



futurebeef.com.au

BEEF TALK

Taking stock of your future

IN THIS ISSUE

- Biosecurity risks when drought feeding
- Remain vigilant for pasture dieback
- Selecting for reproduction in the north
- Making the most of NLIS

Early weaning

A powerful and cost-effective dry season management option for your cows

Making money from trees and grass

QUEENSLAND
Country Life



Department of
Primary Industries and
Regional Development



Queensland
Government



**STANDARD
Crush**
Flat Pack
ONLY \$3500



**ECONOMY
Cattle Panel**
40x40 Rail
ONLY \$85



Cattle Gate
STANDARD 70x40 Rail
ONLY \$346



**PREMIUM
Crush**
Flat Pack
ONLY \$4385



**STANDARD
Cattle Panel**
70x40 Rail
ONLY \$115



**STANDARD
Ramp**
Flat Pack
ONLY \$2091



**Force Yard
Blind**
ONLY \$3465



**LICK
FEEDER**
3200 L
ONLY \$2805



Load Scales
with Digital Display
ONLY \$1617



brazzen.com.au

LOCKYER VALLEY - 0418 528 939
110 Old College Road, Gatton

MORAYFIELD - 0418 528 939
13-19 J Dobson Road, Morayfield

SCENIC RIM - 0498 856 831
380 Kooralbyn Road, Laravale



Welcome to Beeftalk 54!

As we head into the dry season after another inconsistent summer across the state, take some time to assess the health of your cattle and pastures and plan for the months ahead. Now is the best time to do a forage budget of your available pasture and adjust stocking rates accordingly. It is also the best time to check that your breeders will be in good condition going into winter and for calving. If they need a boost then early weaning can help them regain condition prior to calving and improve their future conception rates.

With the drought continuing to have a heavy impact on vast areas throughout Queensland, producers are looking at alternative feed supplies, as hay and grain becomes difficult to source. While the nutritional value of feed is often carefully considered, potential biosecurity risks also need to be taken into consideration. Speaking of biosecurity, remember that botulism is a constant risk in phosphorus-deficient areas and an increasing risk during dry times.

This issue covers a diverse range of topics from managing the tree to grass balance, to ways you can make use of the National Livestock Identification System (NLIS) to improve data collection and decision-making for your herd. We hope you enjoy this issue of *Beeftalk* and as always we would appreciate your feedback on and suggestions for future articles. Please email us at info@futurebeef.com.au or visit surveymonkey.com/r/beeftalk48.

The Beeftalk team

Editorial committee
Megan Gurnett, Felicity McIntosh, Damien O'Sullivan, Roger Sneath, Rebecca Farrell, Tracy Longhurst (DAF) and Carli McConnel representing the South East Queensland Regional Beef Research Committee.

Enquiries
Megan Gurnett, PO Box 102, Toowoomba Qld 4350
Phone: 07 4529 4221
Email: megan.gurnett@daf.qld.gov.au

© The State of Queensland, 2019

Early weaning as a dry-season management tool

Early weaning is a powerful and cost-effective dry-season management option for your cows.

Early weaning refers to calves three to four months of age and 100 kgs, however calves can be weaned as light as 60 kg in extreme drought conditions where cow health is at risk provided you give the calves a high protein (18 per cent) diet.

Early weaning is the most effective management tool available to help cows hold or improve body condition and fertility.

Feeding the lactating cow/calf unit does not benefit cow condition as the nutrition is transferred into milk production for the calf. It is more efficient and cost-effective to supplementary feed cows and calves separately, rather than feeding the calf through the cow.

Once a calf is weaned, the cow's feed and water requirements decrease by up to 40 per cent and 60 per cent respectively. Weaning the calf, and therefore removing the need for lactation in the early dry season, is equivalent to giving the cow up to 2 kg of grain or 3 kg of fortified molasses every day.

When to wean

Cow body condition is the key criterion for deciding when to wean. Ideally, aim to have calves around three months-of-age or 100 kg as by this age their protein requirements aren't as high and they are used to grazing. Other key factors to consider are: severity and length of dry conditions, time of year relative to expected rainfall, current pasture availability and price of supplements.

Feeding rates

Calves' dietary requirements change with different stages of growth and they need to be

fed accordingly. The feeding rates below are a guide to maintain or give slight weight gains. Calf performance is the best measure of how much supplement they need and their intakes should be adjusted accordingly.

Feeding rate for calves two to four months old (60–120 kg)

Feed unlimited pasture if available or 0.25 to 0.5 kg per head per day of grassy lucerne hay, good quality grass or forage hay. Beware of scouring, particularly on lucerne hay. In addition, feed one of the following supplements:

- 0.5 to 1 kg/head/day grain mix (3 parts crushed grain, 1 part protein meal, 2 per cent limestone)
- 0.25 to 0.5 kg/head/day protein meal
- calf pellets/crumbles/meals—as per manufacturers recommendations
- free access to molasses plus 12–15% protein meal (beware of scouring).

