



Future Beef

BeefTalk

Taking stock of your future



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— COVER IMAGE by MELODY LABINSKY.
This photo was taken at the Price family's property,
Moongool, Yuleba.



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Forage oats: what you need to know

Answers to those frequently asked questions



FORAGE oats is an important winter crop in Queensland, supplying highly nutritious and palatable cattle feed at a time of year when most pastures are dormant.

Many growers can increase the productivity of their oat crops by improving management and controlling disease. The Department of Agriculture and Fisheries publishes a forage oat variety guide each year that discusses the recommended practices for growing oats for forage. A copy of this guide is available at www.daff.qld.gov.au/plants/field-crops-and-pastures/broadacre-field-crops/oats/forage-oat-variety-guide. There are a number of questions that commonly come up when talking with growers about forage oats.

WHICH VARIETY DO I CHOOSE?

The best advice is to continue growing what has worked well for you in the past, but also try a few of the more recent varieties (e.g. Genie, Aladdin, Drover, Comet) for a few years and see how they compare. When talking to oat growers about selecting varieties, I always recommend two things:

1) grow what works well on your property but think long term e.g. select what has worked well over the last five years, not what just worked well last year

2) plant a range of varieties with different growing patterns that provide feed at different times of the season - this is better insurance against seasonal variation than planting all the oat ground to one variety.

WHY DID MY USUAL OAT VARIETY NOT DO SO WELL LAST YEAR?

Most crop varieties are not 100 per cent consistent in their performance from one year to the next. Good varieties will occasionally have a poor year, and poor varieties will occasionally have a good year. For plant breeders, this variation from year to year is known as 'genotype by environment interaction'. This is why plant breeders always test their breeding lines over three to four years and across a number of locations to measure the average performance, rather than rely on results from a single year. So, it is not unusual in itself for any variety to have a bad year.

HOW ARE THE MODERN VARIETIES DIFFERENT FROM OLDER VARIETIES LIKE ALGERIAN AND SUAL?

Algerian and related older varieties like Sual and Cooba are very different in their appearance and the way they behave during the season, compared with modern varieties. The Algerian types have very fine leaves and stems, and a more prostrate growing habit particularly early in the season. They tend to have very slow early growth, and have lower forage yield overall compared with the modern varieties. In our breeding trials over the last 10



Leaf rust - resistant variety (left) alongside leaf rust - susceptible variety (right).

years, Algerian is normally 20-30 per cent lower yielding for early growth compared with more recent varieties and about 10-20 per cent lower yielding overall.

However, the older varieties often grow better during the late winter period and are more tolerant of heavy grazing. The modern varieties are specifically selected for high early vigour, long growing season and quick recovery from grazing, so they will generally produce more forage than older varieties.

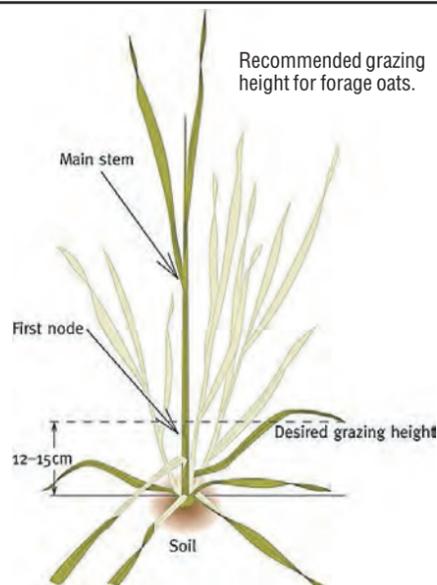
WHY WON'T MY CATTLE EAT THIS PARTICULAR VARIETY?

Palatability and acceptance of oats and other forage crops by livestock is always a difficult one to explain. There are a lot of anecdotal stories about stock not accepting this or that variety in this or that location, but there is never any consistent theme to these stories across locations and years. My experience is that most people immediately tend to blame the variety, but it is more likely due to other factors such as the timing of rainfall, plant disease problems, soil nutrition problems, presence of weeds that may produce a taint in the forage and make the cattle turn away. It would be much easier if the cattle could talk and tell us exactly what the problem is.

WHY DO OATS OFTEN GROW POORLY LATER IN THE SEASON?

Most oat crops will need good levels of fertiliser to grow well throughout the season. The nutrient requirement of oats is similar to that of wheat and barley. Nitrogen is the most important nutrient, and it is important to apply at least 40-50kg of nitrogen per hectare to maintain good productivity.

