Queensland **the Smart State**

Northern muster

Information for rural business in north Queensland

Producing quality food and fibre for a healthy bottom line

in this edition

issue 9 Winter 2005

Queensland Government
Department of Primary Industries and Fisheries

editorial

Welcome to the 2005, Winter edition of the *Northern muster*. Winter finally arrived in the last few days, giving us beautiful mild weather. Some areas have welcomed some relief rain, however, large areas are still faced with low quality feed or drought conditions.

This issue contains a timely reminder on balanced urea licks, and includes our regular columns, Climate outlook; Market outlook and the Dalrymple diary. The Burdekin Dry Tropics Board is active in the region and some of their activities are reported in this issue. Following our last edition, our reader's requested some information on BREEDPLAN and an article has been provided on this.

I don't know about you, but I find that good steak is often 'made ordinary' by the cooking, especially at BBQ's. There is a good article in this edition on "How to cook a steak".

I am currently at the Emerald Beef School and the more I attend these events, the more I believe that the technology developed by the Australian beef industry is world class and second to none.

Enjoy the Newsletter and to ensure we give you the articles you want to read, complete the Feedback Sheet.

Alan Laing
Editor

Parkinsonia dieback research

Microscopic fungi are the newest weapon against Parkinsonia – one of the worst 20 weeds in Australia which is creeping towards Kakadu National Park.

University of Queensland PhD student Naomi Diplock and her supervisor, plant pathologist Dr Victor Galea, are isolating fungi that are associated with a natural dieback of the weed. This project also involves input from the Barkly Landcare and Conservation Association, CSIRO and the CRC for Weed Management.

Parkinsonia dieback has been observed to occur naturally in several locations across northern Australia so we are keen to understand this process so that it can be manipulated as an effective control measure.

Plants affected by this disorder in the field begin to die back from the branch tips showing a characteristic yellowing of the foliage. Examination of the stems of affected plants generally shows them to contain vascular staining (browning of the water vessels).

Currently, control of Parkinsonia is quite expensive as it involves the use of herbicides, mechanical removal by bulldozer or fire regimes. It is hoped that the development of a pathogen based biological control agent would compliment the work being done by the CSIRO who are using insects in a similar way.

Trials have been commenced at *Newcastle Waters Station* in the Northern Territory and in central Queensland. Once the most appropriate fungi are isolated we will develop a quick and effective inoculation method for use by landowners.

We would appreciate landholders sending us information on the occurrence of Parkinsonia dieback on their properties and samples from affected plants to assist with this research. This will allow us to identify the cause and investigate it as a possible biological control agent for Parkinsonia. A survey of landholders who've had Parkinsonia dieback on their properties is available with instructions for collecting samples and sending them to us by free post.

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REPRODUCTION OF ARTICLES

If you know of anyone who would like to received the Northern Muster drop us a note at:

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Zanda McDonald, MDH, Cloncurry, QLD.

When you're running one of the country's largest cattle operations, a small difference in cost can mean a lot in terms of the bottom line.

The McDonald family should know. Their Queensland-based MDH operation runs 150,000 head of cattle and covers 3.37 million hectares, an area larger than Tasmania.

The operation is run by Zanda McDonald with his father Don and uncle Bob. It's spread across 12 cattle stations stretching from Cape York to Cloncurry, through to the Channel Country and across Central Queensland to the Darling Downs.

Most of the breeding is carried out on the Gulf stations, on some of the toughest cattle country imaginable. But, as Zanda McDonald pointed out, "It's low cost country, which has its advantages. It's high rainfall and the cattle often graze on low protein grasses for many months of the year."

"WE TRIED A CHEAPER WORM TREATMENT ONCE. WE WON'T DO IT AGAIN."

"These conditions create a heavy worm burden in young cattle and before we started using Dectomax we had a high mortality rate in weaners. Thanks to Dectomax we now have a near zero mortality rate."

Last year, however, in an effort to improve the bottom line, the McDonalds changed their worm treatment.

"We'd used Dectomax Injectable since 1999, but for two months in 2004 we changed to a less expensive alternative."

"At the end of that time, we collected more samples. We found the new product wasn't treating the broad spectrum of worms like Dectomax, particularly Barber's pole, which has a big impact on our cattle."

"There's nothing more final than death. But even if you have sickly weaners who don't perform you're still losing money."

Within two weeks of switching back to Dectomax Injectable, Zanda said the difference was clear for all to see.

"Their coats started to shine and visually they looked much better. Weight gain wise, they really took off."

As to the preferred method of drenching, Zanda said he'd take an injectable over a pour-on any day.

"The simplicity of an injectable suits a large operation with more than 100 employees."

"You know every animal is getting the correct dose, straight into the bloodstream, every time."

"Whereas with a pour-on, half ends up on the fence. If the beast moves you mightn't think it's got enough so you give it another half dose. It gets very expensive."

The accuracy of Dectomax Injectable's low volume dosing delivers consistent control of a broad spectrum of internal and external parasites. And, as an oil-based formulation, it has the added benefit of being low irritant, tissue friendly and easy to inject.

With many of the cattle needing to be dipped to meet quarantine regulations, Zanda added that there's also no need to worry about an injectable washing off.

"Dectomax may cost more up front, but it covers itself long term with accurate dosing and guaranteed results," said Zanda.

"In an operation our size we can't afford to have it any other way. By using Dectomax Injectable we know we're getting cattle ready to perform, in good health and with the most weight to gain."

And that gives Zanda McDonald and MDH the most to gain.

Pfizer ANIMAL HEALTH

DECTOMAX* INJECTABLE
THE PROFESSIONAL'S CHOICE

Field Day

Thursday 8 September 2005

On

High Input Systems for North Australian Beef Herds

Key topics

- See steers that put on 265 kg in 12 months after weaning.
- See and hear about the production system used to achieve these results.
- Keynote speakers include CSR Molasses Manager, David Burgess.
- BBQ lunch with local top quality beef.

Where:

- Firstly at, Australian Institute of Marine Science (AIMS) Road South of Townsville, North of Giru and then at Margaret Creek, Giru.
- At 9.00 AM SHARP at AIMS road property.

Look for media Releases in the lead up.
Require RSVP for Catering.

Further information, details, and register to attend

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Stan and Delma Haselton
Margaret Creek, Giru
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Project supported by

MLA, DPI&F, CSR Molasses, Brisbane Export Corporation, Elanco Animal Health, Stocklick Trading and Incitecpivot.

Nutrition workshops in north Queensland

Nutrition Edge Workshops are back on the agenda as FarmBi$ is again offering 50% subsidy to eligible participants.

We have a workshop planned for Hughenden on the 9–11 August, but others are planned for Charters Towers, Bowen-Burdekin and at Mareeba.

The 3 day workshop costs $1727 for the first person from a business and $275 for a second person from the same property (prices include GST).

Producers receive a workshop manual, a technical manual and a booklet on Grazing Pastures in North Queensland.

The agenda includes;

- Basic animal digestive anatomy and function
- Animal nutrition requirements
- Energy and protein intake from pasture
- Energy and protein requirements of cattle for maintenance and growth
- Factors affecting pasture growth and quality
- Exercise assessing pasture quality relative to cattle requirements - energy and protein requirements of breeding cattle
- Grazing management plans
- How does stocking rate influence live weight gain
- Mineral nutrition of cattle
- Diagnosing deficiencies
- Production targets
- Analysing nutritional options
- Supplementation
- Calculating financial viability of supplement feeding options
- Working on individual properties supplementation program
- Understanding feed labels

If you are interested in attending a Nutrition Workshop in your area or require more information contact:

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Compudose works regardless of season

The onset of dry conditions or drought often raises the question about whether to implant your cattle, or wait until the season breaks. In such times, it is worth remembering that Compudose 400 is the only implant that maximises growth rates in beef cattle for 400 days, regardless of the season. In simple terms, cattle implanted with Compudose gain more weight in the wet season and lose less in the dry, cutting months from the age of turn-off.

Compudose 400 contains oestradiol-17ß, a naturally-occurring oestrogen found in all mammals, including cattle and humans. Oestradiol stimulates the animal's pituitary gland to release its own natural growth hormones, an effect that continues regardless of the prevailing season. The extended activity of Compudose 400 means cattle can still be implanted when it suits you, not once the season breaks.

The weighted average of 62 trials conducted in Queensland over the past 20 years shows that cattle implanted with Compudose have a 16.1% liveweight gain advantage over non-implanted cattle.[1] A number of these trials were conducted during dry conditions or drought. The following trials clearly show that implanting cattle with long-acting Compudose 400 and Compudose 200 is still cost-effective, even during dry or drought conditions.