Feeding rates for calves four to six months old (120–150 kg)

Feed unlimited pasture or hay plus one of the following supplements:

- 1 kg/head/day grain mix
- 0.5 kg/head/day protein meal
- calf pellets, etc. —as per manufacturers recommendations
- free access to molasses plus 12–15% protein meal
- no more than 0.5 kg/head/day whole cottonseed.

Feeding rates for calves over 150 kg

Feed unlimited pasture or hay plus one of the following supplements:

- 0.5 kg/head/day protein meal
- 1 kg/head/day of molasses plus 3% urea and 8–10% protein meal
- 0.5 kg/head/day whole cottonseed.

Draft calves according to size and weight—calves that reach the threshold for higher weight should be drafted into a separate group to reduce competition and possibly the cost of feeding. It is important to reduce stress as much as possible. If practical, train calves to eat supplements before weaning and get them on solid feed as quickly as possible. Avoid sudden changes in supplements because

rumen bacteria need time to adjust. Ensure calves always have access to an adequate supply of fresh, clean water.

Calf health

Vaccinate all calves at weaning with 5 or 7-in-1 to protect against clostridial diseases such as pulpy kidney and tetanus. Young calves are very susceptible to parasites so treat all calves for internal and external parasites four to six weeks after weaning. Use feeding racks for hay and troughs for meals, pellets and grain to avoid contamination with dust and dung. Minimise stress wherever possible, particularly when handling the calves and make sure they have adequate food, water and shelter. Closely observe weaned calves for any signs of stress or illness such as scours.

In summary, early weaning:

- is a proactive tool for improving cow condition during the dry season and consequent future conception rates
- decreases the cost of supplements for breeders
- increases the number of suitable females for sale due to improved body condition
- concentrates the calving period in continuously mated herds.

For successful early weaning:

- segregate calves according to age and weight to reduce competition
- start calves on a high-quality ration the day they are weaned to reduce stress
- always vaccinate and be aware of possible diseases.

If you are trialling early weaning for the first time, one option is to start with just a portion of your herd. Consider weaning just your first calf heifers early, as they are one of the most valuable mobs in terms of potential future breeding years and genetics. They can also be the most challenging groups to get back in calf, particularly after an extended dry period. Alternatively, another priority mob for early weaning is your oldest breeders.

Megan Gurnett
Beef extension officer
DAF, Toowoomba
07 4688 1411
megan.gurnett@daf.qld.gov.au



Not just jobs—we do careers.
GROW YOURS WITH US.

AUSTRALIAN COUNTRY CHOICE IS A THIRD GENERATION, PROUDLY AUSTRALIAN OWNED AND FAMILY OPERATED INDUSTRY LEADER. TOGETHER WITH AUSTRALIAN CATTLE AND BEEF HOLDINGS, WE ARE THE WORLD'S LARGEST, FAMILY OPERATED, VERTICALLY INTEGRATED, BEEF SUPPLY CHAIN.

Stretching over 5 million acres, carrying up to 300,000 head of cattle, our operations encompass large scale cattle breeding, backgrounding, farming, feedlotting and a modern food processing and value add packing facility. With our continued growth, innovation, development and investment in people, infrastructure and technology comes greater career opportunities for you.

Our way of life? We are values driven, focused on the wellbeing of our staff, the welfare of our animals and committed to delivering quality products every time. You'll thrive with an authentic, family run business who values loyalty and offers structure and security of a major, corporate pastoral operation. Seeking a challenging, rewarding role with long term stability and diverse opportunities? Visit careers at accbeef.net.au.



ACCBEEF.NET.AU


BEEFTALK *Taking stock of your future*

Is your registration with Biosecurity Queensland up-to-date?

A message from Queensland's Chief Veterinary Officer, Dr Allison Crook.

A new, online customer portal is now available to manage your biosecurity entity registration.

Registration is a critical part of effective biosecurity management in Queensland. It enables Biosecurity Queensland to trace animal movements to determine the origin and spread of a pest or disease, and allows us to contact you quickly and directly in an emergency.

Entity registration works with the property identification code (PIC) system. When an application for entity registration is made, the PIC that relates to the land where the animals are kept will be issued. When the registration

requirements commenced on 1 July 2016, anyone who held a PIC was automatically registered as a biosecurity entity. This means if you own any cattle, sheep, pigs, goats, other livestock or a horse, you may already be registered.

If you held a PIC on 30 June 2016, or if you've registered as a biosecurity entity since then, you can now access the Biosecurity Entity Registration Portal to manage your registration and renewal.