Top dressing with nitrogen is often useful in higher rainfall areas. Phosphorus, potassium and sulphur can also be deficient in paddocks that have grown oats for many years. The most common symptom of poor nutrition is yellowing and red-tipping, where the tips of mature leaves develop a reddish-purple colour and plants are slightly stunted and less palatable. Another symptom



of poor nutrition is when oats only grows well around dung and urine patches, and grows poorly in other parts of the paddock.

I DIDN'T SEE ANY RUST IN MY OATS LAST YEAR. DOES THAT MEAN IT IS RESISTANT?

Unfortunately, only a couple of varieties are fully resistant to leaf rust, so the majority of the Queensland oat crop consists of varieties that are susceptible to leaf rust. Also, there are many different races of leaf rust present in Queensland, and many varieties are susceptible to only one or two of these races that are not always present in a certain area. Both leaf rust and stem rust require cool temperatures, leaf wetness and a susceptible variety before it will infect an oat crop. Therefore, in a drier year, rust may not show up in oats at all, or could only be present in small amounts on the lower leaves. However, it can explode very quickly following a few days of showery weather. It is important to be vigilant and graze the oats quickly if disease symptoms appear.

CAN I SPRAY OATS WITH FUNGICIDE TO CONTROL RUST?

There are several common fungicides that are registered to control rust in forage oats. Tebuconazole and propiconazole are the most readily available fungicides.

Applying fungicide is most useful when the rust infection covers greater than 20pc leaf area, or when crops are grown under irrigation or good dryland conditions.

Fungicide is also useful when stem rust infects hay crops or seed crops late in the season.

However, fungicide is not recommended when the level of leaf rust is low (less than 10pc leaf area) or in tougher dryland conditions. Growers should be aware that most fungicides have a withholding period for grazing of at least seven days, so be careful to avoid chemical residue problems.

OAT SEED IS IN SHORT SUPPLY. SHOULD I BUY CHEAPER SEED FROM DOWN SOUTH?

Much of the oat seed imported from southern states comes from grain varieties that are not well suited to grazing over the winter months. The early vigour of these varieties can be okay, but they will not recover well after grazing.

They also tend to be quick in maturity, so they go to head quickly and the grazing period will only be short. These varieties are also susceptible to the races of leaf rust and stem rust in Queensland. If you need to plant these varieties, it is important to check the germination and purity of each seed lot to make sure you get good establishment.

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BeefTalk edition 42 Autumn 2015: Editorial

WELCOME to BeefTalk 42. One month into Autumn we are nearing the end of the summer grass growing season.

Autumn is a good time to do a stocktake of water and pasture supplies and to use dry season forage budgets to estimate appropriate stock numbers so that there will be sufficient pasture and ground cover until next year. For more information, search for forage budgeting on www.futurebeef.com.au. It is also timely to monitor cow condition and ensure breeders go into winter in good condition, ideally with a body condition score 3 or better.

In this issue, the new forage oats guide has been released and Department of Agriculture and Fisheries oats breeder Bruce Winter answers some commonly asked questions from growers across the region.

The Grazing Best Management Practice program is steadily making its way across Queensland. This is a useful framework for producers to review their business. Topics include soil health; people and business; grazing land management and animal health, welfare and production. The self-assessment program is popular and participants are finding interesting insights along the way.

Recent workshops in the Burnett Mary have provided important reminders to have appropriate work cover insurance and work place health and safety procedures in place to protect people and businesses. In the arena of business management the importance of having a 'dashboard' of key business indicators and knowing cost of production is emphasised. A report on the Climate Clever Beef project also highlights the benefits of analysing business performance to identify areas to improve production efficiencies.

Pastures are the foundation of the business. We reflect on past research for improved species for southern Queensland and refer people to the Futurebeef website for information on combating pasture rundown.

2015 marks the 20th anniversary of BeefTalk - our deepest thanks to all our readers, contributors and editorial team members over the years which have flown by so quickly!

As always we value your feedback and suggestions for future issues. You can use the short survey at www.surveymonkey.com/s/beeftalk42 or give us a call on 13 25 23 or email roger.sneath@daf.qld.gov.au.

Happy reading!
The BeefTalk team



Disclaimer

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Timely tips for Autumn 2015

Top pointers for the season ahead

BREEDERS

- Draft cows on body condition for tailored management.
- Start dry season supplementation if the season deteriorates.

