

# CQ BEEF

## Better Economic and Environmental Futures

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## Climate Q ask your climate questions

If you are a primary producer in Central Queensland, dealing with our variable climate is something you've been doing throughout your whole career, as have many generations before you. 'Climate Q', a new three-year project, aims to help producers and agribusiness in Queensland's mixed farming (cropping/grazing) sector to manage the risks, and profit from the opportunities presented by a variable and changing climate. Dealing with the possible effects of elevated CO<sub>2</sub> levels on an already-variable climate is also an important consideration.

The project will investigate the impacts, risks and opportunities associated with our variable climate, assess the impacts on the profitability of enterprises and identify and test new management strategies that improve business resilience.

The project team has kicked off the project by talking to Central Queensland farmers and advisors to gain an understanding of their current knowledge and opinions about climate variability and climate change. If you contributed, thank you. Some of the main messages we heard included:

- Climate variability is universally recognised, and how businesses prepare and manage variability is considered key to their success.
- Perceptions about climate change covered the full range from those who believe that increasing atmospheric CO<sub>2</sub> levels are likely to result in substantial climate change; to those who believe that any change that is occurring is part of natural climate variation and short- and long-term cycles.
- Producers have made many management changes in the past to better handle variable seasonal conditions and will continue to adapt to changing conditions and are open-minded about new approaches and technologies.
- Managing for a changing climate is not part of the business plan for most producers, though looking after the land and managing for seasonal variability are. One producer commented, "We'll

**Byrony Daniels**  
DEEDI Rockhampton and  
**Suzette Argent**  
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### Key points

- **The Climate Q project will investigate the impacts, risks and opportunities associated with climate change projections and assess potential impacts on the profitability of mixed cropping/beef enterprises.**
- **The project team have surveyed farmers and advisors within the region to gain an understanding of current knowledge and views around climate variability and climate change.**
- **The project provides an opportunity for the CQ BEEF groups to continue investigations into improved management strategies. New groups or individuals are also invited to work with the project.**



## Editorial

Welcome to the 12th issue of *CQ BEEF*. While the first half of the year has been seasonally blessed it's an ideal time to take stock of pastures and the nutrition they are providing. DEEDI beef scientist Désirée Jackson discusses how to best use F.NIRS technology in our cover article. Feedback for this newsletter indicated that you want more articles on what is being discovered/discussed in group activities.

Peggy Rohan has summarised the Billaboo group's off-farm investment day. Robert and Jane Sherry from *Wahroonga*, Clarke Creek, feature as our producer profile. The Sherrys are involved in the Clarke Creek Climate Clever Beef Group and we'll have more about the ongoing work from this group in the next *CQ BEEF* newsletter.

Please use the feedback sheet provided to let us know of any topics you would like covered in the newsletter. Alternatively if you know of anybody who would like to receive the newsletter, ask them to fill out their details and return the feedback sheet.

The Moura *CQ BEEF* Group recently met and discussed the benefits achieved by one business after they reduced their breeder numbers to enable them to finish all their turnoff cattle for the EU market. Producers also had the opportunity to inspect leucaena and test strips of potential new pasture species.

The Biloela *CQ BEEF* group hosted a Resource Consulting Services Accounting for Profit Workshop in July.

The Middlemount group have just met and discussed husbandry and other input costs.

I hope you enjoy the read.

**Byrony Daniels, *CQ BEEF* editor**

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adapt to climatic variability, which will mean adaptation to climate change. It would need drastic change to really change management as a result of climate change”.

- Economics and financial stability are crucial to management decisions and will also influence adaptation decisions.
- There is a concern for future food security accentuated by the lack of younger farmers entering the industry and the loss of good quality agricultural land to mining.
- It was suggested by many that the project needs to work with young producers as they will be the ones dealing with any change and using new technologies.
- Research is needed into plant breeding (both conventional and GM), precision agriculture, organic approaches, pasture improvement and technologies to better utilise resources.
- Better explanations of the linkages between increasing atmospheric CO<sub>2</sub> and climate change are needed.
- Good, sound, unbiased information is needed and it needs to be local in nature rather than global.

This project provides an excellent opportunity to further the business analysis activities undertaken through the *CQ BEEF* producer groups. Managing seasonal variability has been critical to the work undertaken by producers involved in the *CQ BEEF* project. Individuals and groups within Central Queensland are invited to work with the project.

The Climate Q project can provide information and training in areas such as:

- climate and weather processes important in Central Queensland
- what is climate science telling us?
- local climate trends and projections
- advances in seasonal forecasting
- Impacts of climate variability on production systems
- assessing climate risk in your business
- assessing adaptation options.