If you don't already have an online portal account, the first step to gain access is to

check if you're registered. Once you're logged in, you need to review and update your contact details if they've changed. This is an important step so we can contact you in the event of an emergency situation and email you registration renewal reminders.

From mid-May 2019, you'll also be able to use the online portal to renew your registration and pay the fee if it applies. The fee is currently \$136.80 every three years if you keep livestock and applies if you meet the Australian Taxation Office ruling of carrying out the business of primary production as a result of owning your animals.



Allison Crook

Check if you're registered and update your contact details at qld.gov.au/BiosecurityRegistration

If you need help, or to find your nearest Department of Agriculture and Fisheries customer service office, please call our Customer Service Centre on 13 25 23 between 8am and 5pm Monday to Friday. You can also email us at info@daf.qld.gov.au.



New video on making best use of NLIS tags available now

A new video has just been launched that describes new ways that producers can use the National Livestock Identification System (NLIS) to improve data collection and decision-making for their herds.

Produced by beef extension officers at the Department of Agriculture and Fisheries, the video has been designed to show producers how to make the best use of NLIS tags to improve business efficiency and land management.

Producers will be aware that NLIS tags are mandatory in Australia for livestock traceability, market access and food safety purposes. As animals are bought, sold and moved they must be tagged with an NLIS-accredited tag

or device. But there is a lot more that can be done with the NLIS tag to get value out of the investment.

By using a scale indicator, an NLIS reader and herd-management software or Microsoft Excel, individual animal information can be recorded against each NLIS tag. These tags allow for faster data collection, reduce manual data entry and enable producers to view an animals' life history and performance crush side. This easily accessible information allows producers to make informed decisions regarding culling or drafting and information collected in the yards can be easily and quickly uploaded to herd-management software back in the office, saving the time that manual data entry requires.

NLIS tags can be used to track average daily gains, enabling producers to identify poor performers and note their parentage, allowing removal from the system. Producers can use the tags to record reproductive information such as pregnancy status, foetal age and

lactation status. Having this information easily recorded and accessible in the yards ensures unproductive females are not slipping through the cracks.

Decisions surrounding supplementary feeding, paddock shifts and drafting for market specifications can be made using weight gain and body condition data. Temperament and a comprehensive treatment history can also be kept for each animal. This information may have all been recorded manually in the past, but the significant advantage of linking individual animal information with NLIS tags is the reduction in time required for manual entry, the accuracy of the information and the reduction in paperwork.

To see how you can get the most value out of your NLIS tags, head to youtube.com/QldAgriculture and search for *Making better use of your NLIS tags*.



ENERGREEN NUTRITION
Australia PTY LTD

STOCKFEED

Bulk - delivered QLD/NSW

- Blended cotton meal pellets
- Production and Maintenance pellets
- Protein Meals:
Soy/Cotton/Canola/DDG/Copra Meal/PKE
- Fiber Pellets/Almond Hulls
- Whole cottonseed

Additional products bagged or bulk bags. Products available ex Bris/Tville or can be delivered to your property.

**Call Jaycee or Yohanna on
(07) 3806 2268 or 0447 328 568**

You may also email your enquiry through to -
sales@energreennutrition.com.au or
jaycee@energreennutrition.com.au



ENERGREEN NUTRITION
Australia PTY LTD


BEEFTALK *Taking stock of your future*

Remain vigilant for pasture dieback

Dieback is still affecting highly productive pastures across large areas of Queensland.

Dieback is initially characterised by yellowing and/or reddening leaves on affected grasses. As the condition progresses patches of pasture become unhealthy and die, reducing the amount of pasture available for stock. Dead patches are eventually colonised by weeds and sometimes legumes, if they were sown previously.

Many districts have received less-than-average summer rainfall, especially in southern Queensland, and there have been fewer reports of dieback than in previous years. Despite this, dieback is still active and graziers need to be vigilant, maintain assessment of pastures and report new outbreaks (contact details below).

Recent research commissioned by Meat & Livestock Australia (MLA) indicates the leading potential cause of dieback is a mealybug. However, experiments have yet to confirm this.

Results of this research, including a fact sheet on mealybug, are available on the MLA website at mla.com.au/research-and-development/Grazing-pasture-management/pasture-dieback.

Further, graziers are urged not to spray pastures with insecticides. There are no chemical registrations available for mealybug control in Queensland pastures—consequently spraying for this purpose is illegal. In addition, insecticides have a significant negative impact on beneficial insects.

Dieback affecting a creeping bluegrass (Bisset) pasture near Gayndah. Note the unaffected legumes throughout the affected pasture.



The Queensland Government, through the Department of Agriculture and Fisheries (DAF), is assisting the beef industry with this issue by:

- supporting graziers with diagnosis and management options
- supporting industry-led activities
- updating graziers with information through media and various forums
- developing a smartphone app to document dieback incidences
- instigating a field research trial.