CALVES

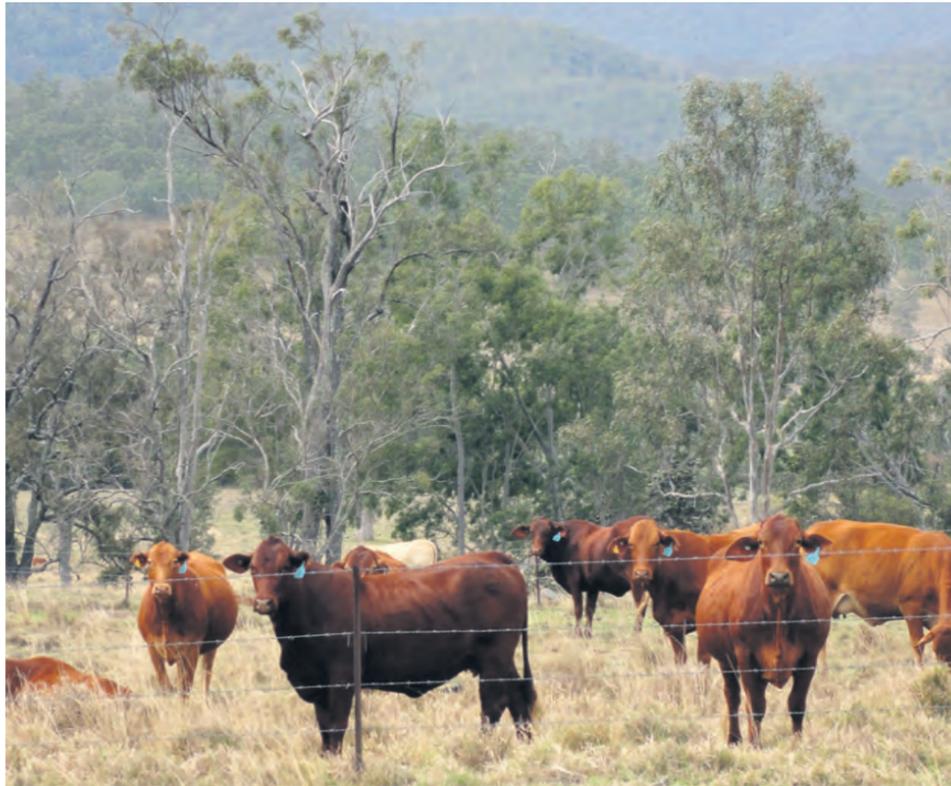
- Brand - correct legal position.
- Ear tag - NLIS in correct position OFF ear.
- Dehorn calves (younger the better).
- Castrate males that are not potential bull replacements.
- Vaccinate with 5-in-1 or 7-in-1.

BULLS

- Remove from breeders.
- Check for defects or physical problems, for example sheaths, leg injuries - cull.
- Cull bulls older than seven years unless they are still in good condition and not showing signs of arthritis. Plan to semen test all bulls near joining time.

WEANERS

- Train weaners correctly to receive substantial benefits:
 1. Less stress on animals and people
 2. Quiet well trained animals are usually calmer, do and sell better.
 3. Teaches animals to eat supplements and work through yards, crushes etc. Animals get to know yard layout. Once settled animals can be tailed out to learn paddock mustering control.
 4. The training process allows you to identify problem animals sooner and you can make a management decision regarding their future.
- Wean early - instantly less stress on cows and gain condition before winter.
- Wean, weigh and identify mothers of poor calves and sell them.
- Draft off any small weaners (less than 150kg) and give them special care.
- Feed weaners good quality hay in yards, feed in racks if possible for hygiene and minimise wastage. Introduce weaners to supplements.
- Must have adequate supply of good clean water.
- Have weaner yards and paddocks in good condition with plenty of shade.
- Consider coccidia control if considerable time spent hand feeding in yards.
- Vaccinate with booster 5-in-1 or 7-in-1.
- In tick infested areas, vaccinate for tick fever, if possible do not administer more than one vaccine at a time. Immunity produced by tick fever and other



vaccines may be more reliable if these vaccines are given at different times. As a general rule, give tick fever vaccine at least two weeks after any other vaccine but before the weaners leave the yards.

- Wean into best paddock available.

ASSESS MATING AND MARKETING PROGRAM

- Do my herd mating practices give me maximum calf numbers at the correct time of the year, without putting undue stress on the cows?
 - If you feel you ought to calve earlier start by joining your maiden heifers early and eventually the whole herd will calve earlier.
 - What are the best markets? Will they be best for a large number of years?
 - What criteria do my cattle have to fit to be eligible for these markets?
 - Are my cattle the best type suitable for the most profitable markets?
 - Could my animals be suitable for other types of markets?
 - What inputs are needed to meet different markets? Is it worth it?

- Have my current markets changed - are there new legal requirements?
- Are my stock produced for least financial, labour and environmental cost?
- Does my breed suit the area? For example, ease of calving, tick resistance.
- Would changing my cattle breed give me the most financial reward? It costs a lot of money to change over to new breeds but perhaps a different breed bull over your cows would make a difference to weaner saleability.

