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Drought a key focus as Qld waits for rain

WHILE drought continues to affect large swaths of Queensland, this edition of Beeftalk focuses on the importance of having a drought plan and the role of rain in drought management.

Many producers are facing challenging times due to the ongoing drought conditions. The article emphasizes the need for a strategic approach to drought management, including planning for the timing of husbandry practices such as mating systems or weaning.

The article also highlights the importance of recognizing the timing of your spring/summer rainfall. It explains that producers should have a realistic expectation of their rainfall, based on the long-term average rainfall figures.

For example, in Gympie, the median spring/summer rainfall is 775mm. However, the median rainfall for those months (that is, what happens 50 percent of the time) is lower at 715mm. This means that producers in Gympie should not expect a 50mm rainfall event within a consecutive three-day period.

The article also encourages producers to have a vision of what they would like to avoid in drought, plus a vision of what a green day is and your location. It suggests that producers should keep an open mind and without blame, what worked well, what didn’t, and what could have been done differently.

Another valuable exercise is to list all the things you would like to avoid in drought, plus a vision of what your business would ideally look like in handling a drought. For each point on the list record how you can achieve these things. Then record who would do what and most importantly when. This is your drought plan.

The article also encourages producers to invest in educational workshops and resources such as the BeefTalk workshops and resources. It suggests that producers should be aware of the importance of rain and the role it plays in drought management.

The article concludes by acknowledging the efforts of those producers using the long-term spring/summer average of 775mm as a benchmark figure for setting long-term stocking rates and feed budgets. It also highlights the importance of recognizing the timing of your spring/summer rainfall in about four years out of 10.

The article concludes by encouraging producers to have a realistic expectation of their rainfall, based on the long-term average rainfall figures. It also highlights the importance of recognizing the timing of your spring/summer rainfall in about four years out of 10.
Managing for land condition

**Producer profile: John and Jan Burnett, Bundemer, Clermont**

**BACKGROUND**
The Burnett's own and manage several properties in the Flinders and Burdekin catchments. The properties are mainly scrub, forest and downland with significant areas cleared with buffel grass established. The herds are mainly self-replacing and turnoff is EU and Jap steers, domestic and EU females, and cull cows. Most of the properties are developed so that cattle are not walking more than 3km to water, and paddocks are sized to carry fewer than 100 head for ease of management.

Managing for good land condition and animal performance is a key business priority for the properties to ensure future viability. This is achieved through conservative stocking, adjusting stock numbers to seasonal conditions, wet season spelling and burning.

**MANAGING FOR LAND CONDITION**

John is quite passionate about land condition and the benefits it brings economically, ecologically and to the management of the business. Good land condition enables the maintenance of carrying capacity and pasture resilience due to the abundant regrowth are considered when estimating the long and seasonal aspects of grazing. The aim is to stock under low carrying capacity for each property. This allows a large buffer of feed on hand for dry conditions. During dry conditions the stock numbers can be reduced through more stringent culling of the breeder herd, or earlier sales of the dry cattle.

The numbers of cattle which are normally purchased onto the properties will also be reduced. Cattle numbers are then built up gradually after a drought, as pasture resilience allows. Good distribution of water points assists with an even grazing distribution and effective infrastructure allows regular spelling.

**KEY POINTS**
1. Mortgages should not be encouraged to run high stocking rates for grazing capacity and pasture resilience due to the abundant regrowth.
2. Mortgagees should not be encouraged to run high stocking rates for grazing capacity and pasture resilience due to the abundant regrowth.
3. “We could run more stock, but prefer to ensure our future viability by conservatively managing our cash flow and equity.”

**INTEGRATED MANAGEMENT**
John believes the benefits of a planned stocking rate and rotational grazing have synergy with the practicalities of property management and stock husbandry. For example, where a paddock is to be burnt, adjoining paddocks will be run at a higher stocking rate for fire-hazard reduction. Breeder herds can be rotated to another paddock after processing at branding or weaning for ease of management. Turnoff cattle will be moved closer to stock yards to avoid having to pay the high prices that inevitably still be looking for grass.

**RESTOCKING**
This can mean bringing cattle home or buying replacement animals from other areas. Be aware that these purchased animals may not be adapted to your conditions. For example, they may need to be vaccinated for tick fever, bovis or vibrio. Be careful you don’t bring home unwanted diseases or weeds such as parthenium.

**What to do when the drought breaks**

*When the rain comes, all our troubles will be over!* That’s what we like to think, especially when we are in the middle of drought with animals losing weight, stock to be sold and dust blowing.

However, the hard work of managing a drought continues after we have received rain. So what are the rates are aimed to be lower than long-term carrying capacity, giving the pasture time to grow with minimal grazing pressure.

The Burnett’s have demonstrated our improved management. This critical time in John’s career was when his father feed cattle from nearby State Forests to give a good body of feed as a buffer for dry times. They have never repeated this practice, but supplements with a mineral/protein mix as required.