The field research trial, located at Brian Pastures research facility near Gayndah, aims to diagnose the cause(s) of dieback and assess a range of management options, including re-seeding with alternative grass species or legumes.

The trial has been scientifically designed with randomised and replicated treatments where experts explore a range of causal factors. It will continue as long as is needed to find answers. Some treatments have started, however, others are waiting for rainfall. Results will be made public once available.

Graziers who are affected by dieback, or have concerns, are encouraged to contact the DAF Customer Service Centre on 13 25 23, their local beef extension officer, or Stuart Buck for further information.

Stuart Buck
DAF Rockhampton
07 4843 2605
stuart.buck@daf.qld.gov.au



Selecting for reproduction in the north

Analyses across decades of industry performance data consistently shows that profitability for breeder herd operations is largely determined by reproductive and mortality rate, and sale weight.

With average branding rates in the north around 66 per cent (i.e. a cow having a calf two years in three), for many, lifting this figure will be the driver that elevates them from average to the top 25 per cent in financial performance.

Arguably the greatest barrier to achieving desirable reproductive rates in northern Australia is the post-partum anoestrus interval of the Bos indicus cow (the time from calving to reconception). While keeping cows in good condition with good grazing, herd and nutritional management is essential, there is now considerable scope to reduce herd post-partum anoestrus interval genetically.

The Estimated Breeding Value (EBV) 'Days to Calving' (DTC) is based on measuring the time from a cow's first bull exposure to calving. While there is some variation attributable to gestation length, most of the variation is due to post-partum anoestrus.

The EBV is expressed in days on a relative basis, with lower and more negative figures being more favourable. Provided sound management systems are in place, there is great genetic scope for increasing fertility by decreasing the average DTC figure of herd bulls as this trait has been shown to have good heritability.

Bos indicus herds can also be limited by delayed onset of puberty in heifers. Again, there are both genetic and environmental (management) considerations. A late calf born into poor nutrition will reach puberty later. This is where managing heifer mobs to achieve critical mating weight will produce best results.

However, genetic selection can also play a role as some heifers will reach puberty earlier and/or lighter than others. These heifers tend to come from bulls which have lower DTC figures, adding to the case for selecting for low DTC figures.

A bull with low DTC figures is a great start, but well-intended investments can go nowhere if the bulls themselves are infertile. The main

considerations here are scrotal size and sperm viability.

The 'Scrotal Size' EBV is associated with total sperm production, and is slightly negatively correlated with age of puberty in heifer progeny. This means that selecting positively for scrotal size delivers benefits to multiple aspects of fertility.

Selecting positively for the 'Percent Normal Sperm' EBV should reduce issues with sperm viability. This selection pressure should occur in combination with annual Bull Breeding Soundness Evaluations, which check general soundness, sperm viability, scrotal circumference and mating ability to ensure bulls can do their job.

It is worth noting that genetic traits all interact to some extent, the degree of which is measured in genetic correlations. This means that heavy selection pressure in a desirable direction for one trait may result in undesirable outcomes in other traits. For example, birth weight is correlated with growth. As a result, selecting for growth—which is often inadvertently the result of picking big weaners—will likely be associated with higher birth weights and rates of dystocia. Selection decisions should be made with the whole animal in mind.

Management will continue to be a primary driver of productivity, and the genetic gain opportunities listed above act as 'icing on the cake' for businesses with sound and efficient management practices in place. Conversely, herds with excellent genetic merit can easily be mismanaged into very poor productivity. Continuing advancement in genetic technologies and their adoption using objective selection means that the role of genetics in governing herd productivity will become more important.

Michael Wellington
Bush AgriBusiness
0418 871 057
michael@bushagri.com.au



KEENAN
an Altech company



**New KEENAN
MechFiber Mixer
Wagons**



**KEENAN Orbital
Spreader**



**New KEENAN
Vertical Auger
Mixers**

KEENAN Australia

@KEENANsystem

keenansystem.com

A fresh approach to feeding

Driving global farm profits through precision nutrition

1800 KEENAN (533 626)


BEEFTALK *Taking stock of your future*

Northern Australian beef industry under the microscope

A new research collaboration between the country's leading beef researchers, industry groups and the Cooperative Research Centre for Developing Northern Australia (CRCNA), could pave the way for billions of investment dollars to flow to the northern Australian sector over the next decade.

The 10-month, \$470 000 industry situational analysis study was announced in November 2018.

CSIRO researcher Dr Chris Chilcott is leading a team of industry representatives from the Cattle Council of Australia, the Northern Territory Cattlemen's Association, AgForce Queensland,

the Kimberley Pilbara Cattlemen's Association and Meat & Livestock Australia.

The project group will work with producers, Indigenous groups, processors, transporters, agents, graziers and government agencies to identify key challenges and opportunities facing the northern Australian beef industry. They will explore potential solutions and prioritise strategic research projects for further investment.