GROWING CATTLE (STEERS AND CULL HEIFERS)

- Steers and cull females ought to be ready for market by now.
- If you sell direct to works make sure you have booked them in. At times the works have heavy bookings - book in well ahead of when you want to sell.
- If selling in the sale yards draft cattle into similar weight and type. A well-presented pen usually gets better money than one with some lighter and not as

finished animals in it.

- Once the fattening paddocks are empty make sure you check the fencing and watering points before moving the next mob in as new cattle always try fences and may need to be mustered onto a new watering point until they are used to it.

NUTRITION - DRY SEASON MANAGEMENT

- Assess pasture quantity and quality in each paddock.
- Adjust stocking rates to keep stock and country in good condition.
- Evaluate effectiveness and cost benefit of winter supplementation program.
- Start dry season management plan that was developed earlier if required.
- Make sure you have on hand supplements to meet planned requirements.
- Check feed-out equipment.

PARASITES AND DISEASES

- Start strategic dipping for pre-winter treatments.
- If resistance is a problem consider using DAF Tick Resistant Survey Kit available from DAF Offices or call the DAF Call Centre on 13 25 23.
- Check worm burdens in weaners. Treat if necessary.

BUSINESS MANAGEMENT

- Conduct tax planning meeting with accountant, assess previous years plan.
- Plan management strategies for next 12 months (budget, property maintenance and development, marketing etc).
- Are your Livestock Production Assurance (LPA) records up to date? Have you records of when you bought chemicals, the withholding period and use by dates, and are they stored correctly? Do you have mob records showing date of chemical use and when the mob is out of the withholding period?
- Would you pass a random audit?

PROPERTY MAINTENANCE

- Once the weaners are in their new paddocks it is time to reassess your yards. Did they stand up to the weaners well, do rails need replacing. Was your water system adequate? Check and maintain your hay feeders.
- If you are planning new fencing or yard rebuilding make sure you check prices and put your orders in for wire, steel posts or cattle rail before the end of the financial year when there are often specials available.

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WorkCover helping businesses stay safe

How can workers' compensation insurance help you?

IF YOU own a business in Queensland you're responsible for keeping a safe work place and if you employ workers and one of them is injured at work, they can apply for workers' compensation.

In Queensland, workers' compensation insurance is compulsory if you employ workers who meet the definition of 'a worker'.

Holding an accident insurance policy gives the employer peace of mind knowing their business will be covered should a worker sustain a work-related injury and require medical treatment or time off work.

Employers may not be aware of their obligations to insure or they may not realise that not only full-time workers on a wage or salary need to be covered, but also part-time, casual, seasonal and in some cases, contractors and sub-contractors, may require coverage.

In 2013-2014 WorkCover received 500 claims for the beef industry, amounting to approximately \$7.6 million in statutory costs.

Serious injuries can result in claims costing hundreds of thousands of dollars and significant premium increases, and being uninsured or underinsured exposes both the employer and worker to unnecessary risk.

With more than 42 per cent of injuries in the beef industry sustained by 20-30 year olds, employers face a significant challenge to comply with workers' compensation obligations given the large number of seasonal and overseas workers engaged under a

variety of employment conditions.

YOU'RE COVERED

A WorkCover accident insurance policy covers your business against the cost of work-related injuries including weekly compensation and rehabilitation costs. If in any doubt about your obligations, or understanding of who is defined as a worker, please phone 1300 362 128 or visit the website www.worksafe.qld.gov.au.

On the website you can apply for a policy online, or read more about your rights and responsibilities and further details on who you should cover for workers' compensation. You can also check if your contractors are 'workers' and should be covered by their WorkCover policy by using the ATO employee/contractor decision tool.

HEALTH BENEFITS OF WORK AND MINIMISING YOUR PREMIUM

Improving workplace safety and having good injury management processes that help injured workers rehabilitate and get back into their jobs quickly and safely, is not only good for business but has positive effects for the worker too.

A research paper from the Australasian Faculty of Occupational and Environmental Medicine and the Royal Australasian College of Physicians, 'Realising the health benefits of work', indicates that if a person is off work for 20 days the likelihood of returning back to work is 70 per cent, reducing to 50 per cent at 45 days

and at 70 days off work the chance of ever getting back to work is 35 per cent.

Work is an important part of the worker's rehabilitation process because 'doing' promotes recovery. Being off work for long periods of time can significantly reduce the likelihood of the worker ever returning to their original job and can have a negative effect on the worker, their family and disruption to the business.

The average number of days off work due to a work-related injury for the beef industry was over 43 days during 2013-2014.

