an intensive care unit may be required. Antibiotic treatment should be continued for at least 3 months to make sure the disease does not reoccur.**

**There is no vaccine to prevent melioidosis. During the wet season, anyone in north Queensland with an underlying medical condition should take the following precautions:**

- **Wear protective footwear when outdoors**
- **Wear gloves while working in the garden, on the farm etc**
- **Cover abrasions and sores with waterproof dressings**
- **Wash thoroughly (preferably shower) after exposure to soil or muddy water, and after working outdoors.**

**For more information, help or assistance, contact your local Queensland Health public health unit or visit www.health.qld.gov.au**

A lot has happened since our last report before Christmas. We've had serious flooding and several cyclones with Yasi in the extremely damaging category. Many cattle properties have suffered severe damage to housing, infrastructure, fences, roadways, power and communication lines. The tree damage and resulting timber strewn all over the ground on many properties will be a serious problem and expense at mustering time for years to come.

All this disruption and wide spread rain across eastern Australia has produced excellent pasture growth and stimulated some frenzied demand and high prices for store cattle. The fat cattle market opened in January with higher prices (in north Queensland over $3.30 kg dressed for best bullocks). This was stimulated by disrupted cattle supply from wet weather and flooded roads and reasonable demand from a range of export markets. As country has dried out and cattle numbers are back to usual supply, the prices are slipping and our export works in Townsville is booked up for several weeks in advance.

Our dollar has remained at or above parity for several months now. As the season goes on, it will be a real test for our beef exporters to continue to be competitive on the wide range of overseas markets, and to offer reasonable prices for slaughter at home. Our industry analysists are saying that world market conditions are much improved for the first three months of 2011 and are predicting a growing global demand and a better year ahead. Although they warned that the feedlotting industry was likely to stay under economic pressure with high grain and feeder cattle prices.

Australian 90CL boneless beef into the USA reached record prices during January 2011 but our supply was severely disrupted with the record breaking rainfall and flooding.

Another problem is looming for our industry with all the trouble and disruption in the Middle East. We can expect a spike in fuel prices any time soon which will have a economic impact right across the beef supply chain plus disruption to our live export and boxed beef trade into these areas.

Australian beef production for 2010 was 2.08 million tonnes plus veal of 47,600 tonnes giving total beef and veal production at 2.13 m tonnes. Exports reached 922,807 tonnes with Japan leading the way again on 356,118 tonnes, USA 185,000 tonnes back 26% on the previous year, Korea 124,161 tonnes and Russia 56,646 tonnes. Grainfed beef made up 24% of our total export tonnage.

Total animals slaughtered 7.47 million head with females making up 3.54 million head and feedlot cattle 2.5 million head. Average slaughtered weight in 2010 was 278.5/kg which was up 6 kg per head on 2009. Average domestic retail price of beef for 2010 was $16.02/kg, pork $13.56/kg and chicken $4.06/kg

Total export beef sales reached $4.4 billion with Japan the leading destination on $1.7b, USA $772 million, Korea $633m, Russia $245m, Indonesia $180m, Taiwan $143m, EU $100 m, Singapore $60m, Hong Kong $57m and China $41m.

On our domestic front, retail sales of fresh meat have continued to grow, estimated to be up 3% on the previous year. Woolworths remained the largest fresh meat retailer with 30% of sales followed by 28% for butchers and 20% for Coles. It's too early to say if Coles' new marketing strategy of no HGPs in their meat is giving them an increased share of the action, but it could trigger a consumer backlash if the public perceive that meat is not a safe protein to purchase. It's certainly making many of our industry leaders nervous.

Beef producers in Queensland continue to be this States' major primary industry contributor with a farm gate value of $3.31 billion, well ahead of the next best sugar at $1.24 billion. First stage meat processing adds another estimated $1.54 billion to this figure. Total gross value of all Queensland's primary industry sector at the farm gate $11.18 billion.

Live export prices for cattle 280–350 kg suitable for Indonesia have stuck around $1.55 kg for heifers and $1.75 kg for steers delivered to the nominated shipping depot. The promising live trade to Turkey for heavier cattle from Australia is operating but all shipment have been *Bos taurus* types from Fremantle. Livestock Shipping Services who have the Turkey contract for approx 100,000 head are hoping the protocols can be changed to allow Brahman cattle to be exported from northern Australia. In 2010 total live exports were approx 873,000 head with 520,987 head shipped to Indonesia, 225,547 to Middle East/Africa, and 57,552 head to China but these were mainly dairy cattle. Our biggest shipping port continues to be Darwin with over 350,000 head followed by Fremantle approx 160,000 head, Broome just over 100,000 head and Townsville 90,000 head.