Dr Chilcott said the whole sector's supply chain, from on-farm to export markets, will be put under the microscope to understand what has and hasn't worked in the past and spark discussions about where the industry wants to be in the future.

"We will be identifying the key factors shaping, supporting and constraining the industry, including policy and regulatory factors, processing capability, labour and human capital pressures, transport and supply chains, production technologies and environmental factors.

"Economic and chain modelling tools will be used to assess the impact of interactions along the value chain, and explore and analyse the economic benefit associated with potential solutions and derived return on investment," he said.

MLA General Manager (Producer Consultation and Adoption) Michael Crowley said the research will help shape future research investments in the northern beef industry.

"By applying a consistent approach to the analysis of the recommendations, the beef industry will be better able to make an objective

assessment regarding the best return on any future investment."

The CRCNA has committed more than \$180 000 towards the project, with additional funding coming from project participants.

CEO Jed Matz said this model ensures maximum buy-in from the industry.

"When you have key industry leaders and organisations contributing resources towards a project, it shows how important gaining a deep and broad understanding of their sector is to their business and to the northern Australian economy."

The final report due mid-2019 is expected to inform part of the northern Australian component of the next Meat Industry Strategic Plan and could influence the direction of significant industry investment.



Biosecurity risks when drought feeding

With the drought continuing to have a heavy impact on vast areas of Queensland, producers are looking at alternative feed supplies, as hay and grain becomes difficult to source.

While the nutritional value of feed must be carefully considered you should also consider potential biosecurity risks.

You're probably aware it's illegal to feed restricted animal matter (RAM) to ruminants and swill to pigs and poultry, but do you know why and do you know all the possible sources of RAM and swill?

RAM

RAM is material that:

- contains or may contain the carcass of a vertebrate animal or material derived from a vertebrate animal (e.g. eggs, blood, faeces)
- has been in contact with either of these, including food or food scraps from a restaurant, hotel or home.

Some of the banned RAM feeds include rendered products such as meat and bone meal, blood meal and fish meal, however it also includes products like feedlot manure, chicken litter and commercial dog food and poultry pellets.

Feeding cattle animal-based meals contaminated with bovine spongiform encephalopathy (BSE) more commonly known

as mad cow disease, has been the main cause of BSE outbreaks overseas.

Since 1997, Australia has had a ruminant feed ban in place to prevent BSE in Australia and to ensure our meat and meat products continue to have access to domestic and international markets.

Swill

Swill is material that:

- contains or may contain the carcass of a mammal or bird or material derived from a mammal or bird (e.g. meat, eggs, blood and faeces)
- has been in contact with these materials and includes food or food scraps from a restaurant, hotel or home.

Household, commercial or industrial waste, including butcher and bakery waste could contain swill.

For example, none of these foods can be fed to pigs:

- table scraps
- meat pies
- bacon and cheese rolls
- deli meats

- anything that has been in contact with swill through collection, storage or transport in contaminated containers (such as meat trays or takeaway food containers).

For more information on what can and cannot be fed to pigs go to: business.qld.gov.au/industries/farms-fishing-forestry/agriculture/livestock/pigs/swill-laws.

Swill can contain a range of harmful viruses, including foot-and-mouth disease (FMD) and African Swine Fever. These viruses can remain in food even after chilling, freezing or inadequate cooking.

Both of these diseases are serious, highly contagious and would have devastating impacts on Australian livestock industries should they be introduced.

Swill feeding is believed to have caused the devastating 2001 outbreak of FMD in the United Kingdom, where more than six million animals were destroyed to eradicate the disease.

A large, multi-state FMD outbreak could cost Australia more than \$52 billion in lost revenue over 10 years.

Chemical residue

Failed crops, crop stubble or cotton trash can be useful drought feed but they come with the risk of chemical residue. Ensure you get a commodity declaration from the vendor to state any chemical use on the crop has been applied correctly and complies with export slaughter intervals and withholding periods.

Cotton trash

During the 1980s and 1990s some export markets were stopped because chemicals used in the cotton industry were found in beef products. Cotton trash has not been permitted to be fed to livestock since 2005 under an industry-imposed ban.

Just recently a new protocol was introduced to allow the feeding of cotton trash under very strict conditions. If you want to feed cotton trash make sure you know the protocol and risks. Livestock that have been fed cotton trash and slaughtered prior to the required timelines may have unacceptable residue levels that could impact export markets. You may also find some buyer resistance to cattle that have been fed cotton trash as meat works make their own risk-based decisions.

Find the conditions for feeding cotton trash and your responsibilities under your Livestock Production Assurance accreditation on the MLA website mla.com.au.