Like the *CQ BEEF* project, Climate Q will assist producers to access expertise and information for their businesses and share their experience with other producers.

We aim to work with producers to identify and test management options that will result in resilient and profitable farm businesses regardless of future climate scenarios. The latest modelling and economic analysis tools will be used to help assess the impacts of new management practices on farm business productivity and profitability.

*If you are interested or have any questions about the Climate Q project, please contact the authors.*

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# Using cow pats to manage nutrition

Désirée Jackson, Scientist (Beef), Longreach

There is only one comprehensive method of determining the diet quality of grazing cattle in northern Australia, and that is through the use of Faecal Near Infrared Reflectance Spectroscopy (hence the acronym, F.NIRS!).

F.NIRS analysis is a reflection of the diet quality at the time of sampling, not a historical record on performance, such as weighing. The F.NIRS technology has been specially adapted for tropical pastures in northern Australia.

Unlike other tests, cattle can be on a urea-based dry lick or block when a F.NIRS test is done and the test will still provide a diet quality result for only the pasture component of the diet that the cattle are eating. The test is not affected by small intakes of lick. Once cattle are provided with an energy supplement (e.g. cottonseed or fortified molasses) or protein meal (e.g. cottonseed meal, copra meal etc) then the F.NIRS results are affected because the cattle are usually consuming large amounts of these supplements. Generally, once they're on an energy-based supplement, the diet quality of the pasture is probably quite ordinary, so there is no real need to test anyhow.

## What diet quality information does F.NIRS provide?

The F.NIRS calibration equations produce predictions, not exact quantitative determinations. The accuracy of the prediction varies considerably with the attribute being predicted. In some cases the accuracy of the prediction can be very good, such as for nitrogen or protein concentration in forage samples.

The results include predictions of:

- dietary crude protein (CP)
- dietary dry matter digestibility
- faecal nitrogen concentration
- non-grass proportion of the diet.

**Dietary crude protein** predictions provide an indication of the amount of crude protein in the diet. The amount that cattle will consume will depend on their overall intake of pasture, so the

lower the digestibility of the pasture, the lower their dietary intake of crude protein.

Protein is usually the first nutrient to limit production once pastures begin to mature. The exception is where there are endemic nutritional deficiencies such as phosphorus or sulfur.

If a diet is high in browse from native species, often the predicted dietary crude protein level will be high but much of this protein is unavailable for digestion by the cattle because the protein is bound up in tannins.

**Faecal nitrogen** is used to determine whether the crude protein level has been accurately assessed and to assist with the interpretation of predicted dietary crude protein.

**Digestibility** provides an indication of how much pasture the cattle will potentially eat in a day. Equally as important, the digestibility level is strongly correlated with energy, i.e. as digestibility declines in the diet so does the energy level.

**Non-grass** refers to all C3 plants, which includes herbage, legumes, browse and bushes that are in the diet. C3 and C4 refers to the photosynthetic pathway of the plant. C4 plants are all the tropical grasses, which have a different photosynthetic pathway to C3 plants.

If the non-grass component is primarily comprised of herbage and/or legumes, the diet quality is generally going to be much higher than if the non-grass consists primarily of native browse. Even though native browse is quite high in crude protein, some browse species contain a high level of tannins. Tannins bind with protein so the amount of protein actually available to the animal can be significantly less than the predicted level.



JCU third-year veterinary students learning the finer points of pasture quality and F.NIRS diet quality analysis of tropical pastures.



### *What other analyses can be carried out?*

**Phosphorus** can be tested in conjunction with F.NIRS. The phosphorus test is done by wet chemistry, and can be taken from the same sample of dung used for the F.NIRS test.

Because the phosphorus analysis is done by wet chemistry, the result is affected by any phosphorus supplements the cattle are being fed at the time of sampling.

The best time to determine the phosphorus status of an animal is late in the wet season while the diet quality is still relatively good.

A P:N (phosphorus:nitrogen) ratio is calculated to assess the balance between phosphorus and protein. This is particularly important during the wet season when dietary crude protein is generally high, because there may not be sufficient phosphorus in the diet for the cattle to utilise all of the protein they consume.

**Calcium** is rarely deficient in the diet of grazing ruminants in northern Australia. If there were a slight deficiency and phosphorus was being supplemented, then most phosphorus supplements such as DCP (dicalcium phosphate), MDCP (mono-dicalcium phosphate such as Kynofos®) and other phosphate-based supplements registered for stockfeed, contain enough calcium to meet this deficiency.