**What worked well and what didn’t?**

What action could you take to improve your situation next time, i.e. better water supplies? Write these ideas down and work them into future management plans.

**CONSIDER THE DOLLARS**
Talk to your accountant and/or bank manager about your proposed recovery program and how you will manage cash flow and income through this often difficult time.

**Restocking**
This will provide you with some cash flow and you will avoid having to pay the high prices that inevitably follow a dry spell like this.

**CONTROL WEED GROWTH**
During the drought, feed sources will have come from many areas and may have been contaminated with weeds. Be vigilant to identify weed species early and control them before they become a problem.

**REVIEW THE DROUGHT**
Just like death and tax, it is inevitable we will face another drought. Have a think about the things you can control (energy is wasted on things you cannot).

**What worked well and what didn’t?**

With the benefit of hindsight, what would we have done?

**Action now: 1980s and 2000s**
Throughout the 1990s and 2000s, there has been a dramatic improvement that shows as an industry we have demonstrated our improved management. This deserves public recognition.

**Summary**

Well-established infrastructure, together with a conservative stocking rate policy, reduces numbers during dry periods, wet-season spelling, burning and a flexible rotational grazing system that works in synergy with the practicalities of management, contributes to good land condition. This management system has enabled John to be in the position he wants, and expand the enterprise.


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26 December 2013  BEEFTALK  QUEENSLAND COUNTRY LIFE  25

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Preserving pasture after drought

PROLONGED periods of drought, such as we have had, may extend the life of some promising pasture species under stress. In the drought years following the wet season, pasture site quality can deteriorate rapidly. In such conditions, plants will require expert management to achieve the best outcome in providing forage for grazing. Pasture site quality is maintained by soil moisture, sunlight, and rainfall, which in the early stages of recovery, are essential for pasture productivity.

During the drought years of 2012/13 and 2013/14, desert bluegrass and wiregrass were affected by high grazing pressure, especially during the second three years of the trial. Desert bluegrass and wiregrass make a significant contribution to composition at both sites. Spelling treatments have not affected pasture parameters at either moderate or high stocking rate after one summer. Spelling treatments have not affected total crown cover (Figure 2c and d). Similarly, desert bluegrass and wiregrass species crown cover has been stable regardless of spelling treatment. In the regional environment, spelling treatments have not affected total crown cover (Figure 2c and d).

The three years immediately prior to trial establishment (2009/10, 2010/11 and 2011/12) had above average rainfall and good growing conditions. The 2012/13 year had an average rainfall and growing conditions after a wet July. Total pasture yield was relatively low and the year had been a small overall increase over time at both the moderate and high stocking rates. Spelling treatments have not affected pasture parameters at either moderate or high stocking rate. The full season spell in 2012/13 appeared to have significantly increased pasture yield in the high stocking rate paddock (Figure 2a and b). Total crown cover has increased under the moderate stocking rate and has been stable under high stocking rate. Spelling treatments have not affected total crown cover (Figure 2c and d). Desert bluegrass and wiregrass species crown cover has been stable regardless of spelling treatment. In the regional environment, spelling treatments have not affected total crown cover (Figure 2c and d).

The study was conducted through four years of severe drought and then four years of above average rainfall. Both of these studies concluded that paddles with good crown cover at the end of the trial period will recover to pasture species with good potential for pasture production. Desert bluegrass is the key 3P grass at both sites. Its potential of the desert bluegrass to demonstrate enhanced growth compared to the wiregrass. The third year of the trial included a single dry and growth conditions for both sites are likely to have had the overriding influence on pasture parameters for the first three years at Monteagle. Conditions at the end of the trial period were likely to have had the overriding influence on pasture parameters for the first three years at Monteagle.

This is also the time to consider introducing legumes to grass dominant pasture. Remember, pasture must go to seed if they are going to continue to produce beef and dollars (rain helps, too!).

Damien O'Sullivan, DAFF, Kingaroy
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Dry weather plus introduced feeds equals weeds

TO MINIMISE POTENTIAL WEED PROBLEMS:
1. Try to feed stock in designated areas away from watercourses.
2. Quarantine introduced stock in yards for five to eight days to reduce the possibility of weed seeds spreading through the paddocks in their dung.
3. Monitor areas where fodder has been fed and inspect for weeds.
4. Ask feed suppliers for information on the source of the fodder and inspect for weeds.
5. Consider using and asking for a weed hygiene fodder.

Further reading

Common name
Button grass
Livered grass
Mini wheat
Daring pea
Fuchsia bush
Lantana
Green oatstrim
Noogora burr
Mulga fern
Sorghum regrowth

Scientific name
Dactylisctenum radulans
Urochola panicodes
Salsola reflexa
Portulaca oleracea
Mipourmum deserti
Swainsia spp.
Eremophila maculata
Lantana camara
Centrum parryi
Xanthium pungens
Chelalantes sieberi
Sorghum spp.

Problem areas
stock yards
stock yards
stock yards
young shoots
young shoots

Further reading

POISONING from toxic plant growth poses a real threat to stock. Certain plants can be especially toxic when eaten at a young stage of growth by hungry or starved stock. If you still can’t find the weed you’re looking for, email: damien.o'sullivan@dpi.qld.gov.au

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To help identify a plant you’ll need to supply sufficient material. This includes leaves and stems, and whenever possible, flowers, fruit and/or seeds. Also describe the environment and soil type where the plant was growing, and how large the plant is (if it’s too large to bring in a complete sample). If you suspect it is a declared plant, secure the sample carefully in a bag to prevent seed spread.

A sample being sent to the herbarium should be dried under a weight between sheets of newspaper over several days. The paper will need changing to prevent mould. Once dried, the sample can be sent to the herbarium.

Plastic bags should not be used. Potential problem weeds identified in small numbers are far easier and cheaper to control than weeds rampaging over large areas. Damien O’Sullivan, DAFF, Kingaroy

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Region weed spotter coordinators can also help identify weeds. Visit http://bit.ly/3Kd9Q to contact your local coordinator. Alternatively, any unusual or unknown plants can be left at your local DAFF office for identification or sent to the Queensland Herbarium for positive identification.

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Further reading
Reflections of drought

PRODUCERS of the north-west slopes of NSW undertook a review of their drought preparation and business strategies for 2003. Grainners came together to evaluate the various ways by which different operators manage — before, during and after the event.

Certainly each business responds individually to changing seasonal conditions depending on attitudes and circumstances, however in terms of the many decisions taken during the drought, producers nominated their best decision as ‘destocking to critical dates’, and their worst decision as ‘not acting early enough’. Overall, the key messages focused on forward planning. ‘Know what you are going to do and when’ as the key to staying in control.

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the key to staying in control.

THE current dry conditions across the state are prompting many producers to ask how the drought declaration process operates. There are two types of declaration, an individually drought declared property (IDP) and an area or shire declaration.

INDIVIDUALLY DROUGHT DECLARED PROPERTIES (IDP)
IDP declarations are available to all drought-declared primary producers operating enterprises involved in primary production. This does not include hobby farmers, but does include share-farmers and lessees.

Eligibility for an IDP declaration is based on:
● Has the property been in a one in 10 to 15-year rainfall deficiency timeframe?
● Has the property been in a one in 50-year rainfall deficiency timeframe?
● Does the property have an established carry-over reserve?
● Has the property been in a one in 100-year rainfall deficiency timeframe?

and may be eligible for declaration.

● Stocking rates for the property are acceptable for the type and class of land.
● There is a demonstrated drought management plan in place, e.g. stocking rates have been reduced, drought feeding has already commenced.
● Normal winter supplementation of stock is not classed as drought feeding.

A local drought committee made up of local industry representatives may be asked to help determine if a property meets the criteria for a declaration.

AREA DECLARATION
In this case the local drought committee considers whether a shine or part shine meets the criteria of being declared. The Drought Relief Assistance Scheme has five types of assistance available. These subsidies are for:
1. Transport of fodder freight subsidy.
2. Transport of water for livestock freight subsidy.
3. Transport of livestock returning from agistment freight subsidy.
4. Transport of animals purchased for restocking after the drought, freight subsidy.
5. Emergency water infrastructure rebate.

You could be eligible for financial assistance for any of these criteria if you are eligible.

There are special conditions for each type of assistance.

For more information and to determine your eligibility please contact the Drought Hotline on 1800 025 656 (free call) from Monday to Friday, 8 am to 6 pm (excluding public holidays). Drought application guidelines are also available on the DAF website at http://bit.ly/1cTL7Ry.

There is a list of drought-declared shires and dates available at www.longpaddock.qld.gov.au under the heading drought.

Drought declaration processes for Queensland primary producers

OF CRUCIAL IMPORTANCE IS TO:
● Have a plan
● Set critical dates
● Progress personal educational needs
● Have a strategy for recovery.

THIRTEEN KEY LESSONS LEARNED
1. Drought occurs when stocking rate exceeds carrying capacity (i.e. drought is not only rainfall-induced).
2. Humans control stocking rate.
4. Success in drought is achieved in the same ways as at other times (e.g. using sound business management principles).
5. We should start with goals, and write and communicate the plan, including the recovery plan. (Plan now for next time, with the plan down, have the plan in the folder. Don’t lose the folder.)
6. Fine tune the plan regularly once it is put into place.
7. Move early.
8. Remain positive – keep in touch with positive people.
9. Set critical dates.
10. Beware the emotional load! Share the responsibility with family members.
11. Watch out for unmanageable equity losses.
12. Look on mistakes as just learning opportunities.
13. Preserve the pasture base for financial recovery and future generations.

Financial: Limit equity loss. Maintain cash flow as much as possible.
People: Stay positive and in control. Be an opportunist. Maintain harmonious communications with business and family. Ensure networking and educational needs are met.
Production: Maintain the strength of the business. Make use of off-farm investments, farm management deposits, grass in the paddock, or fodder in storage.

**A NEW booklet for coastal south-east Queensland land managers is now available.** This booklet aims to help grazing property managers, from those on small grazing blocks to properties of 10,000ha or more, to establish and maintain healthy, productive and sustainable pastures.

It was compiled by Damien O’Sullivan of DAF. Kingaroy and supported by SEO Catchments through funding from the Federal Government’s Caring for Our Country — Achieving groundwater targets in South East Queensland project.

Topics covered include:
● Managing pasture condition
● Grazing to suit your situation
● Using legumes to increase carrying capacity
● Establishing sown pastures
● Selecting the best pasture mix
● Legumes descriptions and planting rates
● Grass descriptions and planting rates
● Contacts and other information sources.

Download your free copy of Pasture management for South East Queensland from FutureBeef at http://bit.ly/1i7J1EU or contact Damien for a hardcopy on phone 07 4160 0717 or email damien.o.sullivan@daff.qld.gov.au.

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**New pasture management book for SE Queensland**

**Reflections of drought**

**FibrePro…Protected Animal Performance**

Highly Weather Proof
Complete Supplement: Protein, Mineral & Vitamin
Stimulate Microbial Fermentation
Increase Dry Matter Intake

Contact Performance
Feeds today to learn more about or FibrePro® Range, FibrePro™ is also available for Sheep.

Please freecall: 1800 300 593 or visit our website: www.performancefeeds.com.au

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TO MAINTAIN high future fertility breeders must go into winter in good condition. If cow condition has been compromised, for instance due to drought, then early weaning is a powerful management tool to help cows hold or improve condition.

Feeding the cow and calf together does not help cow condition because the feed goes into milk for the calf. Lactation increases the cow’s energy and protein requirements by 30 to 40 percent—equivalent to needing to feed two to 3kg of grain.

Weaned cows require much less supplementation. Some of these cost savings need to be invested in keeping the calf growing.

Early weaning trials during dry times and drought show that weaned cows have better condition scores and considerably higher pregnancy rates than those with suckling calves. Weaned, supplemented calves performed just as well as those left on the cow.

WEANER GROWTH RATES
Calves under six months old can be weaned successfully and suffer no ill effects if they are fed and managed well. Weaners not adequately supplemented fail to thrive and may be poor doers all their lives. For a feeding program to be successful draft calves by weight into the following groups:

- 60 to 100kg
- 100 to 150kg
- over 150kg.

Only wean calves less than 60kg in extreme drought conditions to stop cows dying. These very young calves need special attention and it may be easier to feed the cow and calf until the calf reaches 60kg. The following minimum growth rates are recommended for weaners of various weights and ages:

- Under 100kg (three months) should grow at a minimum rate of 400g per day (1.2kg per month).
- 100 to 150kg (three to six months) should grow at a minimum rate of 300g per day (9kg per month).
- 150kg plus (six months plus) should grow at a minimum rate of 200g per day (6kg per month).

Weaning and appropriate management can stop cows dying and may enable them to be marketed for beef towards a light export market. The oldest calves (8 months old) were targeted for feeding the cow-calf unit. These calves were targeted to grow towards the lower weight group into that group. This will reduce competition in the lower weight group and may reduce the cost of feeding.

Early weaning trials during dry times show that weaned cows have better condition scores and considerably higher pregnancy rates than those with suckling calves.

Early weaning trials during dry times show that weaned cows have better condition scores and considerably higher pregnancy rates than those with suckling calves.

Reducing weight loss in weaners going on green pick by continuing to feed a supplement with high levels of true protein (protein meal) until there is plenty of green feed.

FEEDING
It is important that all calves start feeding as soon as possible after weaning. Have the feed prepared before weaning. It is essential to train calves to eat supplement in the yards while they’re being weaned.

Putting a couple of older cattle in with them may assist in the initial stages of training by teaching them to go to a trough for feed. Draft shy feeders out for special training. The feeding rates below should hold weight or give slight weight gains but are a guide only. How the calves perform is the best indication of how much supplement they need and you’ll need to adjust intakes accordingly.

Whole cottonseed contains gossypol, which can cause digestive problems and in extreme cases kill young calves. Therefore don’t feed more than the level indicated. If more supplement is required combine whole cottonseed with one of the other supplements. Adding a co-occidental such as Rumensin or Bovatec may benefit all calves. Use according to manufacturer recommendations. Some commercial feeds include a co-occidental in the mix. Draft calves that reach the threshold weight for a higher weight group into that group. This will reduce competition in the lower weight group and may reduce the cost of feeding.

Feeding rate for calves 60 to 100kg
Feed unlimited pasture or hay plus one of the following supplements:

- 0.25 to 0.5kg/head/day protein meal.
- 0.5kg/head/day protein meal.
- 1kg/head/day grain mix.
- 1kg/head/day grain mix.
- 0.25 to 0.5kg/head/day/meal.
- 1kg/head/day grain mix.

FEEDING rates for calves 100 to 150kg
Feed unlimited pasture or hay plus one of the following supplements:

- 0.25 to 0.5kg/head/day protein meal.
- 0.5kg/head/day protein meal.
- 1kg/head/day meal.
- 1kg/head/day meal.
- 0.5kg/head/day whole cottonseed.
- 1kg/head/day whole cottonseed.

Feeding rate for calves over 150kg
Feed unlimited pasture or hay plus one of the following supplements:

- 0.25 to 0.5kg/head/day protein meal.
- 0.5kg/head/day grain mix.
- 1kg/head/day of molasses plus 3% urea and 5 to 10% protein meal.
- 0.5kg/head/day whole cottonseed.
- 1kg/head/day whole cottonseed.

PARASITES
Treat all calves for internal and external parasites four to six weeks after weaning. Young calves are particularly susceptible to parasites. A few parasites that cause no problem when calves are suckling, can become a major problem when they’re stressed.

Freshly in racks to avoid dirt and dung contamination which may contain parasite eggs. Stress is a major cause of disease and dusty conditions are particularly stressful. Try to minimise stress where possible with good handling, food, water and shelter.

WATER
A supply of good clean water is essential. Troughs need to be cleaned regularly when feeding calves in yards, especially when feeding grain.

To download from www.futurebeef.com.au or by phoning Ken Murphy, DAFF Rockhampton, on 07 4923 6237.

Lessons learned from 2002 drought
LIKE most of Queensland, the border region around Goondiwindi went into the 2002 summer with limited paddock feed and a very poor outlook for drought-breaking rain. By the time cows had calved (July to September) paddock feed was very limited in both quantity (approximately 6000 dry matter hay) and quality—much below that required to maintain a lactating cow. Calves were progressively losing liveweight and this was accentuated after calving.

In September, one producer weaned 50 calves that were from one to three months of age, weighing as little as 55kg (the weight range of the group was 55 to 109kg). This released most of the high nutritional demand of lactation. With minimal additional supplementation, the cows were able to access sufficient forage through ‘top feed’ (tress plus grass) to meet their daily requirements. Calves were held in the yards and fed a mix of rolled grain, sodium bicarbonate and a commercial feedmix containing Rumensin (to help prevent coccidiosis). This was a combination of sorghum, corn, barley and faba bean.

The mixed ration was 17.3 percent crude protein and 12.3 megajoules of energy per kilogram and was fed at 1kg per calf per day. All calves were allowed free access to sorghum stubble hay (pictured above).

After two to three weeks in the yard, all calves had gained 19 to 35kg liveweight and had learned to eat from a trough. After three weeks the calves fed from a self-feeder in the paddock.

Going onto self-feeding access a high-quality grain ration in the self-feeder reduced demand on the available pasture. This allowed the pasture to respond to the small falls of rain that were received. Subsequently the calves continued to increase in liveweight in the paddock with gains in the order of 0.3 to 0.6kg per day.

The very youngest calves did not gain weight in the paddock as readily as the older calves in the group. This may be due partly to the absence of any subsequent rain and pasture response in December–January. However all calves were healthy and weaning reduced demands on the cows that gained weight with re-mating and conceptions in the order of 60 to 80pc.

The cost of feeding these calves was $8.00 per head per day (including the hay). Due to the potential of calves to grow, this was more efficient use of the feed resource than feeding the cow-calf unit. These calves were targeted towards a light export market. The oldest calves (8 months old) were only 50kg short of the target specification.

For more information about early weaning contact your local Fulbrighted officer, phone 13 12 32.
The greatest risk with using alternative stock feeds, such as cane tops and grape marc, come from chemical residues and their potential impact on food safety and Australia’s beef market access. Further risks include potential weeds, variable nutrient value and toxins. To minimise chemical residue risk, producers should request a relevant vendor declaration from feed suppliers. There are five stock feed and fodder vendor declarations which will help underpin Australia’s food safety regulation globally.

• Two commodity vendor declarations
• Two by-product vendor declarations
• One fodder vendor declaration

These declarations help producers have confidence that they are meeting the requirements of element 3 of the Livestock Production Assurance (LPA) program by ensuring that livestock are not provided feeds containing unacceptable animal products, and that appropriate withholding periods, export slaughter dates, and grazing intervals are observed to manage risks from unacceptable chemical residues. The declarations are available for use by producers to substantiate claims made on an LPA National Vendor Declaration and Maybell computer program (MDC), existing loan details can be used. Otherwise, registering is a simple and well-guided process – email iapdafa@iinet.net.au to find out more.

Be aware of the possibility of importing weed seeds, particularly in hay and grain. Ask for a weed hygiene declaration. Feed hay and grain at designated feed-out points and check these areas regularly for weeds. The nutritional value of many by-product feeds can also be highly variable. It is best to ask for a nutrient analysis to understand the quality of feed being bought. Beware potential toxins – for example, mycotoxins from mould and sometimes prussic acid or nitrate in forage sorghum hay, to name a few. Remember too that it is illegal to feed food or food scraps containing animal matter to livestock (i.e. pigs, poultry, ruminants). For more information about restricted risk assessments, feed and fodder declarations, visit Meet a Farmer – Australia’s website or check the SAFEMEAT website. 

To minimise the risks of buying feed contaminated with chemical residues, follow these seven steps:

1. When purchasing the purchase of stock feed direct from the grower, request a commodity vendor declaration as a condition of purchase. Inspect the vendor declaration before you finalise the deal and make sure the details are complete.
2. Make sure you inform the seller of how you intend to use the feed and the type of animal it will be fed to. Stress the importance of your knowing the chemical history of the stock feeds you buy.
3. Check the label or invoice to ensure you are purchasing an appropriate product. Stock feed bought from manufacturers must have a label or invoice that clearly states the intended purpose of the stock feed.
4. Keep a record that includes details of stock feed, feeding dates, manner of feeding, amount fed and the paddocks in which the stock were fed.
5. Do not buy or use unusual feeds unless you are satisfied they do not present a residue risk.
6. Keep clear records of the above.
7. Store a sample of the stock feed on-farm so if problems do occur, further testing can be done.

To buy or use unusual feeds unless you are satisfied they do not present a residue risk.
Phosphorus deficiency: how widespread is it?

IT is well established that vast parts of Queensland are phosphorus (P) deficient. While brisgallow country is known for its fertility, could the fact that nutrients on some old cropping country are now low enough in P to limit livestock performance during the wet season or on pastures?

The typical form for minerals to become a limiting nutrient to performance is when feed is at its best, such as during the wet season or on forage crops such as oats. Conversely, during the dry season the low protein and energy values of pastures limit performance, not minerals.

There have been reports in southern Queensland of low liveweight gains on summer pastures with significant responses when supplemented with P. There have also been reports of bone chewing on oats crops.

Gavin Pack of DAFF Toowoomba and his team are currently reviewing the P requirements for sown pastures and forage crops in the Brigalow belt. The impact of P deficiency is reduced pasture intake, and correspondingly reduced weight gains and fertility.

The cattle most affected are those with the highest nutrient demands such as lactating breeders and young, fast-growing stock.

Tests and indicators for P deficiency include soil, land-type, blood, dung, animal performance, clinical signs and trial feeding or fertilising. Soils with bicarbonate extractable P (also known as P status) of land in southern Queensland as it relates to animal performance. Source: Phosphorus nutrition of beef cattle in northern Australia, McCosker and Winters (1994).


For more information about P deficiency, download a free copy of Phosphorus Management of Beef Cattle in Northern Australia, from MLA at www.mla.com.au/Publications-tools-and-events/Publications or order a free hardcopy by phoning the MLA membership services hotline on 1800 675 717 or emailing publications@mla.com.au.

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Phosphorus status

Adequate
Marginal
Marginal in P, and P has been removed in grain and forage crops like oats. Some land types typically low in P in southern Queensland include, wallum, traprock, poplar box woodlands, mulga, eucalyptus pine-bull oak, spotted gum ridges, sandy duplex and shallow, hard-setting clay loams.

Graeme also supported the Gympie Carcase Classic, an acknowledged expert and somewhat of a legend in his profession and community. Graeme is a smart worker who constantly upgraded his knowledge through conferences, learning habits and encouraged his clients to do the same. He is a very positive and friendly person with an can-do attitude to providing solutions to industry problems.

In recent years he was heavily involved in Reef Rescue projects, working in partnership with the Mary River Catchment Coordinating Committee (MRCCC), assisting producers with on-ground projects to improve land management practices and enterprise sustainability. He has also been on countless local industry committees and drought and disaster management groups, providing invaluable technical expertise and experience.

The Queensland beef industry and the department have been very fortunate to have had decades of dedication from Graeme, resulting in many project collaborations with local natural resource management and industry groups like the Gympie District Beef Liaison Group.

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**Keeping it simple: how much do cattle eat?**

**PEOPLE** often ask how much cattle eat. To keep it simple, cattle eat around two percent of their liveweight in dry matter per day – less on poor feed and more on good feed. For example, 2pc x 400kg liveweight = 8kg of dry matter daily.

**MOISTURE IMPACTS ON FEED QUANTITIES**

Most feeds contain moisture and in nutrition terms, feed with its moisture included is described as ‘as fed’ or ‘fresh’ or ‘wet’. Dry matter (DM) is the weight of feed remaining if all the moisture is removed. Grain, hay and plant meals (as fed, fresh or wet) are usually around 90pc DM and 10pc water. One kilogram ‘as fed’ grain therefore contains 900g DM and 100g water. Pit silage is often about 30pc DM (ie. 300g DM and 700g water/kg).

Therefore, cattle need to eat about three times as much silage as grain for the same DM intake. Table 1 (below) shows how 30pc DM silage at $100/t has the same dry matter cost as grain at $300/t. Each feed supplies different amounts of energy, protein and minerals. For how to cost supplements, visit FutureBeef at [http://bit.ly/1bjjXEy](http://bit.ly/1bjjXEy).

Do your sums carefully if buying high-moisture feeds, otherwise a lot of money can be spent buying and freighting water.

**FEED INTAKE CONTINUED**

Highly digestible feed passes quickly through the rumen and so cattle can eat more, e.g. 2.5pc or even higher for young cattle and milking cows. Fibrous feed takes longer to digest and so cattle eat less. On pasture with very low digestibility (<50pc), cattle may only be able to eat about 1.2pc to 1.5pc of liveweight and will be losing considerable weight due to the combined effects of low intake and the low quality of the ingested forage. In Table 2 (bottom left), the higher intakes and performances are only possible with more digestible feeds while the lower intakes and performance are with less digestible feeds. Not only can cattle eat more of higher digestible feeds but they also obtain more energy per kilogram of DM eaten. Nutrient imbalances such as low protein or phosphorus will also reduce intakes. Correcting imbalances with supplements can increase pasture intakes up to 30pc, sometimes necessitating reduced stock numbers.

Table 3 (below) is a guide to full hand-feeding levels (as fed) for cattle maintenance. During periods of cold weather, these levels should be increased by 20pc, using hay if possible.

---

**Table 1 Impact of moisture on feed levels and price**

<table>
<thead>
<tr>
<th>DM%</th>
<th>WATER %</th>
<th>KG DM</th>
<th>KG WT</th>
<th>$/T WT</th>
<th>$/T DM</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRAIN</td>
<td>90</td>
<td>10</td>
<td>8</td>
<td>8.9</td>
<td>300</td>
</tr>
<tr>
<td>MOLASSES</td>
<td>75</td>
<td>25</td>
<td>8</td>
<td>10.7</td>
<td>200</td>
</tr>
<tr>
<td>SILAGE</td>
<td>35</td>
<td>70</td>
<td>8</td>
<td>28.7</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 2 Approximate daily dry matter intakes (kg DM and % liveweight) for given liveweights**

<table>
<thead>
<tr>
<th>CLASS OF STOCK AND BODYWEIGHT</th>
<th>GRAIN</th>
<th>HAY</th>
<th>50:50</th>
<th>80:20</th>
<th>SILAGE (30% DM)</th>
<th>EXPECTED GAIN/DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breeders, lactating (425kg)</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>0.24kg</td>
</tr>
<tr>
<td>Yearlings (250kg)</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
<td>0.14kg</td>
</tr>
<tr>
<td>Adult dry stock (400kg)</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
<td>0.20kg</td>
</tr>
<tr>
<td>Breeder, late pregnancy (425kg)</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
<td>0.20kg</td>
</tr>
<tr>
<td>Breeder, lactating (425kg)</td>
<td>7.4</td>
<td>7.4</td>
<td>7.4</td>
<td>7.4</td>
<td>7.4</td>
<td>0.20kg</td>
</tr>
</tbody>
</table>

---

You can’t control the weather. But you can make the most of every season with CompuDose®, the proven way to maximise growth rates in grassfed cattle. Its 15.8% average liveweight gain advantage¹ allows you to increase total production or achieve market specifications sooner, regardless of the season. Find out how CompuDose can be the difference between a good season and an ordinary season – contact your Elanco Animal Health representative on 1800 226 324.

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**Trough talk: how much do cattle drink?**

**CATTLE** water intakes vary greatly due to temperature, climatic conditions, moisture content of the feed, cattle size, lactation, weight gain, and maturity, distance to water and water quality.

A quick water intake estimate is 10 percent of cattle liveweight – more when hot and less when cold. For example, 40 litres for a 400kg steer. Good water quality is very important. Poor water quality can reduce water and feed intakes as well as health and performance. For better pasture utilisation it is also good if cattle do not have to walk more than 2-3km to water. A guide to cattle daily water requirements for cool and hot conditions:

<table>
<thead>
<tr>
<th>LIVESTOCK</th>
<th>COOL CONDITIONS (12C)</th>
<th>HOT CONDITIONS (25C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>270</td>
<td>20–32*</td>
<td>48–54*</td>
</tr>
<tr>
<td>360</td>
<td>24–36*</td>
<td>57–60*</td>
</tr>
<tr>
<td>450</td>
<td>33</td>
<td>70</td>
</tr>
<tr>
<td>600 cow</td>
<td>43</td>
<td>66</td>
</tr>
<tr>
<td>600–700</td>
<td>30–33</td>
<td>72–78</td>
</tr>
</tbody>
</table>

* Range for growing versus finishing cattle.


Roger Sneath, DAFF, Toowoomba
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Email: roger.sneath@daff.qld.gov.au
Do cattle need salt?

Castrating using the Burdizzo

The operation is bloodless, does not damage the scrotum, and is less painful for the animal than other methods of castration.

Despite these advantages, there have been many failures in the use of Burdizzo, mainly because people were not aware of how to correctly operate this tool.

Before using a Burdizzo, check it is working properly. Place a piece of string between two layers of paper and close the instrument over the string. If the tool is in good working condition, the string will be cut but the paper will remain intact. When not in use, leave the Burdizzo open and well oiled.

USING A BURDIZZO

1. Pinch the scrotum firmly as your stand becomes accustomed to the instrument.
2. The tool is designed to be used from behind the animal while it is standing. If you are using a branding cradle with the calf lying down, be sure not to damage the scrotum up and clamp carefully. Clamping too close to the neck of the scrotum can cause a rupture and a hernia in the groin.
3. Clamp each of the spermatic cords separately. Locate one of the spermatic cords and move it to the nearest edge of the scrotum. If you are right-handed, use your left hand to hold the cord and your right hand to operate the Burdizzo.
4. Close the Burdizzo firmly and hold in place at least 10 to 20 seconds, ensuring the cord is between the jaws. Open the jaws and reapply 1cm below the original clamping point for another 10 seconds.
5. Repeat the procedure on the other spermatic cord at a different height on the scrotum.

Castrating using the Burdizzo

It is up to individual landholders to determine if their pasture and soil type, and lack of salt in oracles or soil waters could contribute to lowered production.

It is worth determining whether your stock will eat salt or not and whether any benefit is noticed. Salt can be a very good attractant to help cattle eating other mineral and dietary supplements. It can also be used as an attractant to encourage cattle to graze areas in a paddock that they would normally not visit.

Do cattle need salt?

Castrating using the Burdizzo

THE Burdizzo is a specialised castrating tool that comes in a range of sizes to suit a variety of animal species and sizes. The tool has a clamping action which crushes the blood vessels that supply the testes. This causes the testes to atrophy (wither) and they fall out of the scrotum.

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Fighting feedlot flies with fungus: a natural solution

CATTLE feedlots in the south east and coastal areas of Queensland are at full capacity with cattle shipped in from drought-affected regions to the west and north. Summer in cattle feedlots usually heralds the perennial problem of irritating populations of house flies, which bred in this environment. With large numbers of cattle now in the feedlots, this problem is expected to be far worse this season, especially once summer rains begin.

While manure management helps limit fly breeding, rain from summer storms will limit the efficacy of manure management and the use of chemicals to control flies is neither desirable nor sustainable. Therefore a team of scientists from the Department of Agriculture, Fisheries and Forestry and the University of Queensland with funding from Meat & Livestock Australia (MLA) are developing an integrated fly management strategy based on the use of a naturally occurring fungal disease of flies.

This project builds on previous MLA-funded research, which suggested the use of the fungus Metarhizium anisopliae against house flies could be a viable alternative to chemicals. Metarhizium is a naturally occurring fungus usually found in the soil or causing disease in insects. Different strains of this fungus target different insects. The Metarhizium used in this research was either isolated from soil in southeast Queensland or flies collected in feedlots. Dried Metarhizium spores can be formulated either as bait or a spray.

The aim of the current project is to improve both the bait and spray formulations from the previous project and develop an application strategy for their targeted use in cattle feedlots. Extensive monitoring of flies in the feedlots will be undertaken to evaluate the efficacy of the new fungal formulations for fly control with a view to future commercial development.

Currently the project team are concentrating on developing suitable fly monitoring techniques to ensure reliable measures of fly densities and to establish the best areas in a feedlot to target for spray application and bait deployment. The team hopes to begin spray trials early in the new year.

Contact: Bill Munton 0407 252 318 billm@tnn.com.au

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TNN FCMP

TNN Fused Calcium Magnesium Phosphate (Rock Phosphate)

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Contact: Bill Munton 0407 252 318 billm@tnn.com.au

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PARASITES AND DISEASES

● Continuous flock control program.

● Check young cattle for worms. Treat if necessary.

● Send faecal samples for worm egg counts two weeks after treatment to check for worm dump resistance. Get samples from smallest animals.

PASTURES

● Evaluate post-dry season pasture management.

● Evaluate post-dry season pasture management. Keep leucaena for at least two months.

● Consider applying maintenance fertilizer to sow pastures.

● Lock up paddocks to build up pasture grass seedbanks in soil if you can do so without attracting local pests and kangaroos to that polluted country.

● Consider growing a summer forage crop to carry cattle while pasture paddocks are being spelled.

● Consider setting areas aside for reforestation.

● Consider growing pastures with high nitrogen content.

● Consider attending Chemical Accreditation Program through AgForce SMART Train.

● Look out for field days and training days relating to your business as not only do you learn plenty at them, you also get a chance to meet other producers. You can learn as much around the smoko table as at the lectures and they can be an enjoyable social outlet.

● Carry out vehicle and machinery maintenance during “wet season” break, especially look after dry-season supplement feed-out trailers so they are ready for the next dry.

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TNN MINERAL PLUS Liquid Chelated Mineral Supplement

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Available in various formulas to suit a wide variety of situations.

TNN OUTBACK MINERAL PLUS Special Drought Mix with extra Phosphorus available now.

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