Injury management in the workplace does not have to be complex. By focusing on early reporting of workplace injuries, seeking early medical attention and encouraging injured workers to participate in work-related rehabilitation, employers not only help their injured workers make an early and safe return to work, they also help reduce the cost of the claim thereby minimising the impact on the employer's premium.

If you have any questions about your obligations to keep a safe workplace or how to implement good injury management practices, please call us on 1300 362 128.

For information about health and wellbeing at work, visit our website www.worksafe.qld.gov.au. You may also like to visit the dedicated Agriculture section for a range of industry specific information including workplace hazards.

Kylie Maras, Industry Manager
WorkCover Queensland



Workplace injuries targeted at farm safety workshops

A SERIES of workshops targeting high injury rates in Queensland's beef industry have been assisting producers to build skills in developing safety management systems.

The workshops, presented by Workplace Health and Safety Queensland, in conjunction with Grazing Best Management Practice groups and other industry associations, are part of a collaborative approach to develop safer and smarter work practices.

This approach recognises that industry is best placed to develop innovative safety solutions, which government can then promote to the wider industry.

The beef industry and other agricultural industries have relatively high workplace injury rates.

There are around 1700 general workplace injuries each year in agriculture, affecting one in every 25 workers, with one in every 35 classed as serious.

Around 15 agricultural workers die each year as a result of a workplace injury and \$22 million is paid out annually for workers' compensation claims.

These figures show that any business that employs workers or contractors, either permanently or on a casual basis, must manage health and safety effectively.

Those attending the workshops received a copy of a new guide, 'Serious About Farm Safety', which provides practical guidance on managing typical risks found on a farm, as well as templates for keeping written records of training and inductions which can be adapted for use in individual workplaces.

'Serious About farm safety' was published in response to requests from the agricultural industry, and was developed in consultation with a cross section of industry groups.

It is supported by a suite of short films that tackle common industry safety issues, focusing on risk control measures for animal handling, tractors, quad bikes and remote and isolated work.

Workplace Health and Safety Queensland is committed to working with all employers in the agricultural industry, particularly small business owners, to reduce worker injury and fatality rates.

For a copy of the guide or for more on safety workshops, visit www.worksafe.qld.gov.au/agriculture or call 1300 362 128.



Quad bike dangers under scrutiny

RECOMMENDATIONS from a coronial inquest into recent quad bike fatalities are due to be released later this year. A similar inquest is also being carried out in New South Wales.

Quad bike use is addressed in the new Serious about Farm Safety guide published by Workplace Health and Safety Queensland in collaboration with industry groups.

Quad bikes are responsible for the largest proportion of fatalities and serious injuries on rural properties.

Their short wheelbase and high centre of gravity

increase the potential for a roll-over or collision when manoeuvring on slopes or rough terrain.

Quad bikes are not all terrain vehicles. They should only be used by trained operators within the scope of the manufacturer's recommendations.

These factors increase the risks:

- insufficient rider training
- children riding adult-sized quad bikes
- excessive speed
- rough terrain, steep slopes and unseen obstacles in long grass
- overloading with after-market attachments or

fitting inappropriate accessories

- carrying passengers on bikes that are not designed for them.

Workplace Health and Safety Queensland has a range of short safety films which can be found at www.worksafe.qld.gov.au.

You can also view 'A rush of blood: The Miles Patterson story' about his personal quad bike incident. A list of training providers to help you get the right training for using a quad bike is also available.

One of the messages from the safety films is

'choosing the right tool for the task'. While side-by-side vehicles are not as commonly used on Australian farms as quad bikes, an increasing number of farmers are starting to use these as a safer option.

They often have a bench-type seat for transporting more than one person, have a steering wheel and are considered to be a safer because they have seatbelts, roll-over protection and the ability to carry items in the rear tray.

● For information to help minimise risk of a quad bike fatality or injury visit the Australian Government's QuadWatch webpage at safeworkaustralia.gov.au or visit www.worksafe.qld.gov.au.

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ONE of the five modules covered within the Grazing Best Practice Management program is the people and business module.

For industry service providers, Roger Sneath of Department of Agriculture and Fisheries, Steve Banney of Steve Banney Agribusiness and Ian McLean of Bush Agribusiness, getting the dollars and cents under control is first and foremost.

Once you know the important, financial drivers in your business, it is all about managing productivity (grass and cattle) in ways that are cost effective and sustainable.

You know your business better than anyone-you live it, breathe it and put your blood sweat and tears into it. How well do you know the financial side of your business? How profitable is it and how has that changed over time? What is its debt position and serviceability? Are you under or over budget for this year and what is your track record for budget accuracy?

In the good old days, working hard and keeping the cheque book locked in the bottom drawer when things got tough may have been enough to get by. However declining terms of trade and reducing industry profitability mean that understanding and managing the financial side of the business is as important as the never-ending, work outside the office.

There are many resources available to help you assess and build your financial management skills. A great first stepping stone is the Grazing Best Management Practice people and business module.

The Grazing Best Management Practice program plus follow on training provide an excellent way to become more financially literate and confident in your abilities to manage the financial side of things. A key focus of Grazing Best Management Practice is helping people understand where they are at and identifying areas where they are doing well and where there is need for improvement.

DRIVE YOUR BUSINESS WITH A FINANCIAL DASHBOARD

At a people and business workshop, it quickly becomes apparent that once you have good records, identify your primary profit drivers and realise the importance of analysing your business, that having a financial 'dashboard' in your grazing operation is an absolute necessity. Once your financial dashboard is in place, you can quickly tell how your business has performed, is performing and is likely to perform into the future.

Having some simple systems and processes in place for your business to provide you with key information will help you make informed decisions in your business. Having the following information documented year to year (having it in your head isn't documented) is valuable for key decision makers in the business:

Cash flow information

- historic and budgeted cash flows broken up into operating cash flow, capital expenditure and finance costs

Herd information

- historic and budgeted annual stock flows which show accurate stock numbers by class
- annual weight gains
- average sale weights
- annual adult equivalents carried

Land information

- long term carrying capacity of land under management
- short term carrying capacity based on a feed budget
- overall land condition and strategies to address

The business\$\$ of beef

People and business model: an overview



Steve Banney discusses the business of beef in the Burnet Mary.

GRAZING BEST MANAGEMENT PRACTICE

The Grazing Best Management Practice program is a voluntary, industry led process which helps you to identify improved practices which can help improve the long term profitability and sustainability of your enterprise. It involves an online, self-assessment tool that allows you to benchmark your current grazing and business practice against an industry-developed set of standards. It allows you to identify opportunities and develop a plan to improve your business performance, and access information and support to achieve your plan. The five modules are:
1. people and business
2. soil health
3. grazing land management
4. animal production
5. animal health and welfare.

problem areas

Debt information

- debt level and how is it changing over time
- equity level (assets-liabilities) as a per cent of total assets
- interest rate and total interest cost
- number of times your cash flow before interest covers the interest bill

Operational Information

- annual operational calendar
- capital expenditure budget for this year and future years and the process for prioritising capital expenditure options

BUSINESS PROCESSES

Having a well-structured chart of accounts and accurate herd records are two key business processes that will help you generate this information.

Helping people to better understand their business by knowing what to measure and how to interpret financial and production information is a passion for Ian McLean.

Ian co-authored 'The Northern beef report - 2013 Northern beef situation analysis' which benchmarked the overall performance of the northern industry over 12 years. This report has solid evidence collected from real producers to show that long-term profitability is more affected by cost of production rather than price, and again in the long-term, not affected by rainfall, locality or land type. It is all about managing the resources you have in the most productive and cost efficient way. As for any business, minimising the cost of production helps to insulate against the reality of fluctuating prices.

CHART OF ACCOUNTS

Your chart of accounts is the account categories where you enter transactions. Is your chart of accounts set up and structured in a logical way? Can you print the high level headings for income and expenditure on one page and have a concise overview of how your business has performed by month(s) or year(s)? If not, redesign it so it does. Talk to your accountant and advisor while doing it, but make sure the focus is on a structure that will give you, as the business manager, the best information to use week to week, month to month and year to year. Below is a suggested high level structure for your chart of accounts.

Herd records

Having accurate herd numbers is a critical to understand and improve your business performance. Getting some whizz-bang, herd management software is unlikely to do much for you, if you haven't already got a simple system in place to keep

Income
Cattle trading (sales and purchases)
Other enterprises (sales and purchases)
Other income
Expenditure
Operating expenditure
- Enterprise expenditure (for each enterprise)
- Overhead expenditure
Capital expenditure
Interest
Tax
Owner expenses
Provisioning

track of stock numbers.

If you have good systems in place then software options may be beneficial. Go back at least three years and record what you had at the start and end of each year, by class and movements between classes each year as a stock flow.

The herd should balance each year, that is, your book opening numbers, plus your purchases, plus your natural increase, less your sales, less deaths and missing should equal, in the paddock, your closing number at the end of the year. Use this information to determine what your reproductive rate is, i.e. calves weaned divided by breeding females joined and retained in a 12 month period, your death rate and average sale weight. Improving these benchmarks is the most effective way to increase the income (per adult equivalent) of your business.

Use the information

Start summarising the key information on your business to help you make better decisions. Use the above guide as a start and adapt it to your business. What does this tell you about your business and how can you use it in management? Knowing how your business has performed in the past is crucial information to use to improve future performance. However, unless you use it to make changes and fine tune your business, all you are effectively doing is looking at the scoreboard after the game has finished!

THE NEXT STEP

All interested producers should take the bull by the horns and get involved in the self-assessments offered as part of the Grazing Best Management Practice project. The only cost is your own time and travel to a local venue. Once you know where you want to improve your capabilities, the Grazing Best Management Practice partners can direct you to a range of training and educational opportunities.

These include Meat & Livestock Australia's cost of production tool, DAF's business modelling packages such as Testing Management Options and Breedcow/Dynama and undertaking a Business EDGE workshop.

For more information, contact: Roger Sneath, DAF, 07 4688 1244, roger.sneath@daf.qld.gov.au. Steve Banney, Steve Banney Agribusiness, 0427 161 072, steve.banney@bigpond.com. Ian McLean, Bush Agribusiness, 0401 118 191, ian@babusiness.com.au.



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QUEENSLAND Country Life

Climate Clever Beef

Using business analysis for better decisions

SELF-assessing your business and identifying opportunities for significant improvement is not necessarily easy. The Climate Clever Beef project has brought together beef businesses with Department of Agriculture and Fisheries staff and consultants to jointly analyse and investigate opportunities to improve performance efficiencies.

CLIMATE CLEVER BEEF PROJECT ENGAGEMENT

The aim of the Climate Clever Beef project is to focus on practices that improve the productivity and profitability of beef businesses while minimising livestock methane emissions and increasing soil carbon sequestration.

Work is underway in the Maranoa-Balonne, Fitzroy, Gulf, Mitchell grass downs, Channel country, Barkly and Victoria River Downs regions. Twelve properties are involved in the Maranoa-Balonne region.

To help better understand current financial and production performance, businesses undertook a complete business analysis. Nine beef businesses analysed their businesses over three financial years, 2011-12, 2012-13 and 2013-14.

An industry consultant supported people in compiling the required business data and return reports detailing the key performance indicators of: kilograms of beef produced per adult equivalent, cost of production, operating margin and labour efficiency.

Each business received an individual report and an aggregated group report.

The analysis assessed current business performance, identified shortfalls and assisted with setting future directions and goals.

An annual group debrief let people share and discuss their business as benchmarked against each other, the

group average, the northern Australia average and top 25 per cent benchmark data.

Group discussion was useful to build rapport such, that individual data was anonymous, eventually people agreed to openly discuss reasons why their property was performing better or worse than the average. Businesses could then apply this information to their own data and assess what changes to their business could mean for their profitability. This helped people to redefine their management goals and identify where to make modifications and changes in the business.

KEY ISSUES IDENTIFIED

The group data highlighted a number of common issues, including:

- Scale is an issue for many. Land area often limits the ability to carry the numbers of cattle required to offset overhead costs.
- Labour efficiency is low, meaning not enough cattle are managed for the number of labour units employed.
- Kilograms of beef produced per adult equivalent are low in some cases and this is also affecting cost of production.
- Using off-farm income may be helpful for some businesses to improve labour efficiency and offset costs.

MODELLING MANAGEMENT OPTIONS

As business analyses were processed and weaknesses identified, the group began to model options using BreedCow and Dynama software to assess the impact of management changes.

These included strategies such as: culling unproductive animals using pregnancy testing and improving overall reproductive performance, adjusting age of turnoff to sell heavier animals, increasing property carrying capacity by improving pastures and subsequent

stocking rates and animal performance.

IMPACT ON MANAGEMENT DECISIONS

Of all the analyses, lack of scale was the key limitation that many people took on board. To reduce its impact, three properties changed their strategies and long-term plans.

For example: bringing in a second enterprise to achieve greater scale and profit, continuing to sell heavier cattle, improving pastures and liveweight gains to improve turnover and more trading to assist turnover.

Additionally, ensuring that breeders were performing at optimum reproductive levels was also highlighted as key to achieving better scale.

Two properties which had previously not done so, pregnancy tested all females and culled empty breeders. This removed unproductive breeders from the property and conserved valuable pasture for other stock during drought, also helping to improve their future genetics and reproductive performance. The need to optimise kilograms of beef produced each year, to increase proceeds of sale and better offset overhead costs was also highlighted in discussions. As a result, a number of properties assessed and modified their selling strategies, by keeping or expanding, and in one case moving towards, selling older trade or finished animals.