Too often, licks contain extra calcium through the addition of lime. Many of the pastures in northern Australia typically contain Ca:P (calcium:phosphorus) ratios of 4:1 to 7:1 (the ideal Ca:P ratio is 2:1). High ratios can occur during the dry season because phosphorus levels in pasture tend to decline much more rapidly than do calcium levels. Whilst cattle can tolerate a higher Ca:P ratio when phosphorus levels in the diet are adequate, phosphorus-deficient cattle cannot tolerate high Ca:P ratios.

Too much calcium in the diet results in the excess calcium being flushed out of the body, taking along the phosphorus, regardless of whether cattle are P-deficient or not. This is a good reason for getting both phosphorus and calcium tested initially, if you need to convince yourself that you don't need to add more calcium than what your current P supplement contains.

### *How to best use F.NIRS information?*

Whilst one F.NIRS analysis provides a good indication of the current dietary status of the cattle, it is also important to get an indication of how quickly diet quality is falling to determine:

- when cattle are likely to require supplements

- how long a supplement will be appropriate before it needs to be upgraded
- when cattle are likely to begin losing weight.

Getting consecutive analyses done for a paddock or a group of cattle that are of concern is important for developing both short- and long-term nutritional management strategies.

F.NIRS diet quality results can be used to assist in making informed nutritional management strategy decisions such as:

- timing of weaning and age to wean down to
- putting classes of cattle with the highest nutrient requirements (e.g. first-calf cows, weaners) into paddocks that have the highest diet quality
- identifying nutrient deficiencies in the diet so licks can be modified to ensure a balance between nutrients fed in licks and nutrients obtained from pasture
- identifying when to upgrade from a nitrogen-based (i.e. urea-based) lick to an energy-based supplement, before stock begin to rapidly lose weight
- identifying when to sell stock before they begin losing weight.

### *Why do a diet quality analysis this season?*

A big wet season can be slightly misleading in terms of the perceived nutritional value of pasture. Whilst many paddocks have a big body of feed and the pasture may still have some green in it, the quality may not be at the level that is normally expected.

Some interesting results I have found through F.NIRS interpretations and reports I have done for the central Queensland area include:

- Some paddocks had an adequate phosphorus level but a very low P:N (phosphorus:nitrogen) ratio. This means that there wasn't enough phosphorus in the diet for the cattle to be able to utilise all of the protein they consumed.
- Some paddocks had extremely high phosphorus levels and very high P:N ratios. These were primarily brigalow pastures. Some of the paddocks had a history of phosphorus licks being provided during the wet season in previous years even though supplementation wasn't necessary because the phosphorus level from pasture in the diet was measured to be quite high.
- On some properties producers had provided the same background

information on pasture (e.g. soil types, land types, pasture species) for a number of paddocks, yet the F.NIRS diet quality results were very different for each paddock. This means that the diet quality result for one paddock is not necessarily representative of other, similar, paddocks.

- Although some producers indicated that the pasture condition on their property was 'good' and feed was 'green', the crude protein (CP) levels were low relative to digestibility. This means that protein and energy were out of balance, so the cattle would actually respond to a nitrogen supplement (e.g. urea). This is not unusual in big wet seasons when a large amount of rain falls over a short period of time.
- In some paddocks where there was seca and buffel, cattle had no non-grass in the diet, which means their diet was exclusively based on grass.
- Many of the samples had high ash levels. A high ash level occurs when there is soil contamination of the sample, resulting in an over-prediction of the dietary crude protein and digestibility levels, making the results less reliable. Reasons for high ash levels are:
  - » cattle ingesting soil, either deliberately or while grazing herbage or short pasture
  - » samples taken from cowpats where there has been dung beetle activity (dung beetles deposit soil within the dung pat)
  - » poor sampling technique (picking up soil during the sampling process).



*Staff on a breeder property in northern Australia collecting fresh dung samples at a watering point for F.NIRS analysis.*

- There were a couple of paddocks where the owners had said that their cattle weren't doing well, however the diet quality was particularly high. If this is the case, look for other potential reasons why stock performance is sub-optimal, including:
  - » water quality, particularly bore water (pH, salinity etc); poor water quality reduces water intake significantly, which then leads to reduced pasture intake
  - » other mineral deficiencies
  - » animal health reasons for weight loss.

#### *More information?*

If you want more information on collecting and preparing samples for F.NIRS analysis or understanding the technology, please contact your local beef extension officer, or Désirée Jackson, DEEDI Longreach on 4650 1223 or mobile 0428 107 885.

## Staff Profile

**Laura Devlin**  
Extension Officer (Beef)



**Childhood:** Grew up on a cattle property near Wandoan. Attended school in Wandoan from preschool to grade 10, and completed years 11 and 12 at boarding school in Toowoomba.