## *USA*

The Yanks have blasted back into the world beef markets during 2010 with their beef exports valued

at over US $4.08 billion. Their export volume of 1.067 million metric tonnes was aprox. 12% of total US production. At the same time imports into the US were down to 1.03 mt including 29% less from Australia. On the down side for the US beef industry, corn supplies are the lowest for over 70 years which has put upward pressure on grain prices and will reduce profits in their feed lotting sector.

Industry analysts are predicting any increase in beef prices will see more consumers turn to cheaper protein sources like chicken.

Present per capita consumption in USA of beef is now at 26.8 kg, pork 21.3 kg and chicken stands at 45.5 kg with the prospect it will go further ahead.

The US cattle herd is at its lowest level for over 40 years at 92.6 million head and even with the higher cattle prices at present, herd rebuilding prospects remain limited with continuing decline of replacement heifer numbers. Projected USA meat production for 2011 – 11.67 million tonnes of beef, 10.25 million tonnes pork, and 19.43 million tonnes of poultry.

## *Korea*

Domestic beef production was down slightly in 2010 to 752,427 head slaughtered. The reduction in numbers was mainly due to the impact of their foot and mouth disease outbreak. Since the foot and mouth outbreak last November 3.15 million pigs and 15,000 cattle have been destroyed.

Korea imported 261,158 tonnes of beef in 2010 and Australia continued to be the dominant supplier with124,161 tonnes, USA supplied 84,821 tonnes and New Zealand 34,253 tonnes.

South Korea and USA have signed a Free Trade Agreement which is expected to be ratified soon but proceedings could be drawn out as the USA is not happy with only beef and automobiles included in the FTA at this stage.

## *South America*

Argentinean slaughter was down in 2010 to 11.78 m head producing 2.6 million tonne of beef with exports at 166,265 tonnes. Their main export market is Russia who took 35,679 tonnes. Their cattle herd at present is estimated at 48.6 million head—the lowest level since 1964. (55.6 million head in 2006 )

Brazilian cattle producers have been enjoying reasonable prices over the last year with surging domestic and export sales. Total 2010 exports were up 3% on the previous year to 951,255 tonnes. Beef herd currently estimated at about 193 to 200 million head. Russia remained their most important market taking 284,900 tonnes followed by Iran 191,181 tonnes and Egypt 113,228 tonnes.

During 2010 prices have averaged US 168 cents/kg live weight with peak prices in November 2010 of US 230 cents/kg live. The strong Brazilian economy has seen good domestic consumption plus rising exports. Live exports in 2010 reached 654,694 head with a average weight of 495 kg live with 92% going to Venezuela, followed by Lebanon 5% and Egypt 1%.

Uruguayan cattle industry is endeavouring to implement full traceability into its national herd before the end of June 2011. This will allow full access to some important export markets including the EU. Total meat produced in 2010 – 371,000 tonnes with 241,000 tonnes exported, plus 200,000 head live exported.

## *Japan*

Japan consumed a total of 852,095 tonnes of beef in 2010 with imported beef supplying 499,531 tonnes of this total. Beef consumption in Japan lags behind pork intake at 1.66 million tonnes and poultry at 1.69 million tonnes. Australia's share of the Jap beef market was back 4% in 2010 at 356,118 tonnes where as the USA supplied 91,618 tonnes or 18% of the total, up 4% from previous year.

Of the Australian beef total into Japan a bit over 200,000 tonnes was grass fed and aprox. 154,000 tonnes was grainfed

The Japanese domestic herd was down in 2010 to 4.29 million head but like Korea have had a outbreak of foot and mouth disease.

The current tariff on our beef into Japan is 38.5% and we have been in Free Trade Agreement negotiations with Japan since 2007 with the latest round of talks in February 2011. Beef still remains classified as a sensitive item under the ongoing negotiations.

Our market analysts are still calling the Japanese economy soft but at the same time predicting a slight improvement in beef demand.

McDonald's Japan has posted its highest ever store sales for 2010, is this a sign of how tough things are with consumers buying cheaper meals.

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***Greg Brown***
*Meadowbank Station*

# Boost your profits with good weaner care

With rising costs, high debt levels and static cattle prices it is tough making a quid in the cattle game at present. As a beef producer you must carefully consider what you produce and where you market your cattle. We know crossbred cattle have the potential for higher weight gains on good nutrition and attract better prices in southern markets. Using softer bulls is an option for some producers but the challenges include bull mortalities and maintaining a breeder herd suited to north Queensland conditions and the tough dry seasons we encounter. Genetics aside, the key to attracting a price premium is to concentrate on temperament and weight for age. Good weaning practices and weaner nutrition is the starting point in meeting market specifications and extracting more profit from your herd.