Summary of performance of Compudose implants during dry or drought conditions (Qld & NT)

Location	Duration (days)	Starting weight (kg)	Average daily gain (kg)		Weight gain advantage (kg)	Economic advantage per head	Return on investment
			Control	Compudose			
COMPUDOSE 400							
Charters Towers[2]	436	293	0.07	0.09	10.7 (35.1%)	$10.21	152%
Charters Towers[3]	222	435	0.08	0.14	11.9 (64.0%)	$12.10	181%
Ingham[4]	277	432	0.19	0.24	14.8 (28.7%)	$16.68	249%
Swan's Lagoon[6]	394	384	0.26	0.32	24.5 (23.1%)	$32.01	478%
Marlborough[5]	172	352	0.28	0.41	21.6 (44.3%)	$27.13	405%
Brandon[7]	370	422	0.33	0.41	29.6 (24.2%)	$40.07	598%
Barra Bore[9] (NT)	287	277	0.34	0.39	14.3 (21.7%)	$15.97	238%
Charters Towers[3]	307	435	0.34	0.44	30.5 (29.0%)	$41.49	619%
COMPUDOSE 200							
Koumala[8]	190	394	0.13	0.22	18.4 (74.5%)	$25.57	731%

Retail prices vary but for the purposes of this exercise, the following figures were used: Compudose 400, $6.70/dose rrp; Compudose 200, $3.50/dose. Assumed liveweight price: $1.58/kg.

For more information, contact Elanco Animal Health on 1800 226 324

ELANCO*
Compudose® 400
*
It works

References: [1]BF6912 [2-8]Elanco data, on file [9]BF5870

Fire forums in the Gulf

Gulf graziers recently attended two fire forums to discuss the problem of timber thickening and the role of fire to provide solutions. The Georgetown forum discussed fire and thickening issues and then inspected a successful fire treatment on Breadfruit at **Forest Home** followed by a demonstration of mechanical thinning at **Blanncourt**. The Normanton forum focussed on Gutta percha with graziers inspecting successful results at **Woodview**.

The Gulf fire project has been running for three years and is developing recommendations for the use of fire for the management of woody vegetation in the Gulf savannas. The project is being conducted under the umbrella of the Tropical Savannas' CRC and is a collaborative effort between the DPI&F, CSIRO, Meat and Livestock Australia, the Northern Gulf Resource Management Group and landholders.

The issue being addressed is the significant increase in tree and shrub thickening in recent decades. This thickening has reduced pasture production and therefore carrying capacity as well as making cattle management more difficult. The cause is thought to be a reduction in the frequency and intensity of fire as well as stocking rates that have not allowed the tree/grass balance to remain in equilibrium. Early results from the thirteen trial sites indicate that the strategic use of fire has the potential to reduce woody vegetation cover and help restore pasture production.

Peter Thompson CYPDA, Simon Read (Prestwood), Glen Connolly (Blanncourt) inspect the Forest Home burnt paddock with the unburnt area behind the vehicles.

At all sites we have used hot, storm burns with high fuel loads to target key woody species. These include breadfruit (*Gardenia vilhelmii*), gutta percha (*Excoecaria parvifolia*), yellow-woods (*Terminalia* spp.), eucalypts and acacias. Light grazing and/or spelling is being used both before the fires to build up fuel loads and after the fires to enhance the recovery of preferred pasture species.

Graziers at the Georgetown fire forum inspecting the mechanically thinned paddock at Blanncourt.

The **Forest Home** trial site had a history of severe thickening with Breadfruit. The site has now had storm burns in 2000, 2002 and 2003. A 60% death rate of breadfruit has been measured after the three fires. Grass production has increased significantly and the spelling associated with the burns has seen more productive perennial grasses establish. The photo shows the contrast between the burnt paddock and the adjoining unburnt area.

A second strategy to address timber thickening is the use of a dozer to mechanically thin a severely thickened paddock. Glen Connolly from **Blanncourt** initially tried burning an area but with below average rainfall there was insufficient fuel loads for a hot fire. In 2003 he successfully applied to mechanically thin 500 acres (200 ha). Costing his D7 at an hourly rate of $140/hour he estimated thinning cost him $18/acre ($45/ha). Glen chose to further develop the thinned paddock by planting improved grasses. This involved using off-set discs to cultivate the ground followed by sowing the grass and adding 1 bag/acre of single super. This cost an extra $52/acre for a total cost for thinning and planting of $70/acre ($170/ha).

While the cost has been high Glen argues that the paddock previously only ran a few horses, but now as part of a larger paddock it currently runs 200 heifers. Glen anticipates having to burn the paddock in the future to control ongoing thickening problems.

The second forum at Normanton discussed regional thickening issues and in particular looked at strategies to control gutta-percha thickening. An inspection at **Woodview** revealed gutta-percha death rates reaching 45% two years after a single burn.

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Dougal Walker (Shady Lagoon) and Brendon Beard (Delta Downs).

Beef market report
June 2005

Since our last report seasonal conditions in the Northern Dry Tropics have not improved. Many producers had their last useful rainfall in mid February which makes it a long haul to the summer storms at the other end of the year. Cattle prices have done their usual trend of slipping backwards as we head into our winter-spring flush of cattle onto the market.

The recent rain in southern Queensland, NSW & Victoria has turned the price slide around and hopefully prices will improve from here on until the end of the year.

Live export news

The boat trade has continued to be slow for Queensland cattle and Indonesia is still our main market destination with China the second largest market. Most cattle are being sourced from the Northern Territory and Western Australia.

For the first 4 months of 2005, 172,985 head were exported with Darwin being the main port.

Several boats have gone out of Karumba in the last month or so with the money around the $1.55 kg for the most recent load.

Japan

With the USA still out of their market our beef sales have surged ahead to near record levels. There is a danger that the high volumes of our beef into this market, during the last quarter, will trigger our tariff level from 38.5% to 50% for the remainder of the Japanese fiscal year (August 2005 to March 2006).

This possible tariff rise has put a damper on prices of cattle coming out of our feedlots just now. The tariff affects both chilled and frozen beef product.

With the discovery of another mad cow case in the USA the re-entry of USA beef into this market will probably be delayed again. There has been a lot of disagreement in Japan over the Government agreeing in principal to allow USA beef back into Japan, as all domestic Japanese beef is individually tested for mad cow before it enters the food chain.

USA market

The big news is the discovery of another mad cow case which has closed the door for USA export beef from several markets that had just allowed imports to resume (Taiwan and Mexico). At this stage it looks as if it's a home bred animal and the worry has got to be the impact on American consumer confidence in red meat.

Prices for cattle in the USA are at high levels as consumption is very strong and domestic USA cow beef is in short supply. This has flowed onto us with good demand and prices for Australian product.

Hopefully, this latest BSE case will not dampen the demand for beef in America.

Domestic market

Australian beef prices have held up remarkably well considering the ongoing drought condition in eastern Australia. As per usual the strong export prices and demand has put a floor in the market at home.

The recent rain has eased the flood of plainer cattle into the market place and hopefully the season doesn't turn nasty again.

Our feedlots are bulging with cattle destined mainly for Japan and our domestic trade. Many northern producers have put cattle into feedlots which are coming out now after 70-100 days on feed and have hit the lower prices which reinforces the use of the futures market, forward contract prices or putting cattle onto feed in July-August to hit the fat cattle market later in the year.

Our 2005 to date Australian cattle slaughterings at 2.522 million head is 1.8% ahead of last years figures and the increase has been all male cattle as cow and heifer slaughterings have fell 6.3% compared to 2004.

The outlook for fat cattle as we move towards the other end of 2005 is healthy, but factors such as the value of Aust $, further disease outbreaks, continued strong demand in all markets and seasonal conditions could affect our predicted higher returns.

Even though this latest mad cow case could benefit our hip pocket, especially in the Japanese market, it's always a concern about possible damage to consumer confidence given the importance of a healthy meat image both here and overseas.

Bernie English
Beef Extension Officer, DPI&F Mareeba
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Greg Brown
Ag Force Cattle President
Meadowbank Station, Mt Garnet

How to cook a steak

The following was a handout from the Meat Standards Australia (MSA) information kit produced by Meat & Livestock Australia.

Before Cooking

Only buy steaks of even thickness, not 'wedge shaped'
Steak should be at least 20mm thick
Always defrost in the fridge, if frozen
If using a pan, it should be heavy based
Heat pan or grill, to hot, before putting steaks in
There should always be plenty of sizzle while cooking steaks.

RARE

Cook for a few minutes per side (depending on thickness)
Turn once only
Cook until steak feels 'very soft' with back of tongs
Internal temperature approx. 35°C.

MEDIUM RARE

Cook on one side until moisture is just visible on top surface
Turn once only
Cook on other side until surface moisture is visible
Cook until steak feels 'soft' with back of tongs
Internal temperature approx. 45°C.

MEDIUM

Cook on one side until moisture is pooling on top surface
Turn once only
Cook on second side until moisture is visible
Cook until steak feels 'springy' with back of tongs
Internal temperature approx. 55°C.

MEDIUM WELL

Cook on one side until moisture is pooling on top surface
Turn and cook on second side until moisture is pooling on top
Reduce heat slightly and continue to cook until steak feels 'firm' with back of tongs
Internal temperature approx. 65°C.

WELL DONE

Cook on one side until moisture is pooling on top surface
Turn and cook on second side until moisture is pooling on top
Reduce heat slightly and continue to cook until steak feels 'very firm' with back of tongs
Internal temperature approx. 75°C.

AFTER COOKING

Place steaks in a warm place, or cover with foil, and rest for 3-5 minutes.

REMEMBER

This is a guide – practice makes perfect.

Good land management increases profitability

A lot of pressure is being put on the grazing industry to become more sustainable. But people often ask 'How can we be sustainable AND profitable at the same time?'

However, results from a long term grazing trial near Charters Towers suggests that sustainability is in fact a major key to profitability. The 1000 ha trial co-funded by DPI&F and Meat & Livestock Australia is hosted on the Lyons family property, Wambiana, and has been running for over 7 years.

It's aim is to get some definitive answers about how different grazing strategies affect land condition and profitability. Major strategies being run are heavy stocking (HS) conservative stocking (CS), rotational wet season spelling and 2 'variable' strategies, where animal numbers are adjusted every year in line with feed on offer and/or the SOI (Southern Oscillation Index). The trial has been fortunate to have had a real mix of seasons, with 1998-2000 having good rains while 2001-2005 have been very dry.

During the first wet years there was little pasture yield or condition difference between the grazing strategies.. However, with the drier years all that changed. Heavy stocking has resulted in bare ground, very low yields and a big decline in the better pasture species.

In contrast, conservative stocking has maintained pasture cover and condition at ac ceptable levels and cattle have never been short of feed even in the driest years.

Conservative stocking has also shown significant advantages in terms of individual animal production. These include:

- Faster growth and hence shorter time to turnoff (by about 12 months).
- Better animal condition and increased frame size.
- Superior grading and meatworks prices.

Total meat production per area was higher under HS, but this advantage was undermined by increased supplementation costs. Drought feeding costs were especially significant with HS animals having to be fed M8U and even hay on one occasion, to get them through the drier seasons.

These factors had a major impact upon economics: although HS did relatively well in good years (1998-2000) in dry years, it has consistently run at a loss. In fact the trial has recorded a significant accumulated cash advantage of CS over HS. This advantage is likely to continue as stock numbers have just had to be halved under HS due to lack of feed – and it is still uncertain whether they will get through the dry season without further destocking.

The two 'variable' strategies have also performed better than HS: varying stock numbers with the SOI and/or pasture mass seems to capture the economic advantages of HS in good years but avoids its risks in dry years. Land condition in the 'variable' strategies is also better than under HS, but not as good as under conservative stocking.

After only seven years the results are good but are not definitive: Several questions still remain unanswered e.g. will HS recover once the good seasons return? Although the pasture is very bare and sparse, there are still tussocks of the better grasses present and these may be enough to let things recover when it rains.

We think not – but science is not about opinion but about facts so only time will tell!

Any enquiries from producer groups for site visits or presentations to local groups would be most welcome.

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DPI&F and Townsville Port Authority back NQ's export potential

Department of Primary and Industries and Fisheries is keen to form more partnerships with agricultural industries and individuals to progress exports.

DPI&F northern regional director Eddie Gilbert told potential and existing exporters at a Townsville Port Authority gathering the department was focusing on developing export markets, concentrating on all elements of the value chain linkages.

Townsville Port Authority business development officer Frank Gedling said the Port of Townsville looked forward to forming partnerships with DPI&F and industry to increase north Queensland's export potential.

The authority and DPI&F, along with the Commowealth Government's Austrade, recently joined forces to facilitate a trade mission to south Asia.

Trade mission participants were treated to a briefing on the Port of Townsville's activities, an inspection of the port and a barbecue on Saturday afternoon.

Mr Gedling, who hosted the gathering, was among the trade mission participants. Others included cattle and producers, indigenous seafood companies and other agribusiness companies.

At the Townsville Port Authority hosted event from left: Tim McHugh and Colin Dooley of Causeway Produce, Townsville; Port of Townsville business development officer Frank Gedling; cattle producers John and Sally Turley of Wandovale station, Charters Towers.

"This was a great opportunity for potential Queensland supply-chain members to meet with overseas markets and learn more about their requirements," he said.

Cattle producers John and Sally Turley of Wandovale, north of Charters Towers, said the trade mission was an eye-opener and believed the challenges ahead were worth meeting to open up new markets for Queensland products.

Principal project officer Roger Kaus said it was important for supply-chain groups to get to know their markets and supply to export specifications.

"The trade mission certainly gave the group a greater awareness of the challenges and opportunities," Mr Kaus said.

"As a direct result of the trade mission, Malaysian, Filipino and Brunei importers are showing increased interest in Queensland goods as well as training opportunities.

Beef 2006 was promoted on the trade mission and firm indications came from China, Malaysia, the Philippines and Brunei that agribusiness importers will be attending the Rockhampton-based event.

David Anthony
Regional Media Officer
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The DPI&F regional director Eddie Gilbert, DPI&F's principal project officer Roger Kaus and Port of Townsville's business development officer Frank Gedling.

Climateoutlook

The monthly value of the SOI rose from minus 11.7 for May to plus 0.5 for June placing the SOI in a 'Rapidly Rising' phase. With the rise in value of the SOI most of the state has above a 60% chance of getting median rainfall for July through to the end of September (see figure) and represents an improvement in the rainfall probabilities over the past few months.

According to information from the Bureau of Meteorology "El Niño wrap up" at www.bom.gov au/ key indicators in the Pacific suggest that the likelihood of a classic El Niño event developing this year has continued to recede. If this trend continues, the risk of a classic El Niño event developing this year will be substantially reduced. The key region to watch for the development of El Niño or La Niña events runs east along the equator from the international dateline to South America. If sea surface temperatures (SST) in this region remain warmer than normal it is often associated with below median rainfall for much of eastern Australia. The reason for the concern about the potential for an El Niño or borderline El Niño to develop this year has been that SST in the central equatorial Pacific have remained slightly warmer than normal. This is somewhat similar to the SST pattern that could be found for much of the second half of 2004 and early 2005. Rainfall for this period was below average for most of eastern Australia.

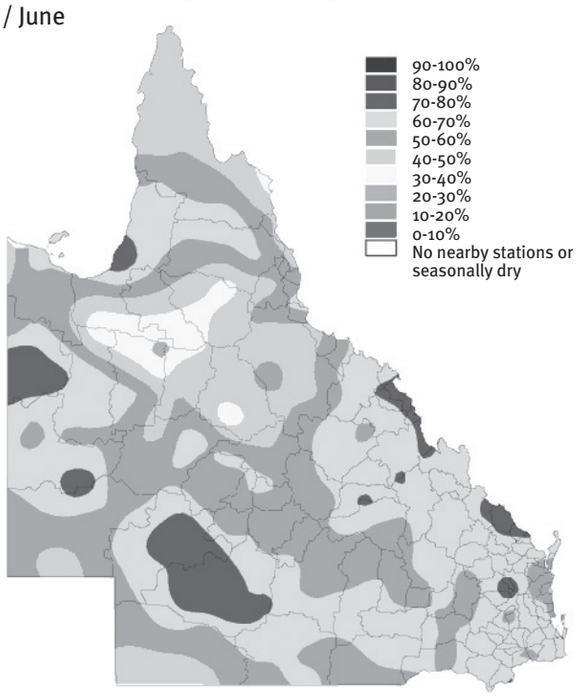
In terms of output from 12 surveyed reputable ocean or coupled ocean/atmosphere forecast models, 10 are showing a neutral SST pattern through to November, one showing an El Niño SST pattern and the other showing a La Niña pattern. For more information on conditions in the Pacific try the IRI for Climate Prediction at http://iri.ldeo.columbia.edu/ or the US Climate Prediction Centre at www.cpc.ncep.noaa.gov/

Currently the Madden-Julian Oscillation (MJO) has low amplitude and is somewhat hard to discern. This is due to strong monsoon activity over India, SE Asia and convection over the South China Sea. Satellite imagery indicates the MJO is currently over Andaman Sea which means it should have an influence on our region late in the week starting 11/07. Readers in the north might be interested to access the update in order to keep track of monsoonal and MJO conditions: http://www.bom.gov.au/climate/tropnote/tropnote.shtml

Many people like to follow the relationship between the SOI and rainfall patterns in more detail. To do that, have a look at what happened in your area over July to September in the following years; 2001, 1998, 1996, 1986, 1973, 1970, 1967, 1966, 1958, 1957, 1953, 1951, 1950, 1947 and 1945 and compare the rainfall recorded with your 'normal' rainfall for July to September.

Probability of exceeding median rainfall

for July / September
based on rapidly rising phase during
May / June



Despite the rain, the number of drought declared shires in Queensland has increased. As of the 5th July there were 62 shires and 6 part shires drought declared under State government drought processes. This is approximately 60.6% of the land area of the State. There are also 107 Individually Droughted Properties (IDPs) in a further 17 shires. The Queensland Government currently provides assistance to primary producers affected by severe drought. Information regarding drought declarations can be obtained from your local DPI&F Stock Inspector or the Rural Risk Strategies Unit. The unit can be contacted through the DPI&F Call Centre on 13 25 23 or on (07) 3239 3181. For a full list of drought declared shires and the latest seasonal conditions report go to www.longpaddock.qld.gov.au/

Daily updates on the SOI are available on (07) 46881439 and climate updates are on the web at http://www.longpaddock.qld.gov.au or call the DPI&F Call Centre on 13 25 23. Free fortnightly updates are available from the Department of Primary Industries and Fisheries via email or fax. If you would like to subscribe to this service please contact Jacqueline Balston (07) 4044 1619 or Dave McRae (07) 4688 1459.

Changes to boost farmers' access to EC drought assistance

On May 30 Prime Minister John Howard announced a further $250 million in additional assistance for farmers located in Exceptional Circumstances EC declared areas affected by drought.

See map for current areas as at 13 April 2005.

The changes announced include:

Increases in the maximum Exceptional Circumstances Interest Rate Subsidy ECIRS from 50 per cent to 80 per cent in the second and third year of an EC drought.

The off-farm assets threshold for ECIRS has doubled from $217,000 to $435,000 per farm business.

For one year from July 1, subject to the passage of legislation, farmers can earn an extra $10,000 income without affecting their eligibility for benefits under the EC Relief Payment ECRP.

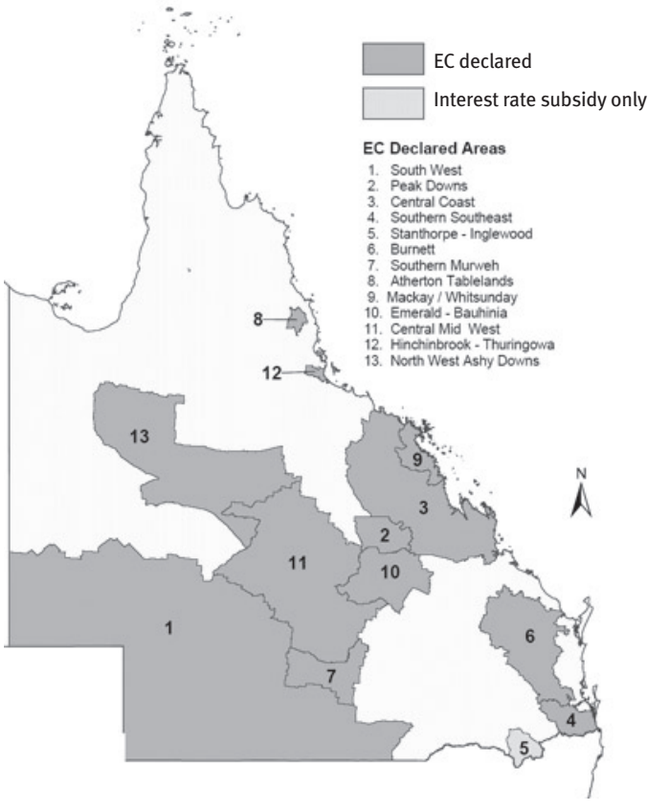
In addition the Australian Government requested the independent National Rural Advisory Council NRAC to immediately review the status of those 22 EC regions across Australian that it did not previously recommend for a roll-over and continuation of EC support. The review allowed DPI&F and industry bodies to present further information to NRAC demonstrating the ongoing drought conditions. The Central Coast EC area is one of the areas being reviewed with EC assistance no longer available to livestock, crop and pig producers and horticulture and nursery producers. At the time of printing the outcome of the review by NRAC has not been announced.

For further information on interest subsidies contact QRAA on 1800 623 946 or www.qraa.qld.gov.au. For information on the EC relief payment contact Centrelink on 13 23 16 or www.centrelink.gov.au.

For further information on other forms of drought assistance that may be available to you, such as freight subsidies, contact your local DPI&F office or the DPI&F Call Centre on 13 25 23 or www.dpi.qld.gov.au/drought/

Karl McKellar
Senior Extension Officer
DPI&F, Charters Towers.
Ph: (07) 4754 6100

Exceptional Circumstances EC boundaries – Queensland



The National Landcare Program project (SPIRAL) "Strategic Partnerships In Revitalising Active Landcare" in the Burdekin Rangelands

The "SPIRAL" project will increase the uptake and understanding of sustainable land management in the Burdekin Rangelands by providing funds for on-ground work and subsidised training in grazing land management and computerised property mapping. Funding is from the Australian Government National Landcare Program and provided through the Burdekin Dry Tropics Board. Project funding has been secured for one year with recent submissions requesting a further two years of funding. The SPIRAL project is primarily aimed at involving rural block holders and commercial properties not previously involved in landcare activities. A proportion of devolved grants will also be available to all landowners in the Burdekin Rangelands for on-ground solutions to strategically improve biodiversity, implement conservation measures and rehabilitate riparian hotspots in productive grazing land. Assistance is also available for landowners setting up monitoring sites for land condition and for the required monitoring of project sites.

In addition to on-ground devolved grants, a framework is being developed to financially reward good management. Land managers will be surveyed to assess current levels of adoption of grazing management including wet season spelling and what prevents uptake of sustainable grazing and participation in groups. This survey will ascertain if there has been a change in management over the last ten years of the landcare movement.

Information sessions and calls for expressions of interest will occur during late July and August. For more information, contact the Dalrymple Landcare Committee.

Australian Government Community Water Grants. Applications accepted from 30 June to 4 Oct 2005

Community Water Grants are to encourage increased community awareness and involvement in saving and protecting water resources. Community organisations (including landcare groups) can apply for grants of up to $50 000 for on-ground works that improve river or groundwater health; reduce pollution in rivers, groundwater or coastal waterways; increase water saving and efficiency; or recycle and reuse water.

Funded projects need to be community-orientated, have clear public benefits and some contribution of in-kind funding. There needs to be a link to the regional natural resource management plan.

Activities include (a) improving water infrastructure to reduce evaporation and leakage (b) capping disused or unnecessary bores (c) improving surface or groundwater health such as erosion and sediment control, riverbank maintenance (d) cleaning up a water or wetland (e) reducing pollution in rivers, groundwater or coastal waterway. Other activities relate to water saving and efficiency for sporting clubs, schools, local government and community care centres.

Any permits required to undertake the project must be obtained or being processed before applying for the Community Water Grant. If project applicants are not an incorporated group, there needs to be a sponsor organisation.

Application forms, guidelines and project examples are available from www.communitywatergrants.gov.au or freecall 1800 780 730

Australian Government Envirofund Round 7 & 8

For properties located in Exceptional Circumstances Drought Declared Areas, a special $10M 2005 Drought Recovery Envirofund will be available soon.

This Round 7 will target works and measures to protect land, water, vegetation and biodiversity resource base from the effects of drought, assist preparations for the recovery from drought and prevent environmental damage when the drought ends.

A regular round of Envirofund, Round 8, will open in September / October 2005. The Australian Government has decided on these changes to funding dates to avoid clashing with the Aust Govt Community Water Grants.

There will be two tiers of Envirofund application. Grants up to $15 000 will have a simplified application form and requirements. The second tier grant between $15 000 to $50 000 will require more information. Applicants have up to 18 months to complete the project. To receive a guide and application form when available, register online at www.nht.gov.au/envirofund or phone 1800 303 863.

Recent changes in Burdekin Rangelands Landcare

In the Burdekin Dry Tropics region, funding for the five facilitator coordinators ceased on 30 June

2005. In the Burdekin Rangelands sub-region, Marie Vitelli has been appointed as the Project Officer to implement the SPIRAL project. Project duties also include providing support to landcare groups and increasing activity in landcare. Some previous duties as a general landcare coordinator may no longer occur.

As the Burdekin Dry Tropics Regional NRM Plan and the Regional Investment Strategy approach implementation, the need for a networking and plan development group within the Burdekin Rangelands was no longer required. The Burdekin Rangelands Implementation Group (BRIG) has also ceased. Dalrymple Landcare Committee Inc can provide project implementation, when required. The time and effort volunteered by BRIG members is acknowledged.

Composed by:

Marie Vitelli
Project Officer
Dalrymple Landcare Committee Inc.
PO Box 976, Charters Towers QLD 4820
Ph: (07) 4754 6120
Email: marie.vitelli@dpi.qld.gov.au

Desert steps ahead

An innovative project designed to increase the adoption of improved land management practices is set to roll out in the Desert Uplands over the coming months.

The project has been developed to address a number of key issues occurring throughout the area including assisting landholders to better understand natural resource management matters such as salinity and water quality while also supporting landholders to plan and adopt new practices on their property.

Through addressing the key issues the Desert Uplands Build-up and Development Strategy Committee (DUBDSC) and the Burdekin Dry Tropics Board (BDTB) are hoping to produce a natural resource management and sustainable production toolkit for landholders as well as developing a one-stop natural resource management and property planning source.

This project will be carried out as a collaborative partnership between the BDTB and the DUBDSC.

Funds to carry out the project have been made available through the BDTB and the National Action Plan for Salinity and Water Quality (NAPSWQ) with the project commencing on final approval of the Burdekin Dry Tropics Board Regional Investment Strategy.

For more information on the project please contact the Desert Uplands Office on (07) 4651 1002 or the Burdekin Dry Tropics Board on (07) 4724 3544.

2005 Queensland Landcare Conference "The Outback Speaks'

The 2005 Queensland Landcare Conference being held in Barcaldine from the 4 – 7 August is drawing closer.

The 16th annual Landcare Conferece will feature an exciting and diverse program, including a variety of workshops, field trips and social functions.

There are a number of registration options available during the conference from full registration to day registration.

Full registration includes attendance at all events featured in the conference program.

Just to name a few this includes; the bush welcome dinner with camp oven cooking, Queensland Landcare Awards and dinner, field trips around the unique Desert Uplands Bioregion, the Desert Uplands 10th anniversary Graeme Connors concert and attendance at a number of exciting and innovative workshops.

If you are interested in Landcare and would like to see what is happening in outback Queensland register now for the 2005 Queensland Landcare Conference.

For registration and program information call Kerri at the Desert Uplands office on (07) 4451 2160 or visit our website www.desertuplands.org.au.

Oral histories an important research tool

'Oral histories and visual research methodologies as participatory tools to understand and integrate local and technical knowledge for natural resource management in the Desert Uplands'.

The Desert Uplands Committee is breaking new ground in social research by gathering information about involvement in natural resource management in the region through a new project.

The project will use oral histories to understand and integrate local and technical knowledge of Natural Resource Management in the Desert Uplands. Graziers' stories will be used to gain an understanding of the relationships between local knowledge, landscape change, social, economic and regulatory pressures and NRM practices. The project uses a participatory action research design, which means it is a research partnership between local landholders and other stakeholders in the DU community with a few researchers who bring particular skillsvv. The DU community members are actively involved in all phases of the research project – defining the problem, designing the research methodology, collecting data and analysing and disseminating results. This mutual discovery process allows understanding of the basis of common management practices for the DU's natural resources from a landholder's point of view. From this the opportunity should emerge to identify and implement innovative management practices for the Desert Uplands.

The Desert Uplands is a unique bioregion in central Queensland bordered roughly by Barcaldine, Alpha, Charters Towers and Prairie. This is a scoping project and is funded for only the half of the Desert Uplands that falls within the Burdekin Dry Tropics (essentially the eastern half of the DU).

Frank Lawrence, Gerry Roberts, David Akers and Stan Lawrence sharing stories about land management.

The project steering group being very social whilst developing the project methodology.

Project proponents hope at the conclusion of the project to have an extension package that other groups can use to conduct their own regional research that allows understanding of decision-making processes to increase the uptake of NRM strategies. It is then hoped to trial the extension package and attract further funding to broaden the project into the Desert Channels areas.

This project is a joint venture by the Queensland Department of Primary Industries and Fisheries and the Desert Uplands Build-Up and Development Strategy Committee. Funds have been made available from the Burdekin Dry Tropics Board (BDTB) as well as the Innovations fund for Social Science in Natural Resource Management (SEO3) through the National Action Plan for Salinity and Water Quality (NAPSWQ). The National Heritage Trust (NHT), Queensland Department of Natural Resources and Mines, the Australian Foresight Institute and the Central Queensland University are also involved in the project.

If you are interested in finding out more about the Oral Histories project, feel free to contact:

Emma Patterson
Ph: (07) 4658 4408
emma.patterson@dpi.qld.gov.au.

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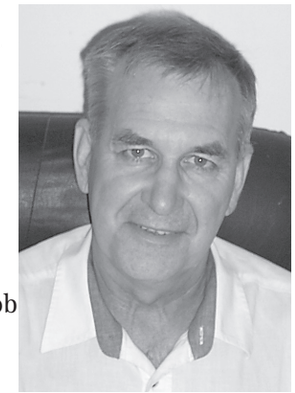
Burdekin local leads Natural Resource Management



Local Ayr resident and Centenary Medalist, Mr Bob Frazer, has been appointed by the Burdekin Dry Tropics Board as the new Executive Officer to lead Natural Resource Management activity in the region.

The Burdekin Dry Tropics Board is a community natural resource management organisation responsible for delivering the Australian Government's National Action Plan for Salinity and Water Quality and the Natural Heritage Trust initiatives in the Burdekin Dry Tropics region of North Queensland.

Chairman of the Burdekin Dry Tropics Board, Mr Mike Cannon, is looking forward to Mr Frazer's appointment with the Burdekin Dry Tropics Board.

Mr Cannon said, "Bob Frazer brings a vast range of experience and expertise in rural community development to the Burdekin Dry Tropics Board, including a high level of leadership, strategic and financial knowledge".

"In Bob's 12 years of experience in administration and management, he has had the responsibilities of sourcing funds to ensure ongoing viability of community associations, negotiating with Government, developing and implementing operational policies and practices".

"Bob Frazer's appointment to the Board will bring strong leadership and direction to the Boards activities and will further strengthen community involvement in the delivery of the Burdekin Dry Tropics Regional Natural Resource Management Plan and Regional Investment Strategy" Mr Cannon said.

The Executive Officer's ultimate responsibility is to ensure that the Burdekin Dry Tropics Board meets its Regional Investment Strategy targets through a wise use of its three year $20.2 million indicative allocation.

Chairman, Mr Mike Cannon said, "In the Executive Officer, Bob will have responsibilities in getting out in the region to meet with stakeholders and the community to foster co-investment partnerships and collaborative alliances to add further value to the Board's own investment".

Mr Frazer's previous appointments have been Chief Executive Officer for Burdekin Community Association Inc, Managing Director for Argus Industries NQ Pty Ltd and Regional Manager for Endeavour Foundation.

He has also received a Centenary Medal in recognition of exceptional service to the community & Churchill Fellowship for his work with indigenous people in America.

Mr Frazer commenced the Executive Officer appointment with the Burdekin Dry Tropics Board on Monday 23rd May 2005.

For further information, contact the Burdekin Dry Tropics Board, on 4724 3544.

DPI&F's Swans Lagoon facilities ideal for educational use

Ten students travelled from Longreach Pastoral College recently to take advantage of yard facilities and cattle at Swans Lagoon Research Station as part of their cattle management course.

Department of Primary Industries and Fisheries senior extension officer, Dennis Boothby of Brisbane, said the facilities and cattle at DPI&F's Swans Lagoon were ideal for teaching the artificial insemination (AI) aspect of the course.

"These cows are empty and are well looked after," he said.

"The shade here at Swans Lagoon's Expedition Yards are magic both for us and for the cattle."

A total of 120 head, 10 per student, were used to teach insemination procedures.

The 10 students were, top row from left: Sam Amos, Sean Morton, Peter Rudd, Ben Kennedy. Middle row: Greg Hall, Johnny Simshauser, Evan White, Bradley Mott, Toni Collins, Shadae Boylan. Front DPI&F senior extension officer Dennis Boothby from Rockhampton and LPC cattle management instructor Rick Seirer.

Mr Boothby, a veteran teacher of pregnancy testing courses around Queensland, will occasionally conduct AI courses as required. While at Swans Lagoon he was assisted by Alan Laing, Ayr DPI&F beef extension officer, in the course delivery.

"Artificial insemination is a different level to pregnancy testing and is important for the development of studs," he said.

"It is extremely important to the future of the beef industry."

Longreach Pastoral College cattle management instructor Rick Seirer said the AI program, involving theoretical and practical work, were part of a 12-month course for Certificate IV and Diploma in Cattle Management.

"This qualification will help them get work on stations, initially as a jackeroo or jillaroo, and later set them up for cattle management," Mr Seirer said.

Other aspects of the course included nutrition, genetics, breeding, health, welfare, business studies and computer studies.

Mr Seirer complimented DPI&F research station manager Steve O'Connor and his staff on their hospitality towards the students throughout the week-long program.

Mr O'Connor welcomed the opportunity to make Swans Lagoon available for educational and training purposes and looked forward to more agricultural colleges and universities taking advantage of the cattle and the facilities.

"We have carried out refurbishment to the administration centre and the living quarters where the students stayed," he said.

"These facilities are available at Swans Lagoon – and we have the cattle and expertise as well."

For more information:

Steve O'Connor
Manager, Swans Lagoon, Millaroo
Ph: (07) 4784 9170

Do you have a house cow?

North Queensland householders with one or more cows kept on their acreages are urged to register their holding with the Department of Primary Industries and Fisheries (DPI&F) using the on-line facility.

DPI&F NLIS officer Andrea Hewitt said the National Livestock Identification System (NLIS) would become compulsory for all cattle owners from July 1, 2005.

The NLIS aims to help trace animals, improve market access and manage disease and residue control.

"Under the new legislation to be introduced from June 1, 2005, all owners with one or more head of cattle, pigs, deer, goats, camelids, or 100 or more poultry must be registered with the DPI&F," Ms Hewitt said.

Once registered, all cattle owners including hobby farmers will be issued with a Property Identification Code (PIC).

"All cattle moved to another property or to sale or slaughter need to have an NLIS electronic device attached to individually identify and trace their movements."

"All movements of cattle must be recorded on the centralised NLIS database.

Any person planning to purchase an animal at a saleyards must have a registered PIC prior to sale. Animals will not be permitted to leave saleyards unless their destination PIC is known so that the database can be notified.

Department of Primary Industries and Fisheries Regional Stock Inspector Barry Torenbeek of Townsville and Andrea Hewitt (Malanda) demonstrated the use of the National Livestock Identification System (NLIS) tag reader at their display at the DPI&F and Department of Natural Resources and Mines tent at the 2005 field days held near Mareeba.

Cattle must have electronic ear tags or rumen boluses (an electronic tag deposited in the stomach) attached to individual animals to identify and trace the cattle.

"In the event of a disease outbreak, NLIS will help the DPI&F to control a disease outbreak more quickly and thereby limit the costs to the industry,"
Ms Hewitt said.

"The prompt removal of suspect diseased animals will help provide a faster return to business."

Andrea Hewitt
DPI&F Malanda Ph: (07) 4096 5277

What are TSEs?

Transmissible spongiform encephalopathies (TSEs) are brain diseases. Spongiform literally means "sponge-like", because of microscopic holes that develop in brains of affected animals. Bovine spongiform encephalopathy (BSE) of cattle and scrapie of sheep and goats are examples of TSEs.

Australia is free from BSE and scrapie. However, to maintain market access, Australia must have a surveillance program in place to detect cases, should they occur.

TSEs also occur in humans, and of major concern was the discovery in 1996 that consumption of meat products from BSE affected cattle was probably the cause of a new TSE in humans called variant Creutzfeldt-Jacob disease (vCJD).

The story of BSE

BSE was first detected in 1986 in the UK. The disease was called 'Mad Cow Disease' because it could make docile dairy cows aggressive or fearful.

It is thought that BSE originated in the UK in the early 1970s. Once established in cattle, BSE was spread to other cattle by feeding meat and bone meal (MBM) containing the infectious agent. The UK banned the feeding of MBM to cattle in 1988. The number of cases of BSE peaked in 1992 and has been in decline ever since. The spread of BSE to other countries is attributed to exports of MBM or live animals. When BSE has been detected in a country, it has resulted in major disruptions to trade in cattle products from that country.

Scrapie has been recognised in sheep since the 18th century.

There is no evidence that scrapie can be transmitted to humans.

What signs are seen with BSE?

Most BSE has occurred in cattle over 4 years of age but animals as young as 2 years can be affected. The main clinical signs to look for are:

- Increased nervousness
- Staggery gait
- Increased sensitivity to touch and sound
- Muscle tremors

The main signs of scrapie in sheep are:

- Severe persistent itchiness;
- Staggery gait; and
- Wasting.

The symptoms of both BSE and scrapie take a long time to develop after infection. Signs progress over weeks or months leading to weakness, loss of weight, recumbency (unable to stand) and death. Treatment is ineffective and all affected animals eventually die.

The TSE surveillance program in Australia

The National TSE Surveillance Program has been established to confirm that Australia is free from BSE and scrapie. The Program meets international guidelines. These guidelines require that animals with signs that look like BSE or scrapie are tested. The program is jointly funded by industry and all Governments and is managed by Animal Health Australia. State Government departments of agriculture or primary industries have coordinators who are responsible for ensuring that there is adequate surveillance in their State.

TSE Surveillance – A numbers game

Rather than taking a random sample, which would require many more animals to give the same degree of confidence, Australia targets animals that have nervous signs consistent with BSE and scrapie in appropriate age groups. In this way we are able to sample a smaller number of animals because our chances of finding BSE or scrapie in these animals would be high if the diseases were present in Australia.

Australia's surveillance requirements are much different from those countries that have these diseases.

Australia's target is to examine 400 cattle and 450 sheep brains per year. Each State must contribute proportionally, based on the numbers of sheep and cattle in their State.

What tests are done on the brains we collect?

Microscopic examination of brain tissue by trained veterinary pathologists is the primary testing method used in Australia.

Pathologists look for spongiform changes in the brains of cattle and sheep displaying such signs. It is the absence of spongiform changes that show these diseases are not present in Australia.

New tests have been developed and their ability to detect BSE and scrapie is much the same as microscopic examination but they have the advantage of being able to be done quickly. Such 'rapid tests' are now used to screen large numbers of animals at slaughter in some countries. Australia has the capability to perform rapid tests and is continually evaluating new tests as they are developed. Their future use in Australia will be

governed by international surveillance requirements. 'Rapid tests' are used in Australia, principally to maintain the competency of our testing laboratories. However,these 'rapid test' results are also used to further strengthen Australia's case for freedom.

How can I help?

If you find cattle or sheep with signs of nervous disease, contact your local government or private veterinarian or stock inspector to discuss the possibility of including the animal in the TSE surveillance program. To be eligible, cattle must be 30 months or older and sheep must be 18 months or older and show signs such as those listed above.

It is important to understand that this is a program to prove that Australia does not have BSE or scrapie. Even if you think you know what condition an animal has, testing will rule out BSE or scrapie. Experience has shown that such investigations can provide the additional benefit of understanding just what is causing nervous disease, so these conditions can be managed appropriately.

Incentive payments to producers and veterinarians

An incentive scheme is funded by industry. Producers who have suitable animals autopsied for the program are entitled to claim $150 for cattle and $25 for sheep.

Also, private veterinarians who examine cases of nervous disease in cattle and sheep and submit samples and case histories to government laboratories can claim a rebate per case of up to $200 for cattle and $150 for sheep. This is to cover standard disease investigation costs. Laboratory fees and freight are also subsidised.

It is important to remember that the actual cause of the nervous disease affecting the animals may be diagnosed or confirmed at little or no cost to the producer.

Further information

Further information on Australia's TSE status and the National TSE Surveillance Program is available on the Animal Health Australia website, at: www.aahc.com.au/surveillance/ntsesp/index

or by contacting your nearest Government or private Veterinarian, Stock Inspector/Animal Health Officer or Ranger.

Lee Taylor
DPI&F, Biloela
Ph: (07) 4992 9111

Balanced and effective urea based dry licks

As the dry season progresses both the Crude Protein percentage (CP%) and Digestibility percentage of the forage declines. In pastures in the dry tropics, protein tends to decline more rapidly than available energy and is usually the first limiting nutrient. Without protein, utilization of minerals and energy in the dry standing feed, is ineffective. When there is insufficient rumen degradable protein in relation to available energy in the diet, the digestion of forage in the rumen slows down and the intake of pasture is reduced.

Supplying protein in dry licks

Urea provides a source of non protein nitrogen to the rumen microorganisms. These microorganisms eventually become the main source of protein for the animal as they pass down the digestive tract.

How much urea? Typical dry licks for breeders contain between 25% and 30% urea by weight, however higher levels are used to 'slow intakes'. If a cow eats 250 grams of a 30% urea lick then the daily intake of urea will be 75 grams of urea. This supplies 215 grams of Crude Protein. Early in the dry season this level of crude protein may help 'plug' the nutritional gap between what the pasture supplies and the requirements for those cows which have a high nutritional requirement (e.g. wet cows with 3 month old calves). Later in the dry season this level of protein may help 'plug' the nutritional gap for dry pregnant cows, but will only go part of the way to 'plugging' the nutritional gap for wet cows and sooner or later they start to lose weight. Yet cows are probably not able to utilize levels of urea much higher than this. This is why strategic weaning and seasonal mating, to manage the nutritional requirements of breeders, is important to the subsequent performance of breeding herd.