**Career:** Graduated in 2010 from the University of Queensland Gatton Campus with a Bachelor of Agricultural Science, majoring in Rural Technology. A highlight of the course was a semester-long internship with the Northern Territory Pastoral Production teams in Tennant Creek and Alice Springs. Laura spent the majority of her time

helping with the collection of data for the Live Weight Gain Project in the Katherine and Barkly regions. She was also involved in a pasture and soil sampling project across the Barkly and spent some time learning about the Indigenous Pastoral Project in Alice Springs.

**Interests:** A variety of sports and travelling.

**Brag sheet:** Spent six months living on a cattle ranch in Canada after finishing school. The ranch also had a tourism business and Laura helped out with trail rides and moose and caribou hunting trips.

**Holiday:** Spent a month travelling around Vietnam and Thailand with friends.

# Ag-economics in the USA and Canada

## Interesting bits from CAES/WAES 2011

From 29 June to 1 July I was lucky enough to attend the joint meetings of the Canadian and Western American Agricultural Economics societies in Banff, Alberta. Apart from the amazing location (hard to concentrate when there are snow-capped mountains out the window), the conference covered a vast array of interesting topics from market regulation, to environmental issues and production challenges. This is a selection of notes and reflections from the sessions I attended that I thought were interesting and relevant to the Australian industry.

The conference started with a keynote address from the Chief Economist at the US Department of Agriculture, Joe Glauber. The title of the presentation was 'US Agricultural Policy and the WTO: Do as I say, not as I do', which immediately got my attention because it seems to be the way the US approaches a lot of things. Glauber focussed on the fact that US farm policies often do not take into account commitments made under foreign trade policy. The result is that the US is often very close to, if not actually, breaking World Trade Organisation (WTO) rules on subsidies and protection plans for farmers. Despite intentions from 1985 onwards to increase flexibility and reduce subsidies, these offers have generally been made at a time of high prices and, by the time agreement is actually reached, prices have fallen again with the result that subsidies remain high. Some predictions have been made that the current US budget crisis will force subsidies to be reduced but they are likely to remain at trade-distorting levels for some time. This was the first in a series

of presentations throughout the conference that discussed the range of subsidies and income protection plans in place for many North American farmers. There are good and bad aspects to these subsidies. They aim to smooth out income streams for farmers, but also make it difficult for new farmers to enter the industry. On the positive side, it means lots of money for research, particularly post-graduate research scholarships, which results in useful information for industry and skilled people to keep supporting the industry.

Another session I found interesting focussed on the factors driving prices for young cattle in the western USA. Apart from obvious factors such as the distance to the feedlot or processing plant, the other major focus was on the weaning and vaccination protocols employed prior to sale. The premium for age and source-verified cattle (most common system and requires independent verification in person) doubled between 2004 and 2007 and has continued to rise. There is also a definite premium for Angus and a discount for horns. The data used in the study came from a huge database of online auction records where cattle are video-taped and described then sold via online bidding (ebay for cattle!). The data highlighted the importance of the description in achieving premiums, particularly the need for specific details, like when and what types of vaccinations and implants were given, again highlighting the need for full and accurate record-keeping. This topic was continued in a later session that looked at red meat export market access requirements.

The US continues to delay implementing a national animal identification system, mostly for political reasons but I think it will eventually be forced on them. One of the most interesting reasons I heard for not implementing a compulsory system is that those farmers who are already voluntarily verifying their cattle will lose their premium. Unfortunately, if there is another outbreak of disease, and traceability systems are not in place, it hurts the reputation of all red meat producers. Eight years after the BSE case in Washington state US exports are only at 80% of original levels and that is only because their dollar has fallen so dramatically. The impact in Canada was more profound and export volumes are still significantly below 2003 levels.



*Rebecca Gowen  
at the Banff Hot  
Springs in Alberta,  
Canada*



To address this problem millions of dollars from cattle levies have been invested in marketing and research. The Canadian levy system is similar to that in Australia (although it is only \$1 per head compared \$5). Currently about 93% of total levies are allocated to marketing whilst only 7% goes to research. However, the Canadian beef industry is a relatively small, open economy (i.e. few trade barriers) that has little impact on world beef prices. If prices cannot be influenced, to improve returns for producers the focus must be on improving efficiency of production. The study showed that for every dollar spent on marketing the estimated return was \$7.60, whilst research returned \$46 per dollar invested. Further analysis showed that a split of 50% to marketing and 50% to research would yield the highest overall return. Approximately 70% of Australian levies go to marketing while 18–23% goes to research. Whilst marketing is extremely important (particularly in light of recent events regarding animal welfare), these results would indicate that an increased allocation to research could be beneficial. If you are interested, the full report is available at [http://nco.cattle.ca/media/file/original/39\\_Economic\\_benefits\\_study.pdf](http://nco.cattle.ca/media/file/original/39_Economic_benefits_study.pdf).

The other topic I found interesting was an evaluation of farm debt levels in Canada. Farm debt in Canada has followed fairly similar patterns to that in Australia, i.e. rising, but at about the same rate that asset values are rising. The difference being that Canadian agricultural land has not yet seen the same slump in value that has recently occurred in Australia. Currently, 13% of producers cannot service their debt without supplemental off-farm income and 3% cannot service debt at all. The continued strength of the Canadian dollar against the US (almost as high as the Australian dollar), plus rising interest rates, is likely to put downward pressure on land values, which could dramatically decrease debt serviceability.

The overall impression I got from the conference was that the issues in the North are similar to those Down Under, including the need for more skilled people, the challenges of dealing with increasing regulation and the need for increased investment in research, development and extension to cope with changing consumer preferences and a changing climate. Unfortunately the conference papers are not yet online, but if you are interested in something in particular let me know and I will try to track it down for you.

**Rebecca Gowen**

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## Tick fever: assessing the risk

Should we vaccinate against tick fever? This is the question being posed by some producers who have been affected by the recent expansion of cattle ticks after the big wet season. This involves not only producers who have recently acquired cattle ticks and those whose risk has increased because neighbours are now infested; but also properties which are normally 'ticky', and where tick numbers have increased substantially this season.

These important reminders about the lifecycle of the tick fever organisms (*Babesia* and *Anaplasma*), and the way they are spread, help define the risk:

- Cattle ticks spread tick fever; so if ticks are present, there is some risk.
- Most calves show an age-related resistance that stays with the animal until about nine months of age. Calves exposed to tick fever organisms when the age-related resistance is high rarely show clinical symptoms and develop a solid, long-lasting immunity. If this happens to all of your calves, tick fever will not be a problem, but they must be exposed to all three tick fever parasites. If cattle are not exposed to tick fever as calves, the age resistance gradually wanes with time and these animals will become highly susceptible to tick fever.
- *Babesia bovis* is spread by larval (seed) ticks and *Babesia bigemina* by nymphs. When an adult female tick feeds on a beast infected with *Babesia spp*, the *Babesia* organism is passed on through the tick eggs into the larval ticks. When the larval tick attaches, *Babesia bovis* can be transmitted within a few days.
- *Anaplasma* organisms are transmitted directly from an infected animal to a susceptible animal as male ticks transfer between animals in the yards or when cattle are camping together. They do not pass through the eggs and into the larvae.

### What then defines the risk?

#### Previous exposure to ticks and tick fever organisms

Obviously, if the herd has always been tick-free, all animals will be at risk. It is, however, a mistake to think that just because animals have run with ticks at some point that they are immune to tick fever. An engorged female tick can produce more than 3000 seed ticks, but only a very small number of seed ticks (sometimes considerably less than 1 in 1000) will carry the *Babesia* organisms. Because of this, calves do not always become infected (and therefore protected) following exposure to ticks—even though it only takes one infected tick to transmit tick fever. On top of this, low cattle tick numbers, because of dry seasons

and strategic tick control programs, can mean that a significant number of animals may not have been exposed to tick fever infections before they are nine months old and therefore are not naturally immune. This concern is real—low levels of immunity in weaners were verified in survey work across the tick-infested northern shires of Queensland in the mid-90s, with substantial property to property variation.

### **Breed**

The message here is fairly straightforward. Brahman do not often show evidence of disease after infection with *Babesia spp* (babesiosis), but are susceptible to anaplasmosis. *Bos taurus* breeds however are very susceptible to disease after infection with either *Babesia* or *Anaplasma* species. Importantly, work at Tick Fever Centre has shown that exotic *Bos taurus* breeds such as Tuli and Senepol are just as susceptible to tick fever as the more traditional European and British breeds. Crossbred cattle are in-between—more brahman content increases the resistance; more *Bos taurus* content reduces it.

## **So how do we put this information together?**

### **Scenario 1—A property, which has been tick-free, now has tick infestation**

- If it is a high Brahman-content herd with recent introduction of ticks and the cattle have all been raised in a tick-free environment—the risk of babesiosis is small (by virtue of breed) and the risk of anaplasmosis is small (because there should be no *Anaplasma* carriers in the herd).
- If it is a high Brahman-content herd with recent introduction of ticks and cattle that have previously been exposed to ticks (e.g. strays, other introductions, including bulls) are running on the property—the risk of babesiosis is small (by virtue of breed) but the risk of anaplasmosis is substantial. There could be *Anaplasma* carriers in the herd, which are a source of organisms to transmit via the male tick to other susceptible animals.
- If the Brahman content is lower than in either of the above situations, then risk of babesiosis (derived from infected tick larvae on the pasture) increases substantially and the risk of anaplasmosis is also substantial if there is a chance of direct contact with carrier animals.

### **Scenario 2—A property, which has had ticks for some time, now has much greater tick numbers**

- It is a risk in itself to assume that the cattle will be immune, simply because they have been running on a tick-infested property. The increase in risk of a tick fever outbreak will largely depend on the breed–disease interaction. The risk of babesiosis will not change much in a Brahman

herd, but the risk of anaplasmosis could increase substantially. If the Brahman content is reduced, then the risk of both babesiosis and anaplasmosis will be increased.

Tick incursions in the tick-free areas have typically been managed by strict tick control strategies. Tick fever will not occur in the absence of ticks. There have, however, been substantial losses on at least one property associated with tick fever this year in a previously tick-free area. Tick fever vaccination might need to be considered in combination with the tick control strategy.

## **Vaccination**

Should you then vaccinate the whole herd if the decision to vaccinate is made? For all except Brahman herds, the answer is probably “yes”. The *Anaplasma* component of the vaccine is not transmitted by ticks; but we know that the *Babesia bovis* component of the vaccine is potentially transmitted by ticks in some situations, and can become more virulent in the process. This has not caused any concern with use of the vaccine in tick areas where virulent organisms are already present. However, the risk of exposure to larval ticks, which have dropped from naturally infected or vaccinated cattle, could be of concern in areas with new or rapidly expanded tick populations if it was decided to vaccinate only a proportion of the herd.

In any event, whether you have ticks for the first time, the first time in a long time, or have more ticks than usual, be on the lookout for signs of tick fever:

- lethargy
- fever (as the name suggests)
- ‘red water’ (red urine)
- anaemia
- weakness
- jaundice
- some neurological signs.

**Get a diagnosis quickly.** *Babesia bovis* in particular can cause death in a matter of days after signs are first observed; and the weakness and anaemia associated with anaplasmosis, whilst taking longer to develop, can also result in significant losses.

Further information on tick fever disease, control and vaccination can be found at:

### **Tick Fever Centre**

Biosecurity Queensland  
07 3898 9655  
tfc@deedi.qld.gov.au

### **DEEDI**

13 25 23  
Visit [www.biosecurity.qld.gov.au](http://www.biosecurity.qld.gov.au) and search for ‘tick fever’



# A day of high finance

The Billaboo CQ BEEF group met at Cameron and Louisa Backus' property *Nardoo* at the end of April to discuss financial topics. Murray Davis (director of Powers Agribusiness Services in Biloela) was invited along as a key speaker and was joined by Emerald NAB representatives Kris Bowie (senior financial planning manager), Alissa Herman and Luke Sheedy (agribusiness managers). The meeting provided a number of important issues for beef business managers to consider.

Investing off-farm can be a significant benefit to your operation if done successfully. Reasons for investment may include:

- diversification to reduce risk
- building up of capital base for farm expansion
- providing funds for times of drought or to off-set decreasing commodity prices
- providing a source of income for retirement
- providing an inheritance for children as part of a succession plan to provide funds separate from the farm
- to gain a better return than agriculture??

Whatever your reason, some things to consider when deciding to invest off-farm include firstly, the stage of your business (e.g. is your business still growing, stabilising/consolidating or are you preparing for retirement?). You should also keep in mind your own personal goals as well as those of your family. Finally, do your research and be aware of the risk profile.

So how do you decide what to invest in? That will depend on a number of factors such as:

- How much capital do you have available?
- Does your business allow for additional loan servicing?
- Do you have the time and skills to manage the investment?
- What level of risk are you prepared to take?
- What level of liquidity do you require? For example, when looking at buying shares versus a house, keep in mind that a house will generally take longer to sell than shares.

If you're considering investing in direct shares it is important to remember your long-term goals and the inherent risk level versus your expected returns. Share portfolios can be time-consuming if self-managed, however you don't want to invest in shares just to make your

## Key points

- **Successful off-farm investments can benefit your business.**
- **Keep short and long-term goals in mind.**
- **Consider the risks.**
- **Talk about succession planning.**
- **It's never too soon to invest in superannuation and life insurance.**

broker rich either. If you would prefer to invest in property, your options include residential (a good retirement option if you do your homework, also consider rural versus city or coastal), additional rural land, commercial (e.g. shopping complexes) or industrial buildings (sheds, warehouses etc). When buying property be aware of stamp duty and other costs, and keep in mind the high initial capital required for the investment.