CONCLUSIONS

The group process using business analysis as a diagnostic tool for individual businesses successfully improved everyone's understanding of their business. This helped people identify options which lead to practice change giving more efficient production.

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Are your pastures suffering from nutrient tie-up?



Pasture responding to applied nitrogen.

HAVE you noticed:

- your buffel grass is not growing as big and bulky as it used to?
- your grass is pale green or yellow instead of being dark green after rain?
- your green panic is now only growing underneath large trees?
- your grass tussocks are smaller than they used to be, with few or no seed heads?

If you have, it is likely your pasture is suffering from nutrient tie-up, also known as rundown and is no longer growing as much feed as it could.

Rundown in sown pastures is the decline in pasture production over time as soil nutrients become less available to the plants.

More detailed information about sown pasture rundown is now available on the FutureBeef website.

Simply go to www.futurebeef.com.au and search for sown pasture rundown to be directed to a series of three informative web pages detailing what sown pasture rundown is, the causes and symptoms, and the management options for alleviating the impacts of rundown pastures.



Nitrate as an alternative to urea supplements

RUMINANT methane emissions account for approximately 10 per cent of Australia's total greenhouse gas emissions.

In 2012, Meat & Livestock Australia implemented the National Livestock Methane Program to develop a strategy to reduce methane emissions from livestock while boosting productivity.

One aspect of this program assesses the suitability of replacing urea supplements with nitrate to reduce emissions. Projects led by the University of New England and Ridley AgriProducts are currently investigating this issue.

This article summarises the information from these projects to date.

Nitrogen is often the primary limiting nutrient in the low quality tropical forages of northern Australia. Sufficient dietary nitrogen is required to promote rumen microbe growth, microbial protein synthesis and rumen fermentation.

Consequently, it is common practice for graziers to supplement cattle with urea during the dry season to provide non-protein nitrogen in the diet.

This increases pasture intake and therefore liveweight performance.

Although urea supplementation results in only small gains in cattle liveweight, it is a practical strategy that reduces productivity losses in the dry season.

Cattle grazing on low quality tropical pastures produce high amounts of methane as a result of digestion.

Direct supplementation with starch or lipids, managing stock to encourage grazing on younger pastures, and introducing legumes into the pasture are all good ways to improve diet quality (and productivity) whilst reducing methane production.

Adopting these strategies in intensive systems is feasible; however implementing them in extensive north Australian systems requires significant capital investment and a fundamental change in current management practices.

Alternatively, is it practically and economically feasible to reduce methane emissions from ruminants by



Nitrate blocks being tested late 2014 dry season during a UNE supplement trial in NQ. The solar powered feeders automatically weigh the lick and record RFID ear tag numbers allowing individual intakes to be calculated. This data is remotely uploaded to a database using satellite telemetry. (Source: Joseph Miller, UNE).

replacing supplementary urea with nitrate salts?

Several studies indicate that introducing nitrate into the rumen can:

- take the place of urea by providing ammonia for microbial growth, and
- reduce methane production by cattle by approximately 20 to 30 per cent.

Previous trials have largely studied the application of nitrate in sheep and dairy cattle.

Until now there has been minimal investigation into using nitrate supplements in low digestibility diets of beef cattle.

Nitrate can be toxic to cattle.

After it's eaten, nitrate is converted to nitrite which is then converted to ammonia.

Rumen microbes use ammonia to make protein. In situations where excess nitrate is fed, accumulation of nitrite compounds exceeds the conversion rate of nitrite to ammonia.

This can lead to nitrite toxicity where excess nitrite is absorbed across the rumen wall into the blood where it reduces oxygen transport around the body.

It is generally accepted that toxicity occurs when nitrate concentrations in the diet exceed 9g/kg of dry

matter. The situation is more complex than this however, as the following variables also influence the extent of toxicity:

- rate of nitrate intake
- rate of feed digestion and the subsequent release of nitrates
- rate of conversion of nitrite to ammonia in the rumen
- rate at which nitrite passes through the rumen
- feed type and dietary composition.

As well as the direct effects on cattle health, by reducing oxygen transport in the animal, excess dietary nitrate could affect the ability of cattle to walk long distances, thereby affecting mustering, grazing and watering.

Sheep are more efficient at converting nitrite to ammonia than cattle and are therefore less likely to be susceptible to nitrite poisoning.

Studies show that feeding a given dose of nitrate over two or more feeding events is less likely to have ill-effects than if the same dose of nitrate is fed in a single dose.

Furthermore, feeding nitrate as part of a total mixed ration or pelletised grain diet or with oaten hay results in significantly lower concentrations of methaemoglobin than if single doses of nitrate are administered in isolation.