## *Weaner paddocks and stocking rates*

Supplements such as copra meal, molasses-urea mixtures and weaner feeds do a good job, but at a significant cost every year. A long term solution involves setting aside paddocks of a suitable size for the weaner numbers you expect each year and ensure there is good water distribution. We often see weaner paddocks that are too small and heavily grazed as they are handy to the house and used to hold sale cattle. Get your stocking rates right and wet season spell weaner paddocks every year to favour the better pastures and build up a good body of feed. The table below is a rough stocking rate guide for weaners on various northern and southern Gulf land types.

| Land types | Stocking rate per weaner |
|---|---|
| Frontage, basalt and black soil | 1.8 ha (4.5 acres) |
| Goldfields | 2.6 ha (6.5 acres) |
| Grey Clays/Bluegrass Downs in Gulf | 3 ha (7.4 acres) |
| Georgetown Granites | 3 ha (7.4 acres) |
| Forest country with red and yellow earths | 4 ha (10 acres) |
| Mitchell Grass Downs | 4 ha (10 acres) |
| Silverleaf Box | 8 ha (20 acres) |
| Red Spinifex ridges | 9 ha (22 acres) |

Note – Above stocking rates apply to country in good condition. If country has a history of heavy grazing, weaners will need more room. Mitchell Grass Downs S/R is an average across good and bad years.

Investing in improved pastures in your weaner paddocks will reduce your annual supplementation bill and increase liveweight gains. Stocking rates can also be increased on paddocks with a good mix of native and improved pastures. A 'Weaner Nutrition Demonstration' was conducted at Forest Home west of Georgetown from 1987 to 1994. This included three paddocks, namely native pastures and stylos established with and without fertiliser. The table below shows how weaner stocking rates and daily weight gains can increase with stylos in the pasture from May–August (78 days).

| Treatment | Stocking rate (per weaner) | Liveweight gain (kg) | |
|---|---|---|---|
| | | Average per day | Total per head |
| Native pasture + cottonseed meal** | 4 ha | 0.29 | 22 |
| Unfertilised stylo + cottonseed meal** | 1.33 ha | 0.42 | 32 |
| Fertilised stylo + cottonseed meal** | 1.33 ha | 0.54 | 42 |

**All weaners were fed 0.5 kg/day of cottonseed meal and had free access to Kynofos and salt. Fertiliser was only used during stylo establishment.

## *Summary from Forest Home Demo*

- Native pasture 60–120 kg annual liveweight gain.
- Improved pastures 120–160 kg annual liveweight gain.
- Improved stocking rate, three times for stylo.
- If soil phosphorus below 4 ppm use fertiliser to establish stylos.
- If soil phosphorus is 4–8 ppm use phosphorus supplement.
- Phosphorus must be fed to young cattle in the wet season across most north Queensland properties. Each kg of liveweight gain requires 7 grams of phosphorus.

## *First round muster 2011*

It has been a tough year with many producers trying to recover from Yasi's trail of carnage including damage to fences, yards, sheds and other infrastructure. Mustering may be delayed due to the wet conditions but hopefully most cattle will turn up during the first round. A delay will mean most weaners will come off at a good weight making feeding easier and cheaper. Of course 2nd round weaners in August/September present more challenges and are costly to look after. We will include some strategies to manage second round weaners in the next *Northern muster.*

## *Trough space and feeding options*

Across north Queensland beef producers use a wide range of tactics to feed their weaners during their

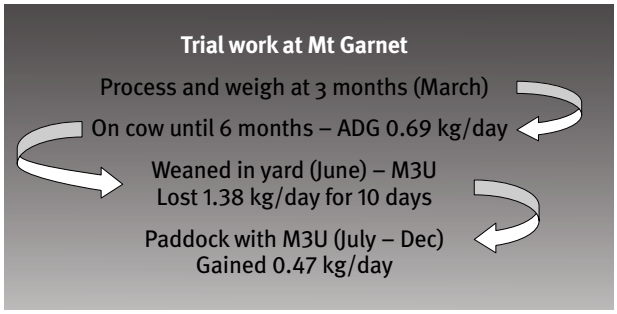
first dry season. It is a good idea to have several paddocks so that weaners can be segregated into big and small sizes to reduce bullying and ensure poddies under 120 kg get a fair go. When feeding in troughs, weaners require around 25–30 cm (10–12 inches) of trough space per head, depending on their liveweight.

*Trough space OK*

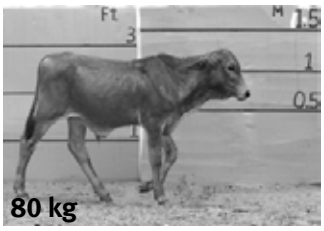
*Insufficient trough space*

## *Choose the right feed*

The Mount Garnet trial below shows just how stressful weaning is even when castration, branding and dehorning is done with calf remaining on the cow until six months of age. Processed calves left on the cow for six months gained on average 0.69 kg/day. At weaning these animals lost 1.38 kg/day for 10 days even on M3U. From July to December these weaners then gained 0.47 kg/day on M3U in a good paddock at a light stocking rate.