Succession planning was mentioned as a reason for possibly investing money off-farm. Each family and situation is unique when it comes to succession and it can be a tough conversation to start. Things to keep in mind include what name the assets are held in, for example parents can 'gift' a property to their children, whereas siblings are required to pay stamp duty if transferring the property from one to another. Also, sometimes the asset distribution may not be exactly equal, however, it can still be fair. It is generally better to have the conversation when everyone can be present rather than wait for a will to be contested.

Other hot topics discussed at the meeting were superannuation and insurance. You are never too young to start contributing to either of these funds. Superannuation can provide for your retirement and can also be an important factor in succession planning. There are a number of ways you can set up your superannuation and it pays to talk to a professional about which plan is right for you. When setting up insurance you need to consider both yourself and your family. There are a number of different policies with varying levels of cover available (such as death, total permanent disability, trauma, income protection etc), so it is important to know exactly what you are covered for if the worst were to happen and to make sure that your family will receive the support that they need.

Each of these strategies can have various tax or other implications so if you are not sure about something then contact either your local bank manager or financial advisor for more information before launching into a new investment project.

**Peggy Rohan**

Industry  
Development  
Officer

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# Bull selection tips

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

The season for buying new bulls and making home-bred bull selections is drawing close. How far into the future does the bull you start using today, directly influence your herd?

A good sound bull may be in the herd for four years. His daughters could be in the herd for 12 years. Therefore, a bull's genetics may directly influence your herd for up to 16 years.

Bulls have the following genetic influences on their progeny:

- when they reach puberty
- how long it takes a female to re-breed after calving
- growth rate
- carcass traits
- temperament.

All these traits are measureable, predictable, heritable and economically important to beef businesses. But how can these traits be addressed for your herd?

## Bull Breeding Soundness Evaluation (BBSE)

Fertile bulls are a 'must have' to increase your herd's profitability.

The BBSE was developed by veterinarians to standardise bull fertility testing and to provide a consistent descriptor of bull fertility. The components are:

- scrotal circumference (cm) and tone
- physical examination for faults in the head, legs, joints, sheath and penis
- semen analysis for motility
- morphology (or structure of the individual sperm cells)
- mating behavior and ability.

The BBSE is not a genetic evaluation of reproductive traits, but an indication of the bull's present reproductive function.

## Breeding objectives

We recommend setting breeding objectives for your herd. Objectively link the current herd performance for a range of economically important traits to where you would like the herd to be.

For example, you may come up with objectives such as:

- increase calving percentage by 5%
- reduce age at puberty and get heifers in calf earlier in their first season
- increase weaner weight
- reduce age at heavier weights
- Increase inter-muscular fat percentage.

The follow-up that is needed is to identify the measureable traits in bulls that will meet these objectives.

## Using Breedplan EBVs for economic traits

### Fertility

- Scrotal Size EBVs—above average EBVs will lead to earlier puberty in daughters. Use in conjunction with minimum actual scrotal size.
- Days to Calving—where available, because not all breeds have them. Below average EBVs lead to quicker re-breed times after calving.

### Growth

Better genetic growth will contribute to:

- higher mating weights in heifers.
- heavier turnoff cattle at younger ages.

### Carcass

The carcass traits of eye muscle area, rib and rump fat and inter-muscular fat can all be improved (or decreased), depending on the objectives, by using the carcass trait EBVs.

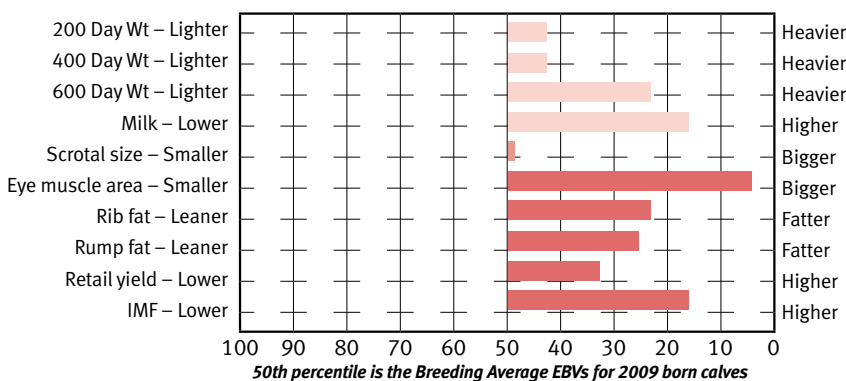
### Breed average

Always check for the breed average for each trait and see where your purchase prospect sits relative to the average.

## Balance in selection

We recommend using balanced selection across the traits for fertility, growth and carcass.

Example Droughtmaster Bull EBVs—2011  
Droughtmaster Group BREEDPLAN



# Remote water monitoring technologies will save time and money

## Invitation

DEEDI invites landholders to a morning of information and demonstrations sponsored by MLA on remote water monitoring technology.

## Event details

**Date:** Thursday 13th October 2011  
**Time:** 9am—1:30 pm (morning tea & lunch included)  
**Venue:** 'Birrong' Turn North 1.5 km on Orion Road, 30 km East of Springsure on Dawson Hwy

## User tips from graziers

Remote monitoring technologies have saved Australian producers hundreds of thousands of dollars over the past few years. This technology helps you reduce labour and fuel costs and protect your livestock investment and their welfare. At this field day you will hear from Roma region producers about their experiences and the benefits they have gained.

Finance issues will be discussed e.g. return on investment examples. Equipment supply, installation and after sales service questions answered by equipment suppliers.

Speakers will include Ross Rolfe, Richard Golden, Kent Morris, Paul McGavin and Les Zeller.

## RSVP

**RSVP to Les Zeller by Friday 7th October 2011**

**Tel: 07 46881208 or 0427013152**

**Email: [les.zeller@deedi.qld.gov.au](mailto:les.zeller@deedi.qld.gov.au)**





## Producer Profile— Robert and Jane Sherry

Robert and Jane Sherry are the owner-managers of *Wahroonga*, a 9880 ha aggregation in the Clarke Creek district, 100 km north west of Marlborough. *Wahroonga* is comprised of 2500 ha of brigalow softwood scrub with the remainder being ironbark timbered open range country. The Sherrys run a breeding operation on the range country and grow out and fatten on the better scrub country.

When the business was first started the Sherrys were selling weaners. Now, of their 300 number nought steers, 100 will make it into bullocks and 200 will be sold as feeder steers. The number nought heifers are mated as yearlings and preg-tested in June, with the empties sold straight to the nearby Barmount Feedlot. Robert says the prices are probably a bit behind Gracemere's but as there are no selling costs involved and minimal freight, it's the better deal.

Subdivision of paddocks on both the range and scrub country has seen improvements in pastures through the ability to graze and rest pastures in rotation. Robert says there is more work to be done with waters. Fencing the range country has also enabled Robert to remove all breeders from the scrub country and this allows them to keep their young stock longer.

This year, 850 breeders were mated on *Wahroonga* and the aim is to get 600 calves off the range country. This year's calf drop was back after the seasonal conditions experienced in 2009. Between 120 and 130 empty cows are sold each year and, with the heifers, 200–250 females are sold each year.

The Sherrys have been growing sorghum on some cultivation country, however a decision has been made to put this to butterfly pea. Breedcow Dynama herd modelling and Robert's experience has shown that the breeders on the range country are not a self-replacing herd. Robert hopes that the butterfly pea should help more yearling heifers reach reproductive weight. Robert also acknowledges that the soil depth is probably



*Front (from left): Olivia, Claire and Georgia  
Back: Jane and Rob Sherry*

not there for cropping and the country would be better suited to butterfly pea and pasture.

Down the track the Sherrys are looking to plant a further 40 ha of leucaena. There is currently 120 ha of leucaena on *Wahroonga*, 80 of which was there when the Sherrys bought the property.

The Sherrys' trading operation has been buying in cows and calves and turning both off. Robert will move to buy in steers and/or heifers. "Buying cows from the north you don't get a big frame and you can't put much on them, you end up selling a \$650 cow," Robert says. He uses both KLR spreadsheets and the Bullocks and Cowtrade programs of Breedcow Dynama to make trading decisions and will look to buy some young cattle this financial year.

Robert aims to handle most of the cattle by himself with some additional help at branding.

Robert's passion within the industry is to breed a better article suited to both the climate and market and has been using carcass competitions to gauge his success. He says it makes you look at the beasts you keep. The Sherrys main aim is to look after the country. Robert says that keeping his resource viable is keeping his business viable. This is why the Sherrys, along with other Clarke Creek district graziers, became involved in the Climate Clever Beef Project. The group is comparing soil microbe and carbon tests over 19 sites. For a discussion of the results, tune in to our next CQ BEEF newsletter.