David McNab
Biosecurity Queensland
0428 985 772
david.mcnab@daf.qld.gov.au



VISIT THE HEART OF SOUTH AMERICAN CATTLE COUNTRY

Beef Study Tour of USA and Argentina

17th - 29th May, 2019

5 days in Kentucky, USA

- ✓ Attend ONE19: The Alltech Ideas Conference
- ✓ Visit Kentucky horse and beef studs

6 days in Pampa region, Buenos Aires, Argentina

- ✓ Visit various feedlots plus a range of pasture properties
- ✓ See the latest genetics and breeder operations

HURRY!
LIMITED
PLACES STILL
AVAILABLE,
CALL TODAY!

One¹⁹
THE **Alltech** IDEAS CONFERENCE

FOR MORE INFORMATION AND HOW TO REGISTER, PLEASE CONTACT **TOBY DOAK 0408 304 914**

Making money from trees and grass

For most graziers in Queensland, running a beef business involves managing the balance between trees and grass. Traditionally this has meant reducing tree density to enhance grass growth and livestock carrying capacity.



A typical unmanaged forest.



The same site after thinning.

Unfortunately most graziers fail to take into account the inherent and potential value of the timber they kill to grow more grass.

In the south-eastern corner of Queensland (Gladstone west to Taroom and south to the border) there is about 3 million hectares of privately owned native forest that has the potential to produce 0.5 to 1 m³/ha/year of timber over a harvest cycle of 15 to 30 years.

Many landholders regard their native forests as a resource that they can ‘cash-in’ periodically to generate income but see little benefit in investing time, effort or money in improving them. This lack of investment and poor harvest practices means that these forests are producing < 0.1 m³/ha/year, five to ten times below their potential. Most landholders with stands of suitable species are missing out on opportunities to generate income from both trees and grass.

The first picture above represents a typical unmanaged forest. The forest is overstocked with more than 1000 stems/ha, has a high proportion of non-commercial species and few merchantable stems. The second image is the same stand following thinning. All of the retained trees (150 per ha) are growing and contain a commercial product. There is also more grass.

We analysed tree growth and returns from three management scenarios:

1. no tree management
2. silvicultural thinning
3. clearing for grazing

Forest response to treatment

Stand density

In the **unmanaged stand**, tree density drops slightly following a harvest but stays high as most of the non-commercial and unmerchantable stems remain. The few remaining commercial trees grow very slowly.

In the **managed stand**, following harvest and treatment, tree density is reduced to 150 stems/ha. The retained stems grow at more than 0.5 cm diameter increase per year because they have little competition for soil moisture and nutrients.

Clearing for grazing reduces tree density to zero. However, eucalypt and acacia regrowth (from suckers or seedlings) can be excessive and rapid, requiring re-clearing within 30 years.

Wood volume and value

Tree value depends on the products that can be cut from it and range from:

- \$10/m³ for low-value products (fire wood and landscape timber)
- \$80/m³ to \$120/m³ for moderate-value products (sawlogs and poles)

Scenario	Block size ha	Average C.C. over 30 years Ha/AE*	Average AE over 30 years	C.C. as a percentage of unmanaged stand
Unmanaged forest	1000	16.5	61	100%
Managed forest	1000	10.65	94	155%
Cleared for grazing	1000	6.25	160	264%

AE* = 450kg steer at maintenance

Table 1. Cattle carrying capacity (C.C.) changes with tree density.

- \$200/m³ to \$400/m³ for high-value products (girders and veneer timbers).

In the managed stand, the commercial volume increases faster than in the unmanaged stand. There is a three- to five-fold increase in commercial volume in a managed stand and the time between harvests is reduced. A managed stand produces more high-value products than an unmanaged one.

Grazing response to treatment

Cattle carrying capacity is directly related to grass growth, which is impacted by tree density. Averaged over 30 years, cattle carrying capacity is 2.6 times higher following clearing and 1.5 times higher following silvicultural thinning. Refer to Table 1.

Will it pay?

Figure 1 shows the net present value (NPV; left axis) and the average carrying capacity (ha/AE; right axis) for each scenario over a 30-year period. The NPV is the accumulated net returns discounted at five per cent per annum. The discount rate accounts for the time cost of money (a dollar in the future is worth less than a dollar today). The analysis takes into account the clearing or treatment costs, includes the variable costs of running cattle, assumes zero tree value at the beginning, has one harvest at year 30 for the unmanaged stand and two harvests (years 15 and 30) for the managed stand.

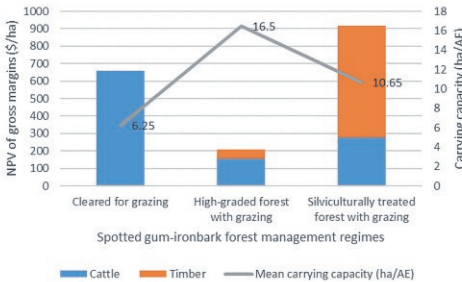


Figure 1. NPV and C.C. for the three scenarios.