What is the safest way to reach 25% or 30% urea? First feed out 'straight salt' for 2 to 3 weeks, to satisfy any cravings. The later in season feeding commences and/or the hungrier cattle are, the more critical this becomes. When commencing feeding a urea based lick, experience has shown it is safer to start off with a high level of urea (e.g. 25% or 30%) than to gradually build up the urea levels. Why? The bitterness of the urea, straight upfront, is unpalatable and apparently controls intake. When the urea level is built up gradually there is a greater chance that the lick will be too palatable, and that cattle will eat too much of the lick too quickly and be at risk of urea poisoning. Note that there will always be exceptions to the rule. When feeding urea no strategy is 100% safe.

Other sources of protein such as cotton seed meal also supply rumen degradable protein and bypass protein. Protein meals also 'mop up' very small amounts of moisture in the lick eg from a heavy dew. Don't rely on the protein meal to 'mop up' the moisture from a small shower of rain and always provide good drainage in the troughs used for feeding loose urea mixes. The level of protein meal that can safely be put in urea based dry licks is limited, because it increases palatability. There are situations where people have successfully fed 25% protein meal, and yet in other situations 5% in the lick would be considered too palatable. It depends on the type of protein meal used, what class of cattle the lick is being fed to, and how hungry the cattle are. Generally it is better to start with a low level and progress from there depending on intakes.

Adding sulphur

The microorganisms in the rumen synthesize microbial proteins from inorganic nitrogen (urea). To do this they need a balanced supply of Sulphur. The optimum ratio of Nitrogen to Sulphur for dry licks is 10:1. Hence we add Sulphur to urea based dry licks in the form of Gran-am or elemental Sulphur at the following rates:

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

Elemental Sulphur. 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.

Do not use an excessive, and hence unbalanced, amount of Gran-am to control intakes, this is not its purpose. Gran-am is quite bitter so if using Gran-am in weaner licks, and having problems with low intakes, it may pay to switch to elemental Sulphur.

Is phosphorus required in the dry season?

On phosphorus deficient country pregnant and lactating breeders have an additional requirement for phosphorus and may require dry season phosphorus supplementation as well as wet season supplementation. Therefore:

- During the wet season feed these classes of breeders 7 grams of Phosphorus a day on deficient country (less than 4ppm of P), and preferably 10g of Phosphorus a day on grossly deficient country (2ppm of Phosphorus or less).
- During the early dry season feed dry cows 3 grams of Phosphorus a day, and feed lactating or heavily pregnant cows 5 grams of Phosphorus.
- During the later dry season feed lactating and heavily pregnant cows 5 grams of Phosphorus.

Phosphorus will only improve growth rates of dry cattle when they are gaining weight. Phosphorus is most limiting in the wet season so treat it like a growth promotant: only feed it to dry cattle if the dung contains at least 1.3% nitrogen for (or 8.2% Crude Protein) on a dry matter basis. Finding out the N% and Crude Protein% of dung, and hence the diet, can be achieved through an NIRS analysis.

On phosphorus deficient country (less than 4 ppm of P) feed growing stock:

- 6 to 7 grams of Phosphorus during the wet season
- 3 grams of Phosphorus during the early dry season
- no P during the late dry season (aside from those very rare years when cattle are still gaining weight).

Be careful using limestone as a filler in dry licks, as excessive amounts of calcium can inhibit the uptake of phosphorus.

A word on stocking rates

Cattle are very good at selectively grazing, the more feed on offer the more scope there is for cattle to be able to select a better quality diet. Urea will increase intakes of forage by up to 30%, and this should be taken into account when stocking paddocks.

Felicity Hamlyn-Hill
Beef Extension Officer,
Ph: (07) 4754 6100
Charters Towers

Recognising real differences (BREEDPLAN Basics)

Animals are different for many reasons – many traits. Differences can be the result of age, nutrition, feeding history, management treatments, and sex (of course) and the genetic make-up of the animal. We recognise visible differences more readily when we can compare two or more animals side-by-side or in close proximity. The more the animals are removed from one another, or even years apart, the differences are less easily recognised unless the differences are measured for the various traits we choose to be concerned with.

Are all the differences we see in the animal the result of genetics or the effect of some other cause, for example nutrition? Only part of the difference (about 15 to 50% depending on the trait), we see is due to genetics and the rest is the result of some other effect mentioned above. The amount of what we see that is passed on to the progeny of an animal is the heritable component.

To achieve our breeding ambitions we must be able to combine both the above of utilising measurable differences in association with the part that will be passed on to the progeny – the heritable part. And no doubt, we are all focussed on the traits that are worth $ or are of economic benefit i.e., we will get paid for our efforts. It is the breeders decision to balance the range of traits observed in the animal and collectively set the breeding objectives for that herd.

So, how do you know if one bull is better than another? Has this bull been fed or is it really genetically superior compared to the others in the group? This is a dilemma that many commercial beef producers face. Bulls are purchased according to many criteria including breed, muscling, pedigree, temperament and structural soundness. There are certain traits however, for which visual assessment is not the best indicator of a bull's potential as a sire. These include fertility, growth and carcase. For these traits, a genetic difference recorded by BREEDPLAN as Estimated Breeding Values (EBVs) can help! They provide bull buyers with the opportunity to make objective choices about a bull's genetic potential for your herd.

What is BREEDPLAN?

BREEDPLAN is the Australian and International genetic evaluation system for beef cattle. The scheme has been available since 1985. There are more than 2000 herds, representing most breeds, enrolled in Australia as well as herds throughout New Zealand, United States, Canada, Europe, Thailand, Argentina and Mexico.

How does BREEDPLAN work?

BREEDPLAN is based on documented pedigrees in combination with measurements for a range of traits that beef producers have identified as desirable in their beef enterprise. These measurements, recorded by beef producers, multiplied by the amount of the heritability of the particular trait are calculated using a computer aided system for estimating the breeding values of cattle.

These estimates are known as EBVs and indicate the genetic potential of an animal for each particular trait compared with the animals brothers or sisters within the same herd. EBVs are calculated using the measured performance of the individual as well as the performance of all its recorded relatives (pedigree), the heritability of the trait and the relationship between traits. The calculation is adjusted for age of dam and compares all animals within set age ranges. Representation of progeny from a particular sire across these age ranges or 'linkage' enables a comparison across management groups. The current BREEDPLAN EBVs indicate an animals genetic worth compared across herds with all other performance recorded animals within that breed.

BREEDPLAN currently calculates EBVs for six growth traits, five fertility traits, six carcase as well as docility (Table 1).

EBVs are expressed in the measurement units used for each trait e.g. kg for growth traits, cm for scrotal size and mm for fat. They can be positive or negative depending on whether an animals genetic potential is above or below a base. The base or breed average is

Table 1: Traits that have BREEDPLAN EBVs

Growth (kg)	Fertility	Carcase
1. Birth weight	1. Scrotal size (cm)	1. Carcase weight (kg)
2. 200-day milk	2. Days to calving	2. Eye Muscle Area (EMA)
3. 200-day weight	3. Gestation length (days)	3. Rib fat
4. 400-day weight	4. Calving ease (direct)	4. Rump fat (P8)
5. 600-day weight	5. Calving ease (daughters)	5. Retail Beef Yield % (RBY%)
6. Mature cow weight	Other: Docility	6. Intramuscular Fat % (IMF %)

Table 2: Selecting bulls using EBVs

Bull	EBV 200-day milk	200-day weight	400-day weight	600-day weight
A	-8	+17	+28	+48
B	+7	+10	+15	+30
Breed Average	+1	+8	+10	+14

a constant figure to which all animals in the herd or the breed are compared. The average measure for each trait within a breed will change over time as the breed moves as a result of genetic selection in a particular direction.

The accuracy or reliability of the EBV reflects the amount of information available about the animal, its sire, dam and numbers of siblings and progeny with which it is compared. The more information that is known about the animal, the more accurate the EBV. EBVs that have a low accuracy may change with the addition of more information whereas EBVs that have a high accuracy are unlikely to change much.

How to use EBVs

EBVs DO NOT TELL THE BREEDER WHICH ANIMAL TO USE. Nor do EBVs describe all the different traits breeders may choose to use in their selection criteria. EBVs are an aid to selection. THE CHOICE IS YOURS!

Often, bull buyers will attend a sale with a particular type of bull in mind. They will select those bulls that will suit their requirements and then use EBV information to make a final decision.

An alternative approach is for a bull buyer to select a list of bulls from the catalogue based on their EBVs for particular traits. At the sale, the buyer assesses the selected bulls for conformation, structural and reproductive soundness and temperament before making a final selection. The two bulls in Table 2 are an example of how a producer might use EBVs in selecting a bull when focusing on GROWTH traits alone.

Calves get half their genes from the bull (and the other half from the cow), so the expected difference in the average performance of the progeny is half the bull's EBV for that trait. For example, the average performance of calves from Bull A for 600-day growth would be expected to be 17 kg above breed average (i.e. (+48 - +14)/2 = 17), and for Bull B, 8 kg. Therefore progeny from Bull A would be 9 kg heavier than the progeny of Bull B at 600 days.

A Jap Ox breeder would select Bull A because its higher EBV for 600-day weight is more suitable for the Jap Ox breeding objective.

However if the breeder's objective is to produce veal, Bull B would be the more suitable selection because it has a higher EBV for 200-day milk and a reasonable EBV for 200-day weight.

Limitations when using EBVs in bull selection EBVs only provide information about the traits to which they refer. Bull buyers should use EBV information in conjunction with Bull Breeding Soundness Evaluation (BBSE) measured information, visual assessment for traits such as structural and reproductive soundness (which are essential factors to consider). If a bull cannot walk around and get cows into calf, he is of no value to your herd, no matter how good he looks or how good his EBV is. As temperament measures are reported by breeders, the docility EBV will be a beneficial additional trait.

You can't compare apples and oranges – BREEDPLAN EBVs can only be used to compare animals within the one breed (at present). Your selection decisions need to be based on which breed or breeds match your breeding objectives best and then selecting animals from within the breed to do the job for you.

Visit the BREEDPLAN website (http://breedplan.une.edu.au) for detailed information on BREEDPLAN EBVs.

Queensland primary industries' resilience reaffirmed

The resilience of Queensland's primary industries has been reaffirmed by the release of the Australian Bureau of Statistics (ABS) 2003-04 Agriculture Survey results this week.

Primary Industries and Fisheries Minister Henry Palaszczuk said the 2003-04 Agriculture Survey reported increased production by Queensland primary industries across a range of commodities.

"2003-04 was a challenging period with the continuing drought, yet Queensland's primary industries sector has been able to grow," Mr Palaszczuk said.

The Department of Primary Industries and Fisheries (DPI&F) had estimated the sector's gross value of production to be in excess of $10 billion for 2003-04.

Mr Palaszczuk said in May, the DPI&F projected a 4 per cent growth in GVP to $10.59 billion for 2004-05. A revised projection is due to be released in July.

"DPI&F has targeted accelerated growth for the gross value of production for Queensland's food and agriculture industries to $14.4 billion by 2010-11," Mr Palaszczuk said.

Key ABS Agriculture Survey 2003-04 findings relevant to Queensland include:

Grain sorghum

The total area of grain sorghum planted increased by 10% to 734,000 hectares. Production increased by 37% to 2.0 million tonnes, with significant increases in Queensland and New South Wales, the main growing states.

Cotton lint

Continuing lack of water for irrigation saw plantings of cotton fall by 7% to 227,000 hectares. Total cotton lint production was down by 13% to 317,000 tonnes. Increases in plantings and production in Queensland were more than offset by decreases in New South Wales.

Chickens

The number of chickens for meat production remained steady at 70.7 million birds. Decreases in New South Wales and Western Australia were offset by increases in Victoria and Queensland. The number of chickens for egg production fell slightly to 12.7 million birds. Egg production remained steady at 193 million dozen.

Pigs

Australian pig numbers fell by 4% to 2.5 million, with falls reported in all states except Queensland, which rose by 4%.

Meat cattle

Meat cattle numbers increased by 3% to 24.4 million after the badly drought-affected season in the previous year. Increases in meat cattle numbers were reported in Queensland (up 7% to 11.2 million head), Western Australia (up 8% to 2.0 million), Northern Territory (up 3% to 1.7 million) and Tasmania (up 3% to 496,000). These were partly offset by falls in Victoria (down 4% to 2.4 million) and South Australia (down 4% to 1.2 million). New South Wales remained steady at 5.4 million.

Bananas

Banana production fell by 3% to 257,000 tonnes, with falls in production reported in Queensland and New South Wales. The total bearing area of bananas rose by 2 per cent to 10,900 hectares.

Apples

Apple production fell by 22% to 255,000 tonnes, with falls reported for every state except Queensland. The largest decreases in production were reported for Victoria (down 29% to 84,100 tonnes), New South Wales (down 23% to 47,700 tonnes) and Tasmania (down 29% to 37,300 tonnes. The total number of bearing apple trees rose by 6% to 8.9 million, with increases reported in all states except Tasmania.

Potatoes
Production of potatoes in 2003-04 rose by 5% to 1.3 million tonnes, due mainly to a 25% increase in production in Victoria (up to 338,000 tonnes). The only state to report a fall in production was New South Wales (down 11% to 119,000 tonnes). The total area planted to potatoes remained steady at 36,100 hectares, with increases in plantings in Victoria, Tasmania, Western Australia and Queensland, offset by decreases in South Australia and New South Wales.

Tomatoes
Production of tomatoes rose by 30% to 474,000 tonnes, with significant increases reported in the three main growing states of Victoria (up 28% to 270,000 tonnes), Queensland (up 33% to 125,000 tonnes) and New South Wales (up 40% to 67,100 tonnes). The area planted to tomatoes rose by 16% to 8,500 hectares, with increases reported in all states except Western Australia.

Carrots
Production of carrots fell marginally to 303,000 tonnes, with falls in all states except South Australia and Tasmania. The area planted to carrots fell by 2% to 7,200 hectares, with falls in Victoria, Western Australia and Queensland partly offset by increases in South Australia and Tasmania. New South Wales remained steady.

Onions
Production of onions rose slightly to 233,000 tonnes. Increases in production in Tasmania, New South Wales, Victoria and Western Australia were partly offset by decreases in South Australia, the main producing state, and Queensland. The area planted to onions rose by 6% to 5,600 hectares, with increases reported in all states except Queensland.

Lettuces
Production of lettuces rose by 5% to 127,000 tonnes. Increases in Queensland, Western Australia and South Australia were partly offset by falls in Victoria, New South Wales and Tasmania. The area planted to lettuces remained steady at 6,100 hectares.

Milk cattle
The number of milk cattle remained steady at 3.1 million head at 30 June 2004. A small decrease in milking cow numbers was offset by an increase in other milk cattle. The most significant movements were reported in Queensland (up 10% to 255,000), and Tasmania (down 6% to 189,000). Victoria had the majority of milk cattle, with its herd steady at 1.9 million.

Lambs
Lamb markings rose by 7% to 36.3 million, with increases reported in New South Wales (up 13% to 12.8 million), Western Australia (up 6% to 9.2 million) and Queensland (up 61% to 1.2 million).

Play a role in tracking a nomadic wanderer – the Flock Pigeon

Researchers are calling on resident pastoralists to become part of a new three year research project that aims to examine the ecology and management requirements of the Flock Pigeon. Flock Pigeons are a large, strong-flying native pigeon that are characteristic of black-soil grasslands.

Flock Pigeons were formerly abundant throughout semi-arid Australia, often found in 'countless millions'. Over the last century their population has declined substantially and vanished from large areas where they were formerly common.

Peter Dostine, a PhD student from Australian National University (ANU) will lead the research project with the support of the Australian Research Council and the Northern Territory Department of Infrastructure, Planning and Environment.

"We don't know much about this bird, but believe they are nomadic seed eaters that can travel large distances to locate feeding areas after good rainfall," he said.

He said that this mobility made it very difficult to devise conservation strategies for the birds in small fixed reserve areas.

Graeme Chapman

The Flock Pigeon is a characteristic bird of the grasslands throughout northern Australia, especially of grasslands on black soil plains.

Throughout the study Flock Pigeons will be regularly captured and sampled to obtain data on diet and body condition. Some birds will be fitted with satellite transmitters to gain an understanding of habitat use and when, where and why these birds move about their extensive range, as conditions change.

The stronghold of these birds is now thought to be in the Barkly Tableland in the Northern Territory and the Channel Country in Queensland, where they can sometimes still occur in flocks of thousands.

Resident pastoralists throughout the range of the Flock Pigeon can make a significant contribution to this work. Later this year (2005) a survey will be posted to pastoralists throughout northern and central Australia, seeking information on if and when the birds have been seen on their property.

Mr Dostine said that working with pastoralists on the project will provide a long-term landholder perspective on the ecology of this species.

"We hope the project can provide insights as to how country can best be managed for both pastoral productivity and the maintenance of habitat for wildlife like the Flock Pigeon, to ensure they remain an inspiring feature of our landscape," he said.

Peter can be contacted by telephone on (08) 8944 8475, by email at peter.dostine@nt.gov.au, or by mail at PO Box 496, Palmerston, NT 0831.

Graeme Chapman

Flock Pigeons are most frequently seen coming to drink at dams or turkey-nests in the early morning and late afternoon. They tend to occur in groups, and fly in a fast tightly-wheeling flock in a similar fashion to racing pigeons.

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