



Northern muster

Information for rural business in north Queensland

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

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Issue 23 December 2009

editorial

Welcome to the 2009 Christmas edition of the *Northern muster*. With predictions of an El Niño event for this summer, careful consideration needs to be given to plans for supplementary feeding.

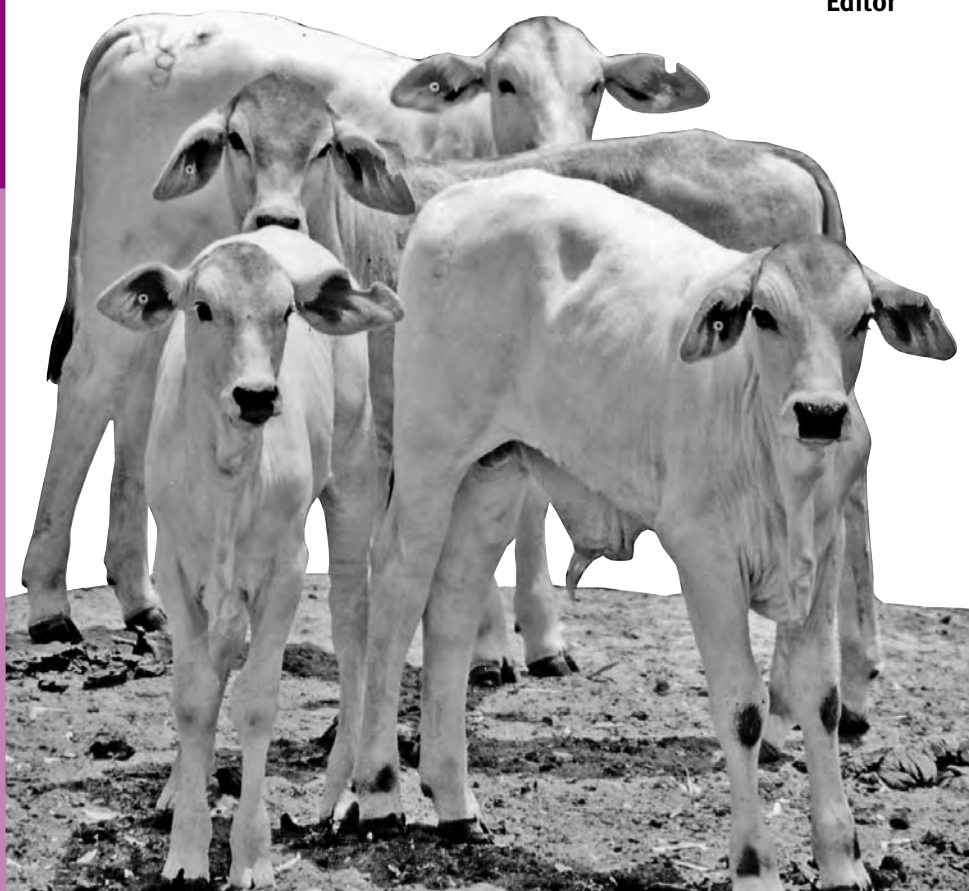
This issue includes the Dalrymple diary, market report, feeding phosphorous, sulphur in supplements, tail rot, linking cattle numbers to grass supply, recent activities of the FutureBeef team and tick fever researchers, and more.

We take this opportunity to thank all our advertisers, contributors and production team for their support, and wish all our readers an enjoyable festive season and a profitable and sustainable 2010.

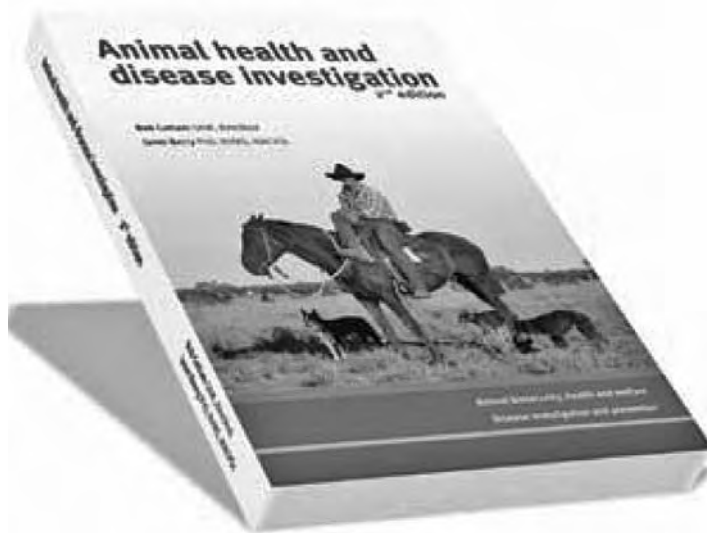
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Alan Laing
Editor



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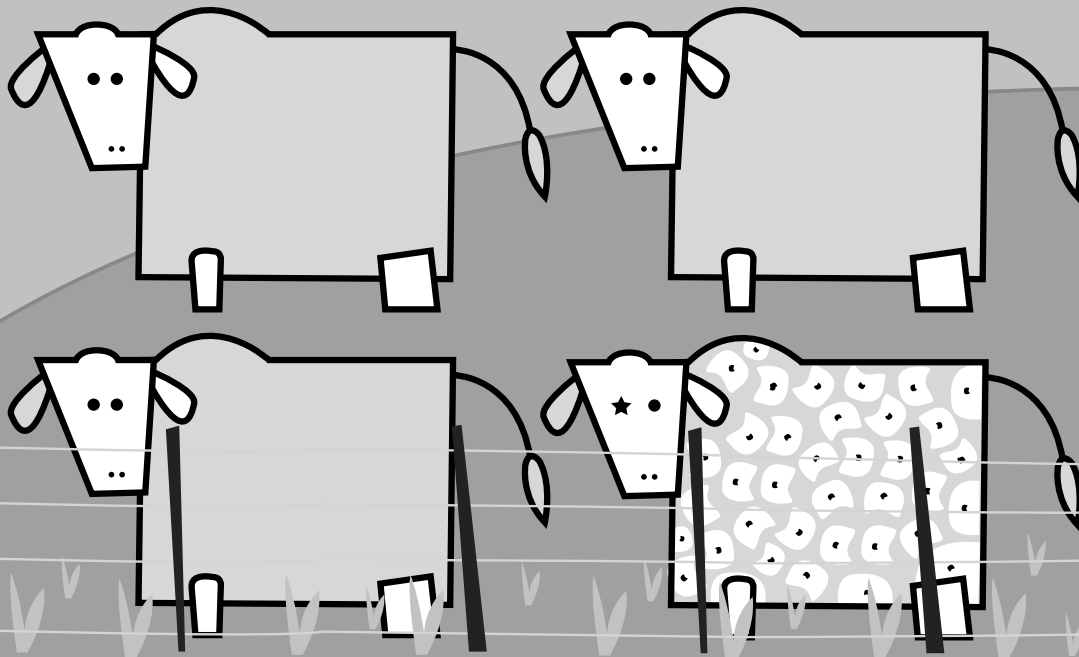
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Link cattle numbers to grass supply

As we get into the tough end of the year with the wet season somewhere ahead of us, some producers have plenty of dry grass and some have very little or none.

Every year the scene seems to be the same – some properties are always short of grass and others have plenty.

Some basic facts:

- Cattle need a feed of grass every day, not too far from water, if they going to be productive. An average sized cow will need around 10 kg of dry matter per day in the wet season and 6 kg in the dry season.
- Cattle with little or no grass to eat during the dry season will reward poor management skills with low productivity and even death.
- The *Wambiana* grazing trial south of Charters Towers has been running for 12 years comparing heavy (1:4 ha) and light stocking rates (1:8 ha) and their impact on land condition and profitability. The trial has clearly shown that lightly stocked country produces more profit. When the profit per hectare is expanded to an average sized property, the low stocking rate treatment is around \$1M in front of the high stocking rate over the trial period. During that time there has been 7 years of below average rainfall and 5 years of above average rain.
- If you have less than 50% ground cover at the first good rainfall event to break the dry season, much of the water will run straight off, taking considerable amounts of topsoil and nutrients with it rather than soaking in where it's needed.
- North and north-west Queensland has a highly variable wet season (December to March) in how much rain falls, and its distribution. Historical rainfall records for the majority of north and north-western Queensland show that we can't rely on the season breaking until around Christmas time.
- If overgrazing is a common occurrence on your property you will have seen the good productive grasses disappear and lower productivity from your cattle. There will be more bare ground and increases in poorer quality grasses (like

wiregrasses) or weeds, and timber thickening will be commonplace. These are all characteristics of poor land condition.

As a land and cattle manager/owner, how is your patch of country looking at the moment? Bare ground and/or poor land condition is a reflection of the management of your resource – like a report card.

The FNQ Beef Team travel extensively across all districts and could easily fill out a 'report card' by sigh while driving along regional roads. How do property owners travelling around their own place daily not see what is happening and what they are putting their cattle through – extended periods of low grass supply or cattle starvation.

We have to match cattle numbers with grass supply.

No matter what the excuse, one thing is for sure - **starving cattle produce low returns.**

Fewer cattle mean more grass, better condition cattle, more calves, higher weight gains and lower supplement and husbandry costs. Therefore, more profit. It's a lot less stressful too.

There is an increasing community awareness of environmental issues and the Queensland government has introduced regulations for graziers in the wet tropics, the Burdekin and Mackay/Whitsundays to reduce sediment moving into the Great Barrier Reef. We already know that land condition is closely tied to leasehold renewal. Producers who continue to overgraze their country are giving the beef industry a bad name, and it will no doubt lead to more regulation over the entire industry. It's time for land managers to take control of the situation.

This photo (Oct 2009) along with district rainfall for the last 12 months show that, clearly, drought is NOT responsible for this outcome.

Bernie English, Joe Rolfe, Kev Shaw, Rebecca Matthews (Kairi, Cloncurry)



Nov 08	Dec 08	Jan 09	Feb 09	Mar 09	Apr 09	May 09	Jun 09	Jul 09	Aug 09	Sep 09	Oct 09	Mean
236	77	725	434	25	19	0	0	0	0	0	0.4	818

Give cattle tick the flick

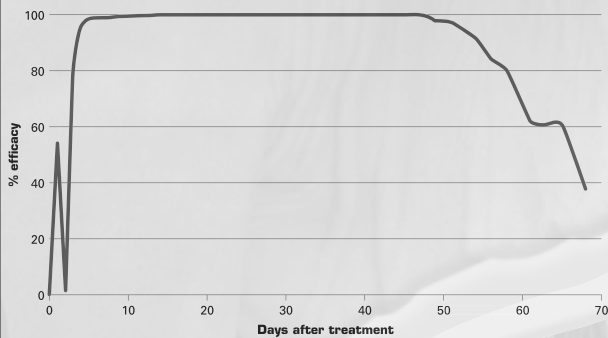
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1. The Cattle Parasite Atlas. Meat & Livestock Australia, Sydney, 2005.

2. Fort Dodge data on file: GASD 08-17.00.

* Persistence claims: Barber's pole worm, nodule worm and lungworm 120 days; small brown stomach worm 112 days; black scour worm 72 days; small intestinal worm 21 days; cattle tick 28 days.

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Weed control spray units ready for use

The Dalrymple Landcare Committees would like to remind landholders of the four QuikSpray weed control units located around the Charters Towers Regional Council.

Currently the DLC has 2x800L and 2x400L units available for hire at a rate of \$4/hour located in several hot spots around the region.

- 400 L and 800 L unit at *Kirkton Station*
- 400 L unit in Charters Towers
- 800 L unit at *Caerphilly*

All of the units have recently been serviced and checked in preparation for the 2010 wet season. Last year, the units racked up several hundred hours of use with landholders utilising the units in the control of bellyache bush, rubbervine, parthenium and parkinsonia. The units located at *Kirkton* and *Caerphilly* all feature boomless T-Jet spray systems that cover approximate 5m either side of a vehicle, ideal for covering larger areas in open going such as roads or fence lines. All units also feature single or twin 100m spray hoses with specialised and adjustable spray nozzles for spot spraying.

All units are capable of using water based herbicides, and producers are encouraged to try a unit for their weed control during 2009. For further details or to book the units, please contact John Nicholas on ph: (07) 4761 5170.

Water quality project moving ahead during late 2009

The DLC's project – *Piloting Adoption of Grazing Best Practices for Improving Water Quality in the Burdekin Rangelands* has made up considerable ground in the later half of 2009. To date, a total of nine properties have committed to the project and are trialling the uptake of a number of recommended management practices through a facilitated planning process.

Spread across the Charters Towers region, each of the 9 properties will look at improving water quality via improved land condition, and in particular ground cover, in riparian areas over the next two to three years. Each property has taken on a range of different management methods and on ground works to achieve this improvement in water quality, such as fencing off riparian areas and incorporating spelling of the frontage areas in coming years.

Inclusive in the project are gully remediation works, fencing off frontage to larger systems like the Burdekin River, fencing off springs and lakes on the basalt and fencing off flood plains on braided river systems similar to the Cape and Campaspe Rivers.

Dry season monitoring carried out during November 2009 will form the first in a series of land condition monitoring values taken across the life of the project.

All sites for the project are remaining a part of the ongoing management of the property and are expected to continue to be grazed, ensuring the project remains focused on achievable and practical advice for water quality improvement.

The results of both on ground change as well the experience of the land owners in the project will be documented and developed into a number of case studies at the completion of the project. Such case studies will be designed to help producers consider what management actions they may be able to take to improve water quality at the individual enterprise level.

This project is supported by funding from the Australian Government's Caring for our Country and NQ Dry Tropics NRM.

DLC Online on the way...

During early 2010, the DLC will be taking steps to develop a website for use by the DLC executive, members, and the general public. While the DLC has a good outline of what the website should and could be used for, your ideas and thoughts will help to make the DLC website a more useful and practical site. If you have a suggestion for what could be included in the website the DLC executive would like to hear about it. Please contact John Nicholas to raise any suggestions for the upcoming website.

Composed by

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The next DLC General Meeting and AGM is proposed for the 5 December 2009.

There's Fast

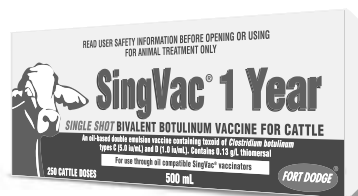


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FutureBeef – helping you grow a more successful beef business

Over the past year, Queensland Government FutureBeef staff have been working with hundreds of beef producers to integrate on-farm solutions aimed at improving the business's bottom line.

'FutureBeef' coordinates the activities and services delivered to the Queensland beef industry by some 40 beef extension officers across the state. Our work focuses on helping beef enterprises take up new and existing technologies and best management practices for productivity, sustainability and business management improvements. The FutureBeef team delivers most of its services through workshops, courses, seminars, facilitated groups, consultancies and on-property demonstrations. Our technical expertise combined with producer know-how has produced meaningful partnerships that are making an impact on-ground where it counts.

Our producer partnerships

As an example, our Far North extension team has worked closely with the Blennerhassett family who won this year's Rabobank Beef Producer of the Year at the 2009 Red Meat Awards. The Blennerhassett business, operating as Bingle Bay Beef, has been supported with technical and supply chain input from our team, resulting positively on Bingil Bay's success. This is the second time that one of this team's producer clients has been awarded this industry honour.

Did you know we also work collaboratively with organisations such as Meat and Livestock Australia and Natural Resource Management Groups such as Fitzroy Basin Association and the Northern Gulf Resource Management Group to expand the research, development and extension investment into the Queensland beef industry? These alliances mean we are able to work with more producer groups in key areas such as production improvements, business and resource management.

To demonstrate the impact of one of our workshops, in just 12 months, more than two hundred producers from across Queensland and the Northern Territory, covering a massive 2.6 million hectares, stocked with more than half a million cattle, have worked with our FutureBeef team in 'Stocktake' workshops. These workshops

are aimed at helping producers improve the condition of their land. Feedback from workshop participants have rated the program 4.6 out of 5. Stocktake is also FarmReady training approved which reduces the cost for participants.

What we've been up to

In recent months we were involved in Beef 2009 in Rockhampton, Beef Beef Up Forums at Quilpie and Cunnamulla, the Agforce Conference in Brisbane, the Roma Meat Profit Day, and coming up, the Roma Young Producers Forum. Our team members also support the six producer-driven Regional Beef Research Committees (RBRCs) across the state, the North Australia Beef Research Council (NABRC) and provide input into policy issues such as livestock transport, climate variability and drought preparedness, biosecurity, animal welfare and high environmental risk management. We are also there to support producers during disaster events such as the flooding in the north earlier this year, and most recently, the fires around the central coast.

We are also supporting young people interested in working in agriculture by delivering courses for the Australian Agricultural College Corporation campuses in Longreach and Dalby.

What we deliver – now and into the future

We provide training on all aspects of beef business management including resource management, nutrition and breeding. We are currently working with MLA to develop a new business management workshop that will be launched next year. Workshops such as Grazing Land Management (GLM) and StockTake EDGE Network, Nutrition EDGE, Breeding EDGE, and Testing Management Options are now FARMREADY accredited. For more information on our courses, please visit our website www.deedi.qld.gov.au (Primary Industries and Fisheries).

In the next 12 months, we will also start 7 new producer demonstration sites across the state with support from MLA. These sites allow producers who have a common issue to come together on their properties to develop practical solutions. It also provides an opportunity to identify existing and new technologies and best management practices to be demonstrated.

We are also exploring how to use modern technology (e-technology to some) to complement our extension activities and make our information and staff more easily accessible to all producers. This is being done through web conferencing, e-books and blogs. It is important that what we do in this area meets your needs so we are

looking for producer input into how we do it. If you would like to be on the e-technology Industry Advisory Committee, then please email elysa.riedel@deedi.qld.gov.au. The committee will require a commitment to email discussion and frank feedback as to whether you believe the e-technology paths we are taking are right for your business and your area.

The FutureBeef team also works hard keeping Queensland beef producers informed of our project outcomes and the practical application of research technologies and best management practices. You'll often see this work profiled in your local paper or radio, department newsletters like *Beeftalk* and *Northern muster*, collaborator magazines such as MLA's *Frontier Magazine* and NRM group newsletters, and displays at local producer field days. You can also visit our website to see what workshops are on offer and what work we are currently doing.

As you can see, we've had a busy year. We look forward to working with you in future to improve your beef business.

Krista Cavallaro

A/FutureBeef Manager

Email your FutureBeef enquiries to:
Krista.cavallaro@deedi.qld.gov.au



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Mike Steel Ralph Lawson Stephen Allan

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Note the following intake observations were conducted prior to knowing about contaminants in cement powder and the possible risk of using cement powder in stock feeds.

Phosphorus intake observations – 2008/2009 wet season

Why feed phosphorus

It has been proven over many years that inadequate phosphorus reduces growth and branding rates and increases breeder deaths. Animals receiving adequate amounts of phosphorus per day eat more grass so weight gain and milk production increases (see northern Australia trial results below).

Liveweight gain/ year	Soil phosphorus		
	2 ppm (acute)	4 ppm (deficient)	8 ppm (marginal)
No supplement (kg)	22	101	156
Plus supplement (kg)	90	154	171
Liveweight advantage (kg)	72	53	15

Branding rates	Soil phosphorus	
	2 ppm (acute)	8 ppm (marginal)
No phosphorus supplement to breeders	50%	65%
Breeders with phosphorus supplement over 3-5 years	65%	70%

What we did

Several wet season phosphorus mixes were trialled and producers were asked to observe intakes during the last wet season. This work was conducted in response to variable intakes the wet on most properties. Where intakes were adequate the cost/breeder last wet season was around \$18/head. Forecast cost this wet season will be \$8-10/breeder. The following table indicates the various mixes trialled last wet season and approximate intakes.

Phosphorus intakes – measure and fiddle

Irrespective of whether you decide to use a block or loose lick, intake is the major issue. In your note book record cattle numbers in a paddock, weight of lick put out and when lick runs out. Wet and dry season supplementation is a huge expense for all extensive beef producers. If intakes of phosphorus are too low contact your lick supplier to adjust the brew. No one product will be right in all situations – you need to monitor intakes, make adjustments or even change products where necessary. When getting quotes it is very important to consider the percentage of phosphorus in the lick as well as cost per tonne. Phosphorus percentages in a supplement will impact on required intakes/head, costs/head, freight costs and workload in humping bags or blocks. Do your sums!

Property location	Wet season mix		Results/observations
Croydon	Straight Kynophos		Fed in open troughs – no roof Intakes good – property owner unable to approximate gm/hd/day
Lakeland	DCP	70%	Fed in half tonne bags – no lick sheds
	Salt	25%	Molasses used to settle dust in factory
	Cement powder	4%	Intakes excellent – approximately 70gm/hd/day
	Molasses	1%	
Coen	MDCP	70%	Fed in half tonne bags – no lick sheds
	Salt	26%	Intakes excellent – approximately 70gm/hd/day
	Cement powder	4%	
Musgrave	MDCP	70%	Fed in half tonne bags – no lick sheds
	Salt	26%	Monitoring of intakes difficult due to wet season access but property owner happy with intakes
	Cement powder	4%	Lick did not set hard and became pasty by mid to late wet.
Musgrave 2	MDCP	70%	Fed in half tonne bags – no lick sheds
	Salt	26%	Target intakes achieved in early wet
	Cement powder	4%	Intakes greatly reduced after 250 mm of rain
Mt Carbine	MDCP	70%	Molasses used to settle dust in factory
	Salt	26%	Fed in half tonne bags – no lick sheds
	Cement powder	4%	Producer unable to estimate cattle numbers on lick but all supplement was consumed
Watson River	DCP	53%	Fed as a loose mix in covered troughs
	Lime	5.5%	Target intakes - 85 grams/hd/day – <i>across the whole herd</i>
	Salt	24%	Actual intakes 50 grams/hd/day – across the whole herd for 150 days
	Sulphur	5%	Shipping containers are located on lick runs to allow distribution during the wet
	Gran Am	10%	
	Molasses	2%	
	Dry lick premix	0.5%	
Kidston	Kynophos	50%	Fed in open half tonne bags containing 300 kg
	Urea	8%	Intakes around 100 gm/hd/day
	Gran Am	5%	This mix has been used for several years with very good results
	Lime	10%	There has been no problem with urea poisoning
	Salt	22%	The amount and distribution of cement powder in the bags was extremely variable. Some bags that appeared to have very little cement powder still performed well and intakes were good*
	Cement	5%	
			Kynophos is the most palatable form of phosphorus**

*See cement powder information below.

** Many producers observe that Kynophos is more palatable than other forms of phosphorus such as MDCP.

Do I need to feed phosphorus?

If you keep simple records of your branding rates, deaths rates and typical annual liveweight gains you will be able to measure the cost/benefit of introducing a wet season phosphorus program. On most properties it is very difficult to get a handle on soil phosphorus levels across large breeder paddocks. In the table (right) we have split the northern grazing country into three fertility categories and have included the amount of phosphorus (grams/day) needed across the whole herd, excluding calves at foot.

Country or soil type	Soil phosphorus	Phosphorus requirement /head/day (grams) across whole herd
Basalt, river frontage and goldfields soils	Adequate	None – economic responses marginal if anything
Everything else including Georgetown granites, red earths, yellow earths	Marginal	7 grams
Deep sands including sandy forest, sand ridge	Acutely Deficient	10 grams


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Cement powder in supplements

Some northern producers are using up to 5% cement powder to make wet season supplements, particularly tonne and half tonne open bags, more weatherproof. Information has recently come to hand that Ground Furnace Blast is a hazardous ingredient used in the cement manufacturing process. The exact inclusion rate of Ground Furnace Blast in cement is yet to be accurately verified so until this information is available it would be wise to avoid using cement powder in your supplement. Contact your supplement supplier or the FNQ Beef Team for up to date information on the use of cement powder or other hardening agents in stock feeds.

Acknowledgements

This wet season phosphorus intake work would not have been possible without the generous support of Stocklick and Top Stock.

Joe Rolfe
 FNQ Beef Team, Kairi
 Ph 07 4091 9400

Steve Flett
 Stocklick Trading
 Ph 0429 970 081



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RUMEVITE - phosphorus supplementation solutions

During the dry season supplementation is largely about maintaining stock condition but the wet season is when they are consuming more pasture and have the highest potential for growth. Most importantly, using supplements during the wet season allows you to maximise growth and profit.

Phosphorus supplementation - a worthy investment

- Phosphorus deficiency affects reproduction and weight gain in northern beef cattle herds.
- The best response to phosphorus supplementation is during the wet season **not** when grass has dried out and hayed off.

Why use blocks to supplement phosphorus?

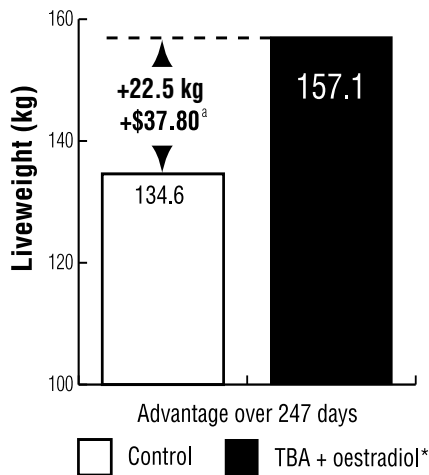
- Highly suited to limited access areas during the wet season
- Weather resistant and does not require covered troughs
- Result is less wastage compared to loose lick



RUMEVITE MAXI-BEEF BLOCK	RUMEVITE MAXI-BREED BLOCK	RUMEVITE REVOLVER BLOCK
<ul style="list-style-type: none"> • High phosphorus content (8%) • 10% Urea • Very hard - suited to extreme weather conditions 	<ul style="list-style-type: none"> • 5% phosphorus • 10% Urea • High molasses - very palatable • Also suitable for coastal country • Weather resistant 	<ul style="list-style-type: none"> • 4% phosphorus block • 15% Urea • Weather resistant

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Compudose-G at a glance

- Ideal for finishing grassfed cattle
- Functional life of 90–100 days
- Two active ingredients
- Superior short-term liveweight gain advantage
- Should only be used under good nutritional conditions
- Weight gain benefits can be lost if cattle are not re-implanted
- Implant 100 days before anticipated turn-off, or ideally, as the terminal implant as part of a whole-of-life strategy

What's the difference between Compudose-G and Compudose 400

Compudose-G is a short-acting implant which has a functional life of less than 100 days. While it delivers superior short-term liveweight gain advantages, these benefits can be lost if cattle are not re-implanted. As such, Compudose-G should be implanted 100 days before anticipated turn-off, or ideally, as the terminal implant as part of a whole-of-life strategy.

Compudose 400 is a long-acting implant whose liveweight gain advantages are maintained even after the pay-out period expires. It is the only implant which maximises growth rates in beef cattle for 400 days, making it the best choice when sustained growth is required. It is ideally implanted at branding as part of a whole-of-life program.

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¹BF1433 NAPCO "Coorabulka" trial, first round steers, first period only. Trial data based on revalor[†]-G. *Compudose-G and revalor-G contain 60 mg trenbolone acetate (TBA) and 12 mg oestradiol-17β.
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Market report – November 2009

The rapid rise in the value of the Australian dollar and the poor demand for beef from our overseas customers has seen a rapid decline in cattle prices. Abattoirs have reduced operating days as the low prices have reduced the supply of suitable cattle being sold. An early break in the wet season would be a relief to northern producers, but SOI and computer models give us a poor chance of the monsoon arrival before January or later.

Australia seems to have weathered the world wide economic woes reasonably well but our major beef customers, Japan, USA and Korea are still struggling with their economies stagnant. The forecast for their economies is slightly better in 2010 and hopefully this will be reflected in increased beef purchases. MLA analysts are telling us that global beef demand/supply balance should tighten into 2010 with hopefully better demand and prices. Interestingly Australia's beef and veal exports exceed A\$5 billion for the first time in 2008–2009 fiscal year. The previous record of A\$4.9 billion was in 2006–2007. The record value of exports was for 967,729 tonnes beef exported. Japan A\$2.1 billion, 362,629 tonnes, USA A\$1.2 billion, 281,971 tonnes and Korea A\$596 million, 113,011 tonnes. South-east Asia is a growing market for boxed beef and this area took a total of 109,654 tonnes with Indonesia's share 35%, Taiwan 28% and Philippines 13%.

Greg Brown accompanied Australian processor representatives and David Palmer from MLA to Cologne in Germany for the world's biggest food expo. The general feeling from meat industry representatives from around the globe is very positive for beef sales into next year and beyond.

JBS Brazil, Swift Australia's parent company, has 65 abattoirs around the world with a processing capacity of 73,900 cattle and 48,500 pigs per day. It is now looking to purchase a large integrated chicken enterprise in the USA 'Pilgrims Pride'.

Australia

The difficult market conditions have impacted particularly hard on the feedlot sector but cattle on feed remained over 700,000 head as of September with cheaper grain and feeder cattle

prices helping slightly, MLA reports grain fed beef exports rose slightly in Japan but declined 5% into Korea. Queensland has over 400,000 on feed with reasonable markets into our domestic trade.

Australian food service outlets have reported a 7% lift in Australian meat consumption which supports the positive outlook for our domestic economy.

The poor export demand and reducing supply of suitable cattle will put pressure on our Townsville export abattoir to close for the year.

Queensland top saleyard figures 2008-2009

	Prime	Store	Total
Roma	88540	318878	407418
Dalby	101900	111572	213472
Cloncurry	0	188443	188443
Gracemere	13367	120302	133669
Blackall	32207	80662	112869

Australian beef and veal production for 2008–2009 was down slightly from the previous year at 2.148 million tonnes and 4% below the record 2.23 million tonnes produced in 2006–2007.

Live export

Indonesia has been our stand out customer over the last financial year with 704,000 head imported to June 2009, 79% of our total live exports. This is an increase from 547,000 head in the previous 12 month fiscal year. The word from Indonesia is that growing consumer demand has seen their feeding capacity expand and go above 200,000 head.

With over 230 million people Indonesia is our best live export customer, but their rupiah has also strengthened against the USA dollar keeping Australian cattle at competitive prices. This could quickly change and put other countries live export cattle into a competitive position.

In August, Brazil got an agreement from Indonesia to allow imports of frozen boneless beef from foot and mouth disease free areas of that country.

A large live export shipment (15,000 head) is due to leave Townsville at the end of November. Prices quoted were \$1.55 kg delivered at Charters Towers No. 8 and 9 feeder steers 280–350kg live weight. The full load was quickly booked out some time ago. A small boat load, 1600–1800 head is due out of Innisfail in early December.

Japan

The Japanese Democratic Party has won government for the first time in over 50 years. It has close ties to the rural voters which could delay the relaxation of import laws on USA beef, restricting imports to animals 20 months old or younger.

In 2003, before BSE in the USA, they exported 376,000 tonnes of beef to Japan and in 2008, 74,000 tonnes—a serious reduction.

The new government could also slow down talks on a free trade agreement with Australia.

As mentioned at the beginning of this article, beef trading conditions are very difficult at present with the high Australian \$ and the lacklustre Japanese economy. Australia is still the major supplier as demonstrated by the total July imports of 49,652 tonnes (our share was 35,067 tonnes and the USA 9681 tonnes).

Japan has remained our best market for offal, with total Australian offal exports for 2008–2009 at 120,119 tonnes, valued \$553 million. Japan's share was \$207 million or 37%. Other important offal customers were Hong Kong with imports valued at \$59 million, Korea with \$54 million, Russia \$22.5 million, Indonesia \$30 million and South Africa \$18 million.

Korea

Consumers in Korea are being offered more beef products that can be traced back through the supply chain.

This system has been available for domestic 'Hanwoo' beef for some time. Imported beef including Australian product will also be traceable. Information supplied will include property of origin, processor, date slaughter and expiry date.

South America

The Argentinean government has eased export restrictions on beef for the rest of 2009. This resulted from an over supply of beef on their domestic market. Total slaughter forecasts for this year are approximately 15.2 million head. Grain fed cattle account for 42% of these numbers. The high slaughter rates are a combination of drought conditions, poor industry future prospects and a surge of lot fed fat cattle onto the market.

The Brazilian herd is estimated at 173 million head, 2% up on last years number. Their total beef production for 2008–2009 is 6.4 million tonnes.

Both Argentina and Uruguayan herds are expected to decline because of drought. Uruguayan beef exports in 2008–2009 fell 6% to 242,620 tonnes.

United States of America

The weak US dollar plus their poor economic conditions and rising unemployment has seen the value of our Australian dollar rise rapidly making our product more expensive to buy but our competitors are in the same boat with the Brazilian real also jumping in value as has the New Zealand dollar. So our beef exporting competitors are also feeling the impact of stronger currencies.

Beef analysts in the USA expect tighter US domestic supply in 2010 with a small rise in beef prices. The US cattle herd continues to decline and at 1 July 2007 was 101.8 million head, the lowest figure since records commenced in 1973.

Bernie English
QPIF Kairi

Greg Brown
Meadowbank

Merry
Christmas

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The final tail

Thanks to the great response from the *Northern muster* reading audience we'd like to offer some 'closure' to an issue commonly discussed around the bar or campdraft arena.

Tail rot is a common occurrence in north Australian cattle herds. A common perception is that tail rot is a progressive infectious disease that ascends the tail, and if not treated will lead to death of the animal. There are reliable reports of this occurring, but it appears this may be only one form of the condition.

Tail rot should not be confused with other causes of short tails. Some cattle are born with 'wry' tails, a deformity which presents as a short, narrow bent tail. In addition, it is not uncommon for cattle to pull the switch off their tail when caught in a tree or fence, particularly where external parasites such as buffalo fly annoy cattle.

What causes tail rot?

In recent years, ad hoc investigations have concluded that the most likely cause of tail rot is a dislocation, break or other trauma of the tail which, in turn, causes disruption of blood and/or nerve supply to the remainder of the tail below the injury.

Investigation of freshly amputated tails with the condition have found clots in the main blood vessels of the tail, most likely due to the animal continuing to use their injured tail to switch at flies etc. The extra damage caused by this continued use results in bleeding and the forming of large clots. The problems begin when these blood clots either partially, or completely, restrict blood and or nerve supply to the remainder of the tail.

Anecdotal reports are that tail rot is most prevalent in forest country, during wet seasons in north Australia, and in animals over one year of age. Tail rot appears to have low prevalence in treeless



Figure 1. Dry gangrene form of tail rot in a NQ Brahman cow during the healing phase and after healing

areas, even when biting midge or buffalo fly burdens are high. This is consistent with biting insect infestations that result in tails hitting hard objects or being damaged after pulling tails caught in trees or other objects. Many cattlemen have seen cattle caught by the tail, which adds weight to this theory. The injury may occur at any point in the tail, even right at its base. This is consistent with injuries where animals back into hard objects, such as a slatted square-steel gate in a yard or race (Figure 2), or when a tail is accidentally injured during other handling. Vets have reported seeing a high prevalence following tail bleeding done with scalpels (up to about the mid-1980s) or poor technique.

The theory that tail rot is due to specific bacteria infecting the tail, either during specific environmental conditions, or following some form of trauma has never been proven, as no bacteria that could cause this has been found on samples provided.

Therefore, infections seen are most likely the result of trauma-induced injuries.

What happens in tail rot?

If the above is correct, then when the primary tail injury occurs, there are three likely outcomes.

1 No tail rot: The blood supply, and probably the nerve supply, remain intact

When this occurs, a break in the tail is often very evident. It remains stiff, or limp and unable to be used by the animal, but is otherwise healthy. It is unlikely for tail rot to occur in these cases because clotting in the main vessels from further tail use does not occur.

2 Dry gangrene form: The blood supply to the tail below the injury is completely disrupted

The completely blocked-off blood supply causes dry gangrene which feels stiff like beef jerky. During the early healing phases, the change in the tail may not be easily recognised unless the tail is inspected closely or palpated. Swelling at the injury site is palpable, and when the dry gangrene sets in, the intact skin keeps flies and infection out. There is therefore no immune response like pus etc. A lack of blood to the rest of the tail is likely to be painful, though cows are not known for showing it. If left alone, the tail breaks away and heals up cleanly at the primary injury site (Figures 1 and 2).

3 Progressive form: The blood supply below the injury is partially disrupted

Injuries from loss of pain perception, and insufficient blood supply, result in rot (tissue death) which usually commences at the tail

extremity and progresses up the tail (Figure 3).

In this form, the dying tissue is usually infected. It is possible that in some cases, specific bacteria involved can release toxins into the blood, causing illness and possibly death. This is a form of moist gangrene. Tetanus is one of the more likely causes of death if it occurs, as the situation is almost ideal for this bacterium. If such bacteria are not involved, the animal will most likely recover from the condition with a shortened tail to a point near the primary injury.

It is possible in some cases where the original injury is high in the tail, that infection may enter bone and the spinal cord, which will cause death if untreated. Some animals have been seen with the tail completely missing, healed, and with the anus exposed. The proportion of animals that die or recover from untreated progressive tail rot is unknown, though many cattle owners believe many more die than survive.

Treatment of tail rot

The most immediate treatment for any animal with tail rot would be to vaccinate it against tetanus. Standard clostridial (5-in-1 or 7-in-1) vaccine achieves this.

It has been common practice to amputate tail rot probably in the belief this might prevent the progression of the disease up the tail leading to ultimate death of the animal.

Certainly in the dry gangrene form of tail rot, the best treatment is usually to leave it alone. By the time the condition is noticed, the potentially painful stage of the condition has usually passed. If amputation is attempted, it would only set back the healing process which may be well advanced. Antibiotic treatment is also unlikely to have any impact as with no blood supply, the drugs cannot reach the affected tissues.

Treatment of progressive tail rot may be indicated where there is significant infection or evidence of the animal experiencing pain. Veterinary advice should be sought, especially for use of antibiotics or if wishing to amputate.

Prevention of tail rot

External parasite control to reduce tail switching, and removing structures from handling facilities that could cause tail injury are the only preventative methods. Routine 5-in-1 vaccination of juvenile cattle at branding may decrease potential losses by reducing susceptibility to tetanus during tail rot.

The future

The overall prevalence of tail rot is low, and because of this, further research to better



Figure 2. Healed tail rot. Are such gates are a possible cause?

Figure 3. Progressive tail rot in a cow (right) with a break between vertebrae high in the tail

understand and manage it will to be a low priority. However, cattle with shortened tails are not acceptable in some live markets, and in years where the problem is significant, tail rot may cause some financial costs to beef businesses.

Industry experience with tail rot will add to our understanding. We welcome feedback from any beef producers or veterinarians.

Rebecca Matthews QPIF Cloncurry

The advertisement for Millar Teitzel Accountants and Advisors features the company name in a large, bold, serif font at the top. Below it, the tagline 'Accountants and Advisors' is written in a smaller, italicized font. The contact details, including the office address (81 Byrnes Street, Mareeba), PO Box (585 Mareeba, Qld 4880), phone number (+61 7 4092 4600), website (www.millarteitzel.com.au), and email (admin@millarteitzel.com.au), are listed in a clean, sans-serif font. At the bottom, a slogan 'Helping you find solutions' is displayed in a large, serif font, with 'find' in a smaller font size. The background of the ad shows a close-up of a hand holding a pen over a document.

Sulphur in supplements

Sulphur is an important component of our livestock nutrition, and also a poison in excess.

Recently, I have seen situations where sulphur is being fed mixed with molasses to cattle. This is not a good practice. If you know anyone doing this, show them this article.

Supplement price increases have resulted in the practice of reducing urea and increasing Gran-am percentages in dry licks in order to reduce costs. This is potentially dangerous. Excess sulphur intakes can be very harmful. There will be milder unseen harmful effects of excess sulphur before the level where major problems are evident.

Urea is fed at this time of year, because cattle are on protein deficient pastures and a protein supplement is needed. Urea is still the cheapest form of rumen degradable protein supplement we can use.

Where a protein supplement is needed, adult cattle still need 55 to 60 grams of urea per day, balanced with the correct amount of sulphur.

Reducing supplement costs can be done by

- Reduce non essential ingredients in the lick
- Supplement cattle that are likely to give an economic return to that supplement
- Targeted but effective and balanced supplements
- Manage breeders to reduce numbers of breeders feeding calves in the dry season
- Segregate needy cattle from less needy cattle.

(See last issue *Northern muster* page 24.)

Regarding molasses mixes, under NO circumstances should Gran-am or sulphur be added.

Sulphur – too little or too much?

Sulphur plays an important role in cattle nutrition. It is an important constituent of protein and is essential for microbial activity on protein, cellulose and starch in the rumen. Therefore it plays an important role in protein, fat and carbohydrate metabolism.

For grazing cattle the main source of sulphur is in grass, especially when it is green. As pasture matures and the protein content of the grass falls, the intake of sulphur also declines.

Adding sulphur to supplements

Sulphur is required by the rumen microbes to form microbial protein. The animals' requirements for sulphur are usually met from pasture but when a source of nitrogen such as urea is added to the diet extra sulphur is usually required. This is usually done by adding Gran-am or elemental sulphur.

When adding sulphur to supplements or production mixes the amount of sulphur in the total diet should be taken into account. Some water, especially bore water, can contain high levels of sulphur. Cattle require 1.5 g of sulphur per kg of dry matter.

The optimum ratio of nitrogen to sulphur for licks is 10N:1S. This can be achieved by adding Gran-am or elemental sulphur at the following rates:

Gran-am should be added at a rate of 1 part Gran-am to 5 parts of urea.

Elemental sulphur should be added at a rate of 1 part sulphur to 20 parts urea.

If the lick contains a significant amount of protein meal further adjustments will need to be made to the sulphur level to balance the nitrogen: sulphur ratio.

Molasses contains significant levels of sulphur. Therefore it is NOT necessary to add extra sulphur even when urea is added.

What happens if cattle consume too much sulphur?

As Gran-am is very bitter it is sometimes included at higher levels to help to control intake. This can lead to excess intake of sulphur.

Adding extra sulphur to fortified molasses or grain mixes where intakes are high (2 kg per day or higher) can lead to severe problems and death.

In cattle, large amounts of sulphur can lead to sulphur toxicosis, a permanent brain disability and death. The initial signs in the animal are restlessness, thrashing, kicking at the stomach, staggering, diarrhoea and muscular twitching.

There have been cases where deaths have occurred where excess levels of sulphur have been used in feeds to control intakes. In these instances Gran-am was added to molasses mixes, and Gran-am and/or magnesium sulphate was added to grain mixes, in an attempt to reduce intake.

Mineral imbalance

Undesirable secondary effects can also occur

where there is an excess level of a mineral in a diet. These secondary effects can result in a deficiency in another mineral and/or reduced feed intake. Excess sulphur decreases copper retention and can precipitate a copper deficiency.

A dietary imbalance often results in a reduction in feed intake and for this reason alone it is not a good idea to use an excess of any minerals in feed rations. Excess levels of sulphur have been shown to result in reduced feed intake and reduce rumen motility.

The National Research Council suggests that ruminants should not be fed more than 0.4% sulphur (Dry Matter Basis) to prevent reductions in intake (NRC, 1987). However symptoms of a disease called PEM have been induced in cattle consuming diets with 0.4% sulphur (Gould *et al.*, 1991). PEM or Polioencephalomalacia is a disease condition characterized by necrosis of the cerebrocortical region of the brain. Until we know

more it may be safer to use lower levels, or work on 1.5 g of sulphur per kg dry matter.

Sulphur deficiency – where does it occur?

Basalt soils world wide are often deficient in both sodium and sulphur. Sodium and sulphur are primarily deficiencies of the wet season, just as phosphorus is most limiting in the wet season on phosphorus deficient soils. Mulga country is also deficient in sulphur.

The recommended supplement on basalt country for wet season salt and sulphur feeding is salt and 12% sulphur by weight. Depending on the location cattle will consume 50-60 grams of the mix per day. Intakes may be higher than this in the first few weeks of feeding.

Alan Laing

*Primary Industries and Fisheries, Ayr
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Tick fever in northern Australia – reassessing the risk

Biosecurity Queensland's Tick Fever Centre will be undertaking a project over the next six months to update the Centre's understanding of cattle operations across northern Australia, and the associated implications for tick fever disease. The information currently available to the Tick Fever Centre was gathered from producer surveys, structured surveillance, and serology from co-operator herds collected in 1990s. Since then there have been a number of significant changes in northern operations that could impact on the risk of tick fever. The Centre will be enlisting the help of producers, veterinarians, exporters, and agents to explore various factors that contribute to the change in risk status.

Producers may be prepared to accept some risk of tick fever while the economics stack up, but need to be aware how changes to management or marketing could push the tick fever risk above their comfort zone. Recent changes that might have an impact include:

- The introduction of *Bos taurus* infused cattle to the herd, or neighbouring holdings
- Changes to tick control strategies
- Changes in marketing towards feed-on rather than live export, particularly when backgrounding in the ticky area

- Changes to internal movement patterns bought on by re-structuring within pastoral aggregations, drought or floods, etc

Longer term changes that may also affect the risk of tick fever occurring include rainfall and temperature. Change in seasonal conditions and cattle genotype will impact on tick numbers and their distribution. In some situations risk of tick fever will diminish.

With the aid of this project, Tick Fever Centre will be better informed to offer advice in managing those risks. The project will have five phases.

- To gather intelligence on changes to operations that may have an impact on tick fever disease.
- To conduct targeted serology looking at exposure to tick fever.
- To present a risk analysis on a property/paddock basis, or for impending movements.
- To look at the logistics of delivering vaccine to the region and to demonstrate the option of frozen vaccine.
- To promote strategies based on the current management practices for the control of tick fever.

The risk analysis will involve conducting

serological surveys. Blood will be collected from groups of cattle and tested for antibodies, determining the level of exposure to tick fever organisms. Cost constraints dictate that this be targeted to provide the most benefit, and the preliminary discussions with producers, veterinarians, and inspectors will help determine where and how much sampling is conducted.

As part of the project, Tick Fever Centre also intends to conduct trials at Wacol looking at susceptibility of some of the newer breed compositions. Good data is available from previous trials with *Bos Taurus* and Brahman-infused cattle, but it is hoped to widen this to

include such breeds as Tuli, Senepol, company composite breeds, and even Wagyu.

Tick Fever Centre will be making a concerted effort in coming months to ensure that they are in contact with a large number of producers, veterinarians and Inspectors. In that regard, they are keen to hear from anyone who has an interest in this project and would like to discuss this further. The TFC contact is:

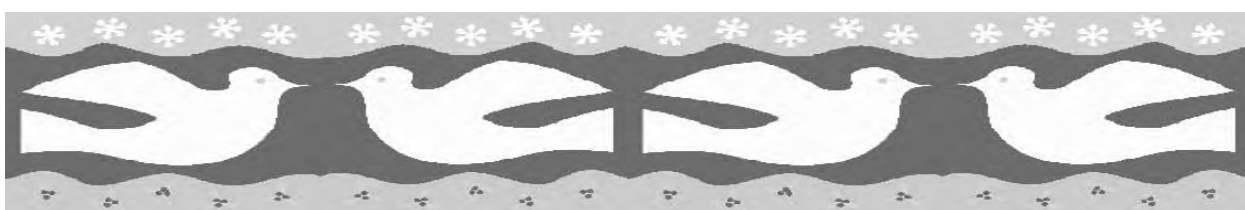
Terry Kingston

Tick Fever Centre

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Beef jerky

An adaption of early food preservation techniques, jerky is strips of thinly sliced lean meat that has been dried or smoked at low heat. Although beef is the most common jerky type, many other meats also lend themselves to this technique.

Historically, meat preservation processes include drying, smoking, salting or sugaring to reduce microbial growth or adding spices such as pepper to deter insects. Drying not only improves storage time, but also reduces overall weight, making meat more easily transportable.

Whilst commercial jerky is now produced by quite a few Australian companies and is even available in the snack sections of Coles and Woolworths, making your own can be a lot of fun.

A marinade is not essential, but can add some interesting flavours. Typical ingredients may include prepared sauces (such as tomato, worcestershire, BBQ or soy), ginger, garlic, mustard, pepper or other spices. The final mix is only limited by your imagination.

Tips for good jerky include:

- use good quality meat, as cheaper cuts often have higher levels of sinew and connective tissue, making a 'stringy' product
- use very lean beef, as fat does not dry and will potentially go rancid
- use good quality sharp knives
- use gloves for handling the meat; hygiene is very important as there is no cooking process
- putting the meat into the freezer for a few hours will make it easier to achieve thin slices
- marinate for at least 12 hours in the fridge.

A combination of low heat (most recipes recommend between 40–70°C) and good airflow will produce the best results. Avoid over-drying the meat. Standard kitchen dehydrators (also useful for drying fruit) are available from most electrical appliance stores.

Although many regions of the world have local dried meat products, the other most commonly available dried beef product in Australia originated in South Africa. Biltong is usually cut more thickly, air-dried slowly, and the process uses a vinegar-based marinade.

Tonia Grundy

QPIF Information Officer, Ayr

El Niño pattern persists

According to the latest ENSO Wrap-up from the Bureau of Meteorology www.bom.gov.au/climate/enso a typical El Niño sea surface temperature pattern is clearly present in the tropical Pacific Ocean. Sea surface temperatures have continued to warm in the central and eastern Pacific Ocean to a level that has not been observed since the 2002 El Niño event.

Sub-surface sea temperatures (to a depth of 300 plus metres) throughout the central and eastern tropical Pacific have also continued to warm, with temperatures as much as 6 degrees C above normal in some regions. Rainfall patterns over eastern Australia for the past three months have also broadly been in keeping with the impact of an El Niño event.

SOI values now appear to have stabilised after a rapid fall in value during October. The October monthly value of the SOI of minus 14.9 is the lowest, monthly values of the SOI have been since 2005/2006. The 30 day average of the SOI as of 16 November is minus 13.2.

Negative SOI values (say below minus 5) are normally associated with El Niño events. Typically during an El Niño event, there is a lower chance of getting above median rainfall during winter, spring and early summer throughout southern and inland eastern Australia. Therefore there will

be much interest in which direction SOI values take as the summer rainfall season approaches.

Five of six international models surveyed, forecast sea surface temperatures to remain above El Niño threshold levels throughout summer. None of the surveyed climate models are forecasting any potential return of La Niña like conditions. Given that El Niño events (and La Niñas) tend to persist from autumn to autumn, this is not a surprise.

Recently there has been a lot of media coverage of a report released by the Federal Government on the likely impacts of climate change on coastal communities at risk from sea level rise, inundation and coastal instability. It is the first continental scale mapping of residential buildings at risk from climate change and details risks to coastal infrastructure, services and industry. For a copy of the report go to www.climatechange.gov.au

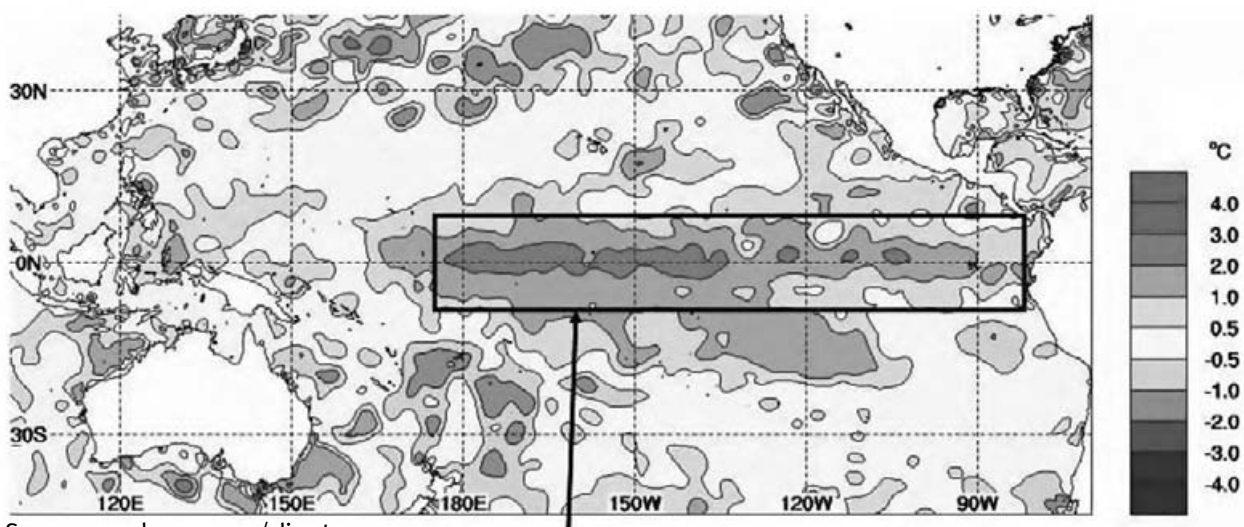
The Bureau of Meteorology also provides information on our highly variable and changing climate including rainfall and temperature trends. Go to www.bom.gov.au/climate/change/

You can receive a text message with the latest SOI values sent to your mobile phone. To subscribe to this free service, call me on (07) 4688 1459 or e-mail david.mcrae@climatechange.qld.gov.au The latest rainfall probability maps are available at www.longpaddock.qld.gov.au

Issued 16 November 2009

Dave McRae *Climate Watch*
Queensland Climate Change Centre of Excellence

Sea surface temperature (SST) anomaly map for the week ended 8 November 2009

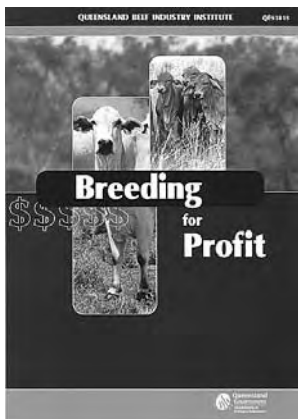


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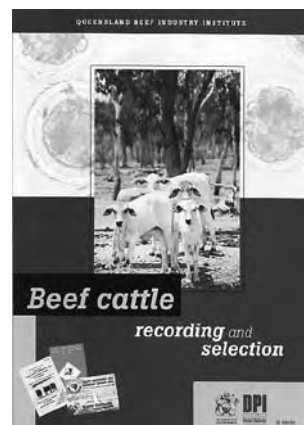
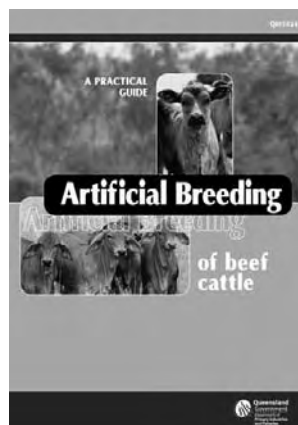
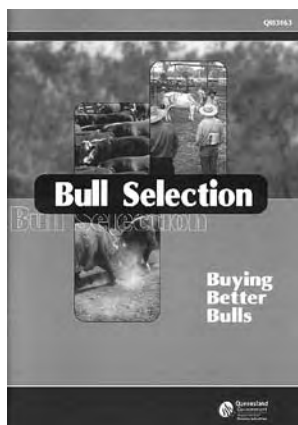
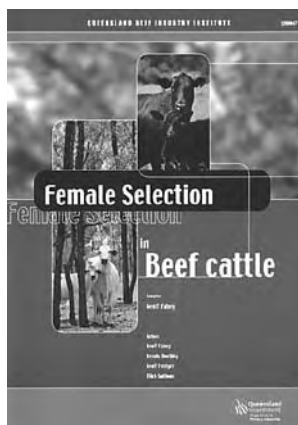
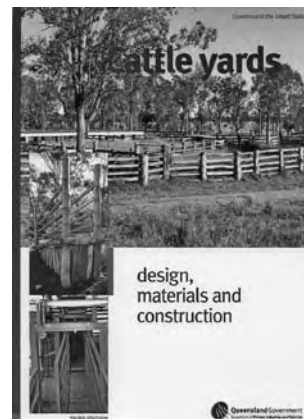
Key regions of the Pacific. When SST in this region are warmer than normal and El Niño SST pattern is present. When SST in this region are cooler than normal a La Niña SST pattern is present



Queensland Government

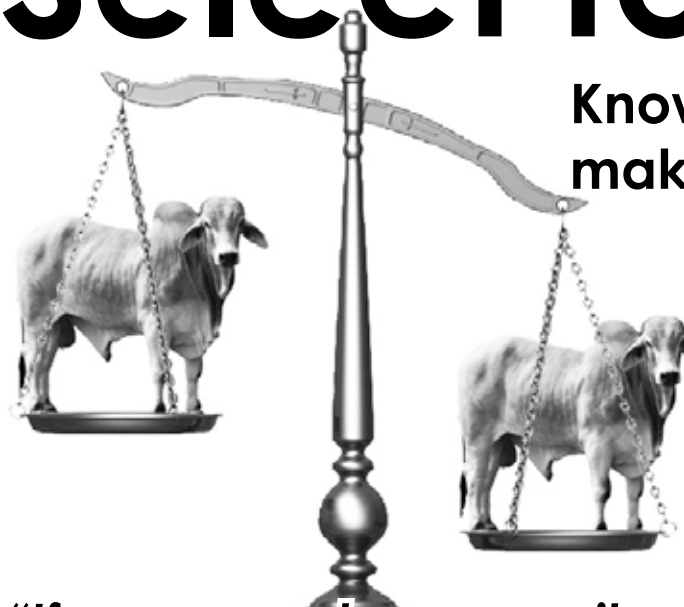


Are you getting the best from your herd? Want to know more about breeding and selection in beef cattle? Queensland Primary Industries and Fisheries has a range of informative publications available, from artificial breeding, to male and female selection, to breeding for profit. For more information, contact the Queensland Government bookshop on 13 25 23 or at www.bookshop.qld.gov.au



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Scientific trials involving thousands of cattle and conducted throughout the world have found that the addition of Rumensin to supplementary feed can increase weight gains by 70–120 g/head/day (6–16%), regardless of the energy and protein level of the supplement.¹⁻⁴

QDPI&F trials conducted at Swans Lagoon Research Station have demonstrated the addition of Rumensin to typical dry season molasses and urea supplements can improve liveweight gains by up to 70% and feed conversion efficiency by up to 59% compared to cattle fed standard molasses and urea rations.^{5,6} In one trial, Rumensin increased liveweight gain by 42% yet reduced molasses and total feed intake by 12% and 16%, respectively.⁶

Besides improving feed efficiency, Rumensin is the proven way of improving growth rates and reproductive performance in grassfed cattle, as well as controlling coccidiosis.⁷ If your molasses or lick doesn't contain Rumensin, then you're not getting the most out of your investment in feed supplementation.

Improved feed conversion efficiency in cattle fed molasses supplements⁶

	Rumensin (160 mg monensin /hd/day)	Control	Improvement
Molasses intake (kg/day)	3.2	3.7	-16%
Total feed intake (kg/day)	4.3	4.8	-12%
Average daily gain (kg/day)	0.428	0.301	+42%
Feed conversion efficiency	10.0	15.9	59%

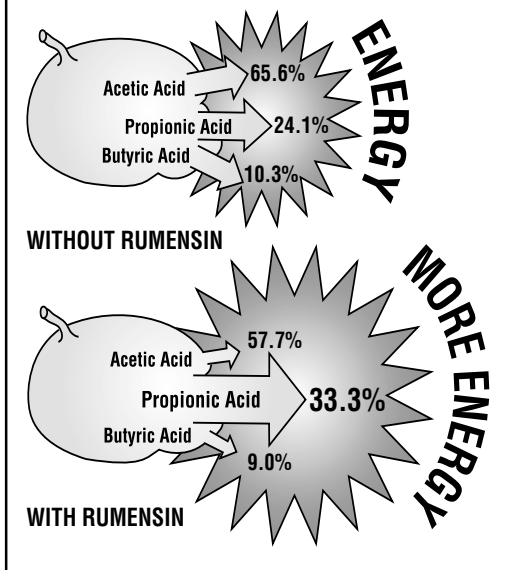
Ration included molasses + 3% urea, fed ad lib, plus a daily supplement of 0.8 kg chaffed hay and 0.3 kg cottonseed meal. *Bos indicus* crossbred steers, average weight 180 kg.

For further information, contact your feed manufacturer or Elanco on 1800 226 324

More energy from every mouthful

Rumensin® is the essential ingredient in all feed supplements. No matter what type of feed is provided or at what time of the year, Rumensin helps cattle to digest their food more efficiently. Put simply, this means more energy in the feed is made available to the animal from every mouthful consumed, thereby improving feed conversion efficiency (i.e. liveweight gain relative to feed intake) regardless of the pasture quality or the level of supplementary feeding.

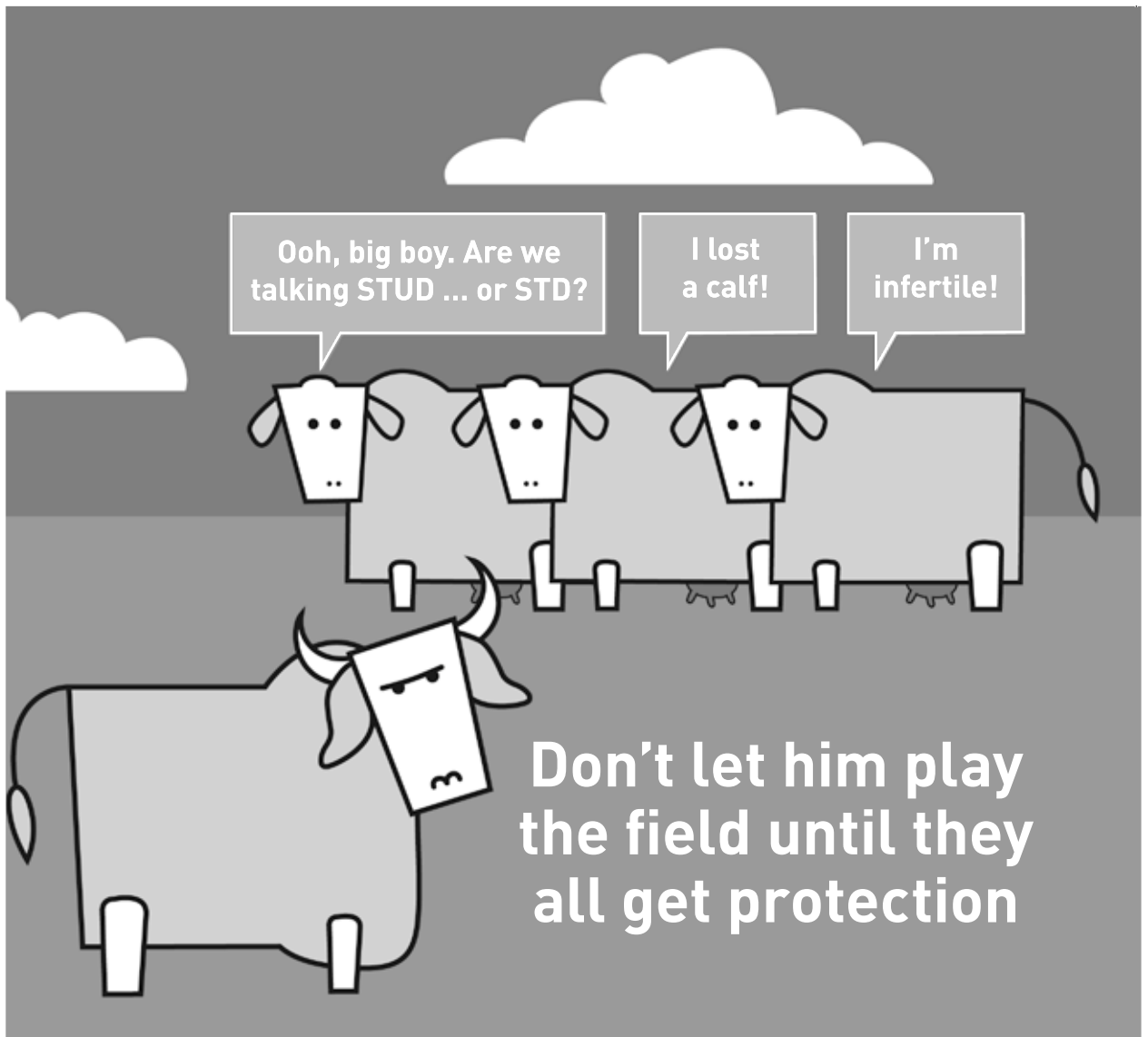
Effect of Rumensin on volatile fatty acid production (molar percentage)¹



ELANCO*

Rumensin®

¹Goodrich, R.D. et al (1984), J. Anim. Sci. 58:1484–1498 ²Potter, E.L. et al (1976), J. Anim. Sci. 43(3):665–669 ³Lana, R.P. et al (1997), J. Anim. Sci. 75:2571–2579 ⁴Corsi et al (2001) Proceedings 17th Simposio sobre manejo de pastagens ⁵BF1449 ⁶BF1450 ⁷Rumensin is registered for improved feed efficiency and as an aid in the control of bloat in feedlot cattle; for improved feed efficiency, weight gain and reproductive performance in heifers; and as an aid in the prevention of coccidiosis caused by *Eimeria zuernii* and *E. bovis*. *Elanco®, Rumensin® and the diagonal colour bar are trademarks of Eli Lilly and Company. Rumensin® is a trademark for Elanco's brand of monensin sodium. WORDSMITH28052



- Vibriosis is a venereal disease widespread among Australian cattle. Bulls are the usual source of infection in a herd.
- Vibriosis could cost a grower between \$12 – \$16 per breeder per year.¹
- The cost benefit analysis of using Pfizer's Vibrovax[®] vaccination is between \$7 and \$9 for every dollar you spend.¹

If your herd displays any of the signs of vibriosis, ask your preferred Pfizer stockist about Vibrovax[®].

The clinical signs of Vibriosis:

- Lower than average conception rates
- Females returning after service
- Calving patterns spread out
- Sporadic abortions
- Permanent infertility could be the outcome

Start protection before conception



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Reference 1: Pfizer data on file.

www.pfizeranimalhealth.com.au