For the grazing enterprise alone, clearing returns \$650/ha compared with unmanaged at \$150/ha and managed at \$275/ha. However, when tree value and grazing are considered together, investing in silviculture returns \$900/ha and is a better investment than clearing for grazing by \$250/ha and better than doing nothing by \$700/ha. Grazing combines well

with silviculture in that it provides cash flow, particularly at stages in the harvest and thinning cycle when tree density is reduced.

With a five-fold increase in timber value harvested and 1.5 times the carrying capacity, why are so few landholders investing in silviculture? There are a number of reasons:

- Timbered country is generally regarded as unproductive cattle country.
- Treatment costs can range between \$200/ha and \$500/ha.
- 15 to 30 years is a long time to wait for a pay-out from the timber treatment investment.
- They have concerns about harvest security and the *Vegetation Management Act* (VMA).
- There is a lack of basic understanding of timber products and values.

What can I do?

You can't manage what you can't measure and you can't measure what you don't recognise. If you are unsure what species you have or don't know the forest product specifications then you need to find out. Private Forestry Services Queensland has useful resources on its website (pfsq.net) and also runs field days and training workshops covering:

- native forest ecology and silviculture
- fire use
- products and values
- forest assessment
- the impacts of the VMA and the associated native forest code of practice
- the interaction between grazing management and forest management
- economics.

A lot of grazing country in South East Queensland grows both trees and grass. While more trees means less grass, with good tree and grazing management their value exceeds what they rob from the grass. Don't miss the opportunity to generate income from both.

Bill Schulke
Private Forestry Service Queensland
0408 963 723
pfsq2@bigpond.com



Not just jobs—we do careers.

GROW YOURS WITH US.



AUSTRALIAN COUNTRY CHOICE IS A THIRD GENERATION, PROUDLY AUSTRALIAN OWNED AND FAMILY OPERATED INDUSTRY LEADER. TOGETHER WITH AUSTRALIAN CATTLE AND BEEF HOLDINGS, WE ARE THE WORLD'S LARGEST, FAMILY OPERATED, VERTICALLY INTEGRATED, BEEF SUPPLY CHAIN.

Stretching over 5 million acres, carrying up to 300,000 head of cattle, our operations encompass large scale cattle breeding, backgrounding, farming, feedlotting and a modern food processing and value add packing facility. With our continued growth, innovation, development and investment in people, infrastructure and technology comes greater career opportunities for you.

Our way of life? We are values driven, focused on the wellbeing of our staff, the welfare of our animals and committed to delivering quality products every time. You'll thrive with an authentic, family run business who values loyalty and offers structure and security of a major, corporate pastoral operation. Seeking a challenging, rewarding role with long term stability and diverse opportunities? Visit careers at accbeef.net.au.



ACCBEEF.NET.AU



FLOCK TALK



Leading Sheep

Plan to scan and scan to plan

Dry or wet years, it's always a good time to think about scanning. This edition of *FlockTalk* has scanning on the brain, looking at the merits of scanning and how to use the information in the best possible way.

Firstly, hear from Blackall wool grower, Ben Banks, who says that pregnancy scanning can lift flock fertility by 10 to 15 per cent. Western Rivers Veterinary Group also discuss scanning with an emphasis on how to know what a "normal" lamb marking result is for your flock, how to use this information and what sort of fertility problems it can highlight.

Keep an eye out for upcoming events around the traps, we've got technology and fencing, and nuts and bolts reproduction days on the cards, for both our existing sheep producers and those needing the tools to enter the sheep industry.

We've also added some great resources to our website recently with a booklet on Electronic Identification (EID) detailing producer and expert tips on the practical ins and outs of implementing EIDs in your flock and videos on the crucial considerations for weaning in dry times—have a look now to get ahead of the game. Head to leadingsheep.com.au for these resources and more.

Andrea McKenzie
Editor

Acting Leading Sheep project manager
Department of Agriculture and Fisheries

Scanning: key to increase in flock fertility

A Blackall wool producer believes introducing a pregnancy-scanning program is an investment that can lift flock fertility by 10 to 15 per cent annually and help fine-tune ewe management.

Ben Banks and his wife Oona manage a 46 500 hectare family property, Rivington, west of Blackall, where they run 25 000 Merinos when the season permits.

For close to a decade the couple have also operated a contract pregnancy-scanning business, processing around 100 000 head of sheep annually.

With buoyant wool prices and growing industry optimism thanks to wild dog fencing, Mr Banks said breeding flocks were becoming increasingly valuable.

"Improving the fertility and productivity of your own flock is the most cost-effective way to boost your sheep numbers," said Mr Banks.