Weaner weights are a reasonable indication of the development of the rumen and its ability to process pastures and supplements such as urea. As well as clean water and good hay the 80 kg weaner shown here, has a poorly developed rumen and requires a mash or pellet mix with plenty of crude protein (20%) and energy (12 MJ/kg).




A 120 kg weaner, although still undeveloped, will cope with a cheaper pellet containing less crude protein (15%) and less energy (10–11 MJ/kg) and can also handle urea in the form of M4U.


Once weaners are over 150 kg, such as the 160 kg heifer shown, they will do well in a fresh paddock with plenty of room. Cheaper feeding options including M8U or dry weaner lick can also be used to keep weaners going forward or to minimise weight loss during a long dry season.


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

## *Weaning, temperament and future performance*

Firstly a good weaner nutrition program is critical in ensuring your replacement heifers reach puberty and joining weight (300 kg) as quickly as possible. In relation to steers, trial work carried out at Swans Lagoon in the 1990s showed how poor nutrition as a weaner can impact on weight gain performance later in life. The table below shows how feedlot average daily liveweight gain was 0.24 kg/day less for the weaner steers that had more nutritional stress during their first dry season.

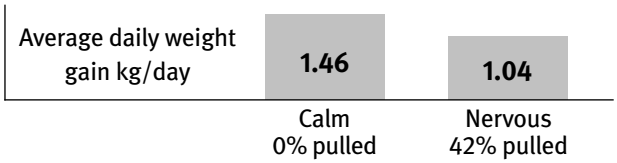
| Weaner weights | Feed type ** | Dietary requirements | |
|---|---|---|---|
| | | Crude protein | Energy |
| Under 60 kg | Milk replacement powder – teat | 20–27% | |
| 60 to 100 kg | Clean water, good hay and weaner pellets or mash | 20% | 12 MJ/kg |
| 100 to 150 kg | Good water, hay and weaner pellets.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

**Add Coccidiostats (Rumensin, Momensin etc) to all feeds to prevent coccidiosis

### *140 kg weaners at Swans Lagoon*

| Treatment 1st dry season | Feedlot average daily gain (entry at 2 yrs) |
|---|---|
| Low LWG | 1.32 kg/d |
| High LWG | 1.56 kg/d |

Many properties really concentrate on temperament by tailing weaners into lanes or small paddocks for a week with horses, bikes, dogs or a combination of these. This pays off in many ways including less yard accidents, ease of mustering and being able to present more saleable cattle. Trials have also shown how temperament affects feedlot performance. The graph below includes CRC work where 209 steers were selected for temperament as weaners based on 'flight times' and liveweight gain was subsequently tracked through a feedlot. The 'calm' group (flight time over 1.8 seconds) gained on average 1.46 kg/day whereas the 'nervous' group (flight time under 0.8 seconds) gained 420 gram less/day. 42% of the nervous group spent time in the sick pen due to various illnesses.




Before trucking to a second property it is important that weaners are taken off and settled down on feed for at least 10 days. They can then be trucked and settled in to the destination before castration, branding and dehorning.

### *Most common weaner management mistakes observed*

- Poor quality weaner feed used
- Not enough trough space
- Overstocked paddocks and poor water distribution
- Poor training and handling through yards and nearby paddocks
- Poor segregation of weaner classes by weight
- Weaners bushed into big paddocks after processing (castration, dehorning etc)..... see you 6 months later

***Far North and Western FutureBeef Team***

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# HGPs—where are we now?

Hormonal growth promotants (HGPs) have been used for many years in order for beef producers to gain the most out of the pasture they graze, or in a feedlot situation, to increase weight gains, increase feed efficiencies and to decrease fat deposition in feedlot cattle. While many producers do utilise this technology, it is estimated that only about 40% of Australian beef cattle are implanted with an HGP during their life.

The use of an HGP has shown to increase the growth rate of treated cattle by 15–30 percent and the feed efficiency by 5–15 percent. It also accounts for approximately $200 million worth of added production to the Australian beef industry per year. Without the use of HGPs, Australia would need to increase the total herd size by 7 percent, or more than 2 million head, to produce the same 2.3 million tonnes of beef a year it currently produces

The use of HGPs in northern cattle boosts weight gain during the growing season. Despite having so many benefits for the beef industry, there has been a recent move by 'Coles' to ban the use of HGPs in cattle which are destined to end up on their shelves, from January 1, 2011. Coles has suggested the ban is due to the fact that HGPs can decrease eating quality and therefore affect the eating experience of the consumer. This has caused Coles a serious backlash in the beef community about the impact this may have on the beef industry due to consumers' concerns about the safety of the product they are purchasing.

Coles has used very emotive language in their advertising campaign, such as 'hormones', which does little to ease consumers' fears about additives to their meat. There is still a belief in Australia that there are added hormones in chicken, despite there being a ban in place for their use in the poultry industry for over 30 years. It has lead consumers to assume that meat treated with an HGP is a health risk and should be avoided if possible. Despite the slight decrease in tenderness that can result from HGP use, there is no scientific evidence to suggest that HGPs pose a risk to human health. The World Health Organisation (WHO) has concluded that the availability of hormones to humans from food consumption is generally low and hormone levels in beef treated with HGPs are unlikely to pose a hazard to human health. Further research in 2003 by the Australian Commonwealth Department of Health and Ageing also concluded that there is little health risks to consumers from eating meat form cattle treated with HGPs following good veterinary practice.

According to MLA and Safemeat publications, a 100 gram serving of HGP treated animals contains 2 nanograms of oestrogen, while a serving from a non-treated animal contains about 1.4 nanograms. They also suggest that you would need to eat more than 77 kg of beef from treated steers in order to ingest the same amount of oestrogen as you get from one egg.

In an industry that is already being scrutinised for its effects on the environment from greenhouse gases and grazing pressure, the banning of HGPs, which allow for increased weight gains and therefore lower ages of turnoff, does little to help either the industry or the environment. Coles processes around 350 000 head of cattle a year for the domestic market and is in competition with at least two other major national supermarket retailers who, at this stage, have no plans to ban HGP use.

In many regions of Australia, there is little opportunity for producers to increase their herd sizes further to compensate for a lack of HGP use and are already facing a period of very low profitability, due to increasing costs of production and static prices paid for finished cattle. However, Coles has reportedly increased their contract price to $4.30/kg carcass weight (most current prices are about $3.30/kg carcass weight), which will help to offset reduced weight gains.

As this is an individual animal ban and doesn't function the same as the European Union market (who require the entire farm be free of HGP use and accreditation), producers may still be able to implant many of their cattle for other domestic and export markets, while leaving some without in order to target Coles' markets. This allows many producers to continue to take advantage of crucial extra liveweight gains in cattle treated with HGPs and therefore the extra returns as a result.

Coles has stated that their move is based on the scientific evidence that the use of HGPs has been shown to have a negative effect on tenderness of the carcass. The Australian Cooperative Research Centre (CRC) for Beef has suggested that this is true for some cuts more than others, with those cuts that become more tender with post-mortem ageing having the greatest negative effects from HGP use. Cuts with little improvement from post-mortem ageing showed little change in palatability from HGP use. However, they also suggest that by not using HGPs, producers would miss out on the potential profit from extra growth and would need substantial premiums to compensate for providing HGP free animals. There is also the ability of the processors and supermarkets to utilise other technologies,

such as tenderstretch hanging, pH/temperature management, electrical stimulation and post-mortem aging to increase tenderness of the carcass.

Meat Standards Australia (MSA), an eating quality assurance program, utilises both on-property and carcass data to indicate the degree of tenderness and quality of a cut of meat. This program does penalise a carcass somewhat for having had an HGP implanted, though this does not mean that the carcass will be unable to grade as a high quality product and can often be offset by the ageing process.

In all, cattle implanted with an HGP gain more weight and more efficiently than those without an HGP implant. This allows producers to turn off cattle to markets faster and gain greater returns from increased liveweights. While Coles has suggested their ban is due to the effect of HGPs on eating quality, there are many options both before and after the abattoir, to ensure that the carcass remains tender. These range from transit times, not mixing cattle before slaughter, pH/temperature decline management, electric stimulation and ageing. The MSA program may also be used to ensure a certain degree of eating quality. It may be possible for beef producers to target a certain number of animals at the HGP free market, while implanting the rest of the herd due to Coles not restricting HGP use in other animals on the same property. While recent events have affected many producers, the real issue for the Australian beef industry is if consumers lose faith in the quality and safety of the meat they are purchasing.

***Kiri Broad***
*Beef Extension Officer, DEEDI*
*Far North and Western FutureBeef Team*
*Ph 0428 102 841*

# Gulf graziers managing for profit and sustainability

The Northern Gulf Resource Management Group (NGRMG) have hosted workshops in the region to assist graziers with managing their landscapes and thereby increasing the profitability of their businesses. Graziers learned a suite of new skills and tools to help increase productivity and improve management practices.

The three day RCS course to manage for economic viability and healthy landscapes is one such course, facilitated by Terry McCosker from Rural Consulting Services (RCS). RCS work with people to build their businesses and build profits while also regenerating soils and pastures, through farming and grazing practices which provide financially and environmentally productive results.

*Team brainstorming session at the 3 day RCS course in Croydon*

*Terry McCosker delivering the RCS course to graziers at Croydon*

The three day RCS course was held in Croydon in 2010. The program went very well and all who attended felt they had gained a lot from the three days both from a personal and a business viewpoint.

Some of the feedback from participants included 'Some great information about planning and decision making that will benefit the business' and 'The social side of it was great, talking to others and sharing experiences and ideas'

Another 30 graziers will be attending a similar course in Georgetown in March. People in the Northern Gulf region interested in attending similar events are encouraged to contact the NGRMG Office on 07 4062 1330.

***Erica Blumson***
*Grazing Lands Officer, NGRMG*
*Ph 0488 499 266*

# Resilience of the Gulf Plains

In January 2009 the Gulf of Carpentaria received unprecedented rain due to the influence of Tropical Cyclones Charlotte and Ellie and monsoonal rain throughout January and February resulting in flood waters which did not clear for up to eight weeks, causing devastation to cattle production pasture and the environment.

Graziers have had to contend with not only the initial losses and damage to stock, pasture, infrastructure and homes, but have since had to deal with additional problems including repair bills and loss of income.

Towards the end of 2009 graziers were again faced with stock losses due to the drought-like conditions created by the flood followed by virtually no rain for the remainder of the year. These conditions added further devastation to these land managers.

After the destruction of 2009 the Gulf Plains were fortunate to have a good wet season in 2010, with good growing weather throughout the year. This has given the vegetation the best opportunity to re-establish ground cover and with good management and further good seasons the country will be on the road to recovery.

Since the flood, Gulf Graziers came together with the assistance of the Northern Gulf Resource Management Group (NGRMG) to seek more assistance from Government and were finally allocated Exceptional Circumstances Assistance with the first payments coming through some 18 months after the flood, in late 2010.

The NGRMG has secured Australian Government Caring for Country funding for a one-off environmental recovery response to help bring the landscape of the Norman Catchment back to health after the 2009 floods. The grant will allow Northern Gulf to conduct monitoring of the recovery of vegetation and fauna. It will also assist graziers, affected by the floods to manage their properties and the environment for long term recovery and future resilience.

The One-off Environmental Recovery Grant will allow the NGRMG to assist Graziers to use good management practices to bring damaged landscapes to a better Land Condition. The NGRMG will be able to provide access to property planning, landscape monitoring and funding assistance for weed control and infrastructure development, such as electric fencing, to allow for increased opportunity to spell.

The NGRMG will also be able to monitor the vegetation and fauna to establish the rate of recovery and health of the landscape. Assessing the vegetation and fauna will give an indication of the biodiversity which is vital in monitoring the health of a system. In the first year after the flood it was found that the diversity or even presence of ground fauna was very low to zero.

*Members of the Northern Gulf Resource Management Group carrying out monitoring in the flood affected area*

The One-off Recovery Grant will also assist the gulf community in flood preparedness and building resilience allowing the community to better plan for these events in the future.

***Erica Blumson***
*Grazing Lands Officer*
*Northern Gulf Resource Management Group*
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# North West news

There has been a good start to the wet season across the North West with most having green grass for Christmas and the majority of the area receiving average to above average monthly rainfalls since. However a few dry spots south of the Flinders Highway between Cloncurry and McKinlay have had a slow start not receiving falls over an inch until cyclone Yasi came through in early February. At time of writing, bush hay was starting to be cut around Richmond and Julia Creek as the pasture began to turn. Many in this district are looking to the skies for more rain to put a bit of green back in their paddocks to carry them through the dry. Similarly, areas of the Southern Gulf near Burketown also had a sluggish January but have well and truly made up for it in recent weeks.

Information out of the Bureau of Meteorology is that the current La Niña event in the Pacific Ocean reached its peak in early January and will continue

to weaken through autumn with a return to neutral during winter. The chance that a La Niña pattern will reform after autumn is reduced.

With minimal wet weather road closures since Christmas, there has been a flourish of cattle moving west to the Northern Territory to snare strong prices for live export cattle out of Darwin. Approximately 5000 head crossed the border in January and February to help fill 14 boats headed predominantly for Indonesia. Prices received delivered to Darwin, included $2.15/kg lwt for steers and $2.00/kg lwt for heifers. In early March, the demand for NWQ cattle to fill the boats remained strong with $1.95/kg lwt offered delivered to Cloncurry.

Backward store animals from the territory have been heading east to finish on the Mitchell Grass Downs country. Other producers in the North West had delivery of fat cattle to Swifts abattoir in Townsville interrupted by cyclone Yasi. As a result, slaughter dates were delayed by at least a month and they have missed the higher opening price grids and suffered a delayed injection of cash into their businesses.

The Flinders Beef Challenge is looking to begin its 3rd challenge this year in the Hughenden area with participants building on what they have experienced and learnt from the previous two challenges. MSA grading and carcase feedback in the last challenge gave participants information on meeting carcase specifications. As a result of the success of the Flinders Beef Group Challenge, there are meetings being held in early March to gauge interest in expanding into the McKinlay and Richmond shires. Keep your ear out for the latest in coming months.

A three day Grazing Land Management (GLM) workshop will be held in Cloncurry in July of this year. The GLM workshop focuses on running a profitable grazing business in a tough climate and includes stocking rates, weed control, sown pastures, woodland thickening and future fencing/ water development plans. A poster size fencing, water and land type satellite map will be provided to all producers to help plan future development of the property. Please contact Rebecca Matthews in the Cloncurry office if you are interested in attending.

On the research front, CSIRO are currently working on a single shot, slow release vaccine to sterilise heifers. If successful, it is hoped to be a cost effective alternative to intrusive surgical spaying of heifers. Dr Michael Holland is leading the research team and welcomes feedback from producers. He can be contacted on 0407 960 782 or at Michael.Holland@csiro.au.

The start of the busy social season in the North West is just around the corner and I hope to catch up with many of you around the traps. Until then, stay safe.

***Rebecca Matthews***
*Western FutureBeef Team, DEEDI, Cloncurry*
*Ph 07 4742 1311 or 0417 726 703*

# Young Producers Beef Forum

Northern Gulf Resource Management Group where fortunate to be able to have a representative attend the Young Producers Beef Forum at Cloncurry in late 2010.

It resembled a 'contiki' tour with a crowd of 200 18 to 35 year olds together, all with one common interest – the will to succeed in the beef industry. MLA and supporters put on the event titled Next Generation Beef-Up forum that inspired the young crowd.

Graziers, veterinarians, pilots and the like all came together to gather information and tools to succeed and be empowered by speakers.

Speakers included Ian Braithwaite, one of the well known vets in the north talking about strategies and skills needed to get more from less. Phil Holmes spoke about gaining financial independence how to get there and why you won't make it on wages alone. It is always very comforting to hear from someone who has 'been there, done that'. Rick Greenup from Eidsvold station spoke on his own personal journey to success.

There was talk on exports and opportunities in the emerging markets and a big issue of food security. The young attendees all came away with a positive and exciting outlook for the Northern beef industry.

Not only did the future beef producers learn better practices and management they were able to make contacts with speakers and other participants. The social aspect of the day was just as beneficial as the learning.

***Taryn Seccombe***
*Grazing Lands Assistant, NGRMG*
*Ph 07 4745 3484*

# Big wet, big feed, lower dry season feed quality

The big wet has increased the probability that dry season feed will be tall and rank and of lower feed value. Where pastures are mainly native grasses, cattle performance this coming dry season may be very ordinary and even quite low.

In big rain years, grasses grow big. They produce large bulk which is diluted in nutrients. There is only a given quantity of nutrients in soil for grass growth in any season. When grass keeps growing, these nutrients are diluted in a bigger bulk of grass. In big wet years, grass pastures mature and go to seed much earlier in the season. When the grass goes to seed, pasture feed quality declines. This leads to a protein drought.

Both growing cattle and breeders with calves at foot may receive a setback from feed maturing earlier.

## *Overcoming the protein drought*

Cattle on a good legume-grass pasture will have been getting enough protein for longer into the dry season. In the longer term, legume-grass pasture is a very cost effective way of utilizing a large body of grass.

The next most cost effective method of utilizing the huge body of grass is by the use of supplements. Urea based supplements will reduce lightweight loss on pastures declining in protein quality - for breeders and older growing cattle.

Later in the dry season, some classes will require a protein plus energy supplement.

Urea based supplements (urea dry licks and blocks) for young growing cattle are mostly not economic. Years of trial work comparing urea and a nil supplement have shown that:

- a liveweight advantage is seen during the dry season for young cattle supplemented with urea
- this advantage is lost over the following wet season (called compensatory growth)

The moral of the story is weaners need a better supplement than dry licks, for example a protein plus energy supplement.

## *Good news*

The good news is this situation can be planned and prepared for. Options for management include the following:

- Have you attended a Nutrition Edge workshop? If interested in doing one, some contacts are at the end of this article. Doing this workshop will give an understanding of nutrition and how it applies to a beef business.
- Use dung sampling for protein content (called NIRS sampling – Near Infrared Reflectance Spectroscopy). For sample kits, contact www.symbioalliance.com.au or Phone 07 3340 5700. Regular NIRS sampling can indicate when a response to urea supplements will occur.
- Keep weaning strategies in place – wean sooner rather than later
- Look after weaners this year – consider a protein plus energy supplement
- Molasses. If molasses supplements are part of your strategy, ensure molasses supplies are all contracted and available.
- Protein meals. If protein meals are part of your strategy, ensure supplies are available and booked up – earlier contracting of supplies results in lower prices paid
- Custom mixes and blocks. Ensure these are available and ordered in advance.

Contacts to book in for Nutrition Edge

Felicity Hamlyn – Hill, Charters Towers 4761 5151
Bernie English, Kairi Research Station 4091 9440

This is likely to be a big year for urea tonnages fed to cattle. Plan an effective strategy for each class of stock.

***Alan Laing***
*Senior Extension Officer (Beef), DEEDI, Ayr*
*Ph 07 4720 5115*

## *Date claimer*

Tuesday 20 September 2011
Swans Lagoon Beef Cattle Research Station, Millaroo

**Field day: 'Swans Lagoon – Golden Years of Beef Research'**

Highlighting application of 50 years of research to beef production, including current projects.

This is the grand finale for Swans Lagoon, and a chance for the beef industry and community to celebrate Swans Lagoon achievements.

Don't miss the opportunity to meet and discuss your needs with a broad spectrum of north Australia's research and advisory sector.

# Wet Season Phosphorus Supplementation

***Why feed Phosphorus?***

Many areas of Northern Australia are phosphorus deficient and the consequential effect is phosphorus deficiency of cattle grazing these pastures. Phosphorus is found in all animal tissue and fluid, where it is required to convert feed into energy, and is crucial for skeletal growth, developing foetus' and milk production.

A number of trials over many years have proven the importance of phosphorus to animal production by showing that inadequate phosphorus reduces growth and fertility and increases breeder deaths. Consequently, several studies across Northern Australia where phosphorus supplements were fed to phosphorus deficient cattle during the wet season showed production increases in, live weight gains by up to 70 kilograms, calving/weaning rates by 15 – 20 per cent and weaning weights by 10 – 20 per cent, and a decrease in breeder deaths. Furthermore, phosphorus deficient cattle have a depraved appetite which leads to bone chewing, predisposing the herd to costly Botulism outbreaks.

***Why the need to supplement during the wet season?***

An animal's phosphorus requirements are related to the animal's intake of protein and energy. Wet season pastures provide high levels of energy and protein allowing for high growth and production. To achieve this level of high growth and production the higher levels of energy and protein need to be matched with higher intakes of phosphorus. Compared to slow growth in the dry season due to lower energy and protein levels, phosphorus demands are low. This is why the largest animal responses and greatest cost effectiveness for phosphorus supplements are during the wet season and hence, the necessity of phosphorus supplements in phosphorus deficient areas during the wet season.

***Wet Season Phosphorus Supplement Economics***

Economic returns of feeding phosphorus supplements during the wet season are strongly supported by extensive research and beef producer experience across Northern Australia. Even in 2008 when phosphorus prices were at their highest (with MDCP/Kynofos peaking over $2000/tonne), an economic analysis on wet season phosphorus supplementation showed that there was still a 3 to 8 times return for money spent on supplement. With phosphorus costs back to approximately $800 - $850/tonne you can expect much greater returns on your investment in wet season supplementation.

For example a Stocklick Trading wet season phosphorus supplement containing approximately 10 per cent actual phosphorus costs approximately $740/tonne ex manufacturer (Phosphorus Blocks with 5 per cent actual phosphorus approximately $1100/tonne), and cattle are required to consume around 80 grams per head per day, which costs around 6 cents per head per day or $7 - $9 per animal for 4 to 5 month wet season.

In steers, up to a 70kg weight bonus will result from an approximate $10 investment in wet season phosphorus supplementation, and an even bigger bang for your buck with breeders in terms of live weight gain, conceptions and calving/weaning rates, all accumulating over time.

***Stocklick Trading's Wet Season Supplements***

Stocklick Trading manufacture quality custom blended loose mixes tailored to your individual needs. This is important to ensure your herd is receiving the correct amount of phosphorus, as too often wet season supplements are put out but the cattle don't consume enough to meet their phosphorus requirements. We recommend around 8 grams of Phosphorus per head per day (range 5 – 10grams/head/day). With the cost of supplementation it is critical to get these daily intakes correct to ensure maximum cost effectiveness. This is Stocklick Trading's advantage with custom blended mixes.

**Speak to one of Stocklick Trading's Sales Representatives to discuss a customised wet season supplement suitable for your needs and management program.**