The western Queensland producer said he had used pregnancy scanning as an integral part of his own operation in recent years to lift production and in turn bolster profitability.

"I think scanning is one of the most under-utilised resources especially in central-western Queensland, where there is so much potential for improving management of pregnant ewes," he said.

"The information from scanning can assist you to make more informed decisions when it comes to management. Central-western

PRODUCER SNAPSHOT

Producer: Ben and Oona Banks

Property: Rivington, Blackall

Property size: 46 500 ha

Livestock: 25 000 Merino ewes

Queensland is a harsh pastoral environment, but by identifying pregnancy status, we can tailor nutrition and husbandry management programs so we end up marking more lambs."

He said pregnancy scanning also allowed producers to draft ewes into mobs of multiple or single bearing ewes, as well as culling infertile animals, which improved flock efficiency and ensured feed was being utilised by the most productive animals.

"Twinning ewes can be run in smaller mobs and fed to meet their extra nutritional requirements. Alternatively, if you opt to sell a scanned-in-lamb ewe they generally make around \$20 a head more than a station-mated female," Mr Banks said.

"Meanwhile single ewes can be run in larger mobs and dry ewes can be run like wethers or sold."

Within his own operation, Mr Banks said he had become increasingly focused on scanning for multiple pregnancies, so more productive ewes were managed effectively to ensure they delivered lambs on the ground.

"Since we started scanning every year, we have been able to improve our flock's fertility, because we know what our ewes are really producing," he said.



Ben Banks

"For example, when we first started scanning at Rivington, in the initial year we found we had about 75 per cent of ewes in lamb, so we were able to identify and cull infertile females.

"The following year we did the same thing, and by keeping the productive ewes and culling the non-performers we were able to lift our average to around 85 to 90 per cent scanned-in-lamb."

He said in real terms introducing a regular pregnancy-scanning program allowed him to lift flock fertility by 10 to 15 per cent within one year.

"This is something that other producers could also do, because essentially it is about having more information to make better-informed management decisions," Mr Banks said.

"Regardless of mob size, that sort of improvement, in terms of knowing what ewes are fertile and what they are producing for you, can make a significant difference to your bank balance at the end of the day.

"To me it makes sense to know what your ewes are doing and while it might cost 60 cents per head, the benefit is you increase the number of lambs on the ground each season and you are better able to prepare for the lambing season.

"I think everyone should get into it and make more out of your sheep. You've got to make every single animal count and they're worth so much money now that spending a few extra cents on scanning them is worth it."



Editorial enquiries

Andrea McKenzie

Phone: 07 4530 1262; Mobile: 0428 109 620

Email: andrea.mckenzie@daf.qld.gov.au

© The State of Queensland, 2019

Reproduction of articles

The Department of Agriculture and Fisheries welcomes reproduction of articles appearing in this newsletter providing the source is acknowledged, the article is reproduced in full and technical

information is confirmed with the editor before publication, ensuring the recommendations are still accurate at the time of reprinting. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. To the extent permitted by law, the reader/user accepts all risks and responsibilities for losses, damages, costs and other consequences resulting directly or indirectly from using the information contained herein. Advertisements included in this edition were accepted on the understanding that they complied with the relevant provisions of the Competition and Consumer Act and with the Australian Association of National Advertisers Code of Practice. No endorsement by the Department of Agriculture and Fisheries is intended or implied by the advertisement of any product in *FlockTalk*.

Not just jobs—we do careers.

GROW YOURS WITH US.

AUSTRALIAN COUNTRY CHOICE IS A THIRD GENERATION, PROUDLY AUSTRALIAN OWNED AND FAMILY OPERATED INDUSTRY LEADER. TOGETHER WITH AUSTRALIAN CATTLE AND BEEF HOLDINGS, WE ARE THE WORLD'S LARGEST, FAMILY OPERATED, VERTICALLY INTEGRATED, BEEF SUPPLY CHAIN.

Stretching over 5 million acres, carrying up to 300,000 head of cattle, our operations encompass large scale cattle breeding, backgrounding, farming, feedlotting and a modern food processing and value add packing facility. With our continued growth, innovation, development and investment in people, infrastructure and technology comes greater career opportunities for you.

Our way of life? We are values driven, focused on the wellbeing of our staff, the welfare of our animals and committed to delivering quality products every time. You'll thrive with an authentic, family run business who values loyalty and offers structure and security of a major, corporate pastoral operation. Seeking a challenging, rewarding role with long term stability and diverse opportunities? Visit careers at accbeef.net.au.



ACCBEEF.NET.AU



FLOCK TALK



Data underpins flock scorecard

Having the ability to assess the pregnancy status of ewes is a key tool for sheep and wool producers to not only help inform management decisions, but also create their own flock scorecard and identify any problems early.

That's according to Western Rivers Veterinary Group partner, Dr Tim Gole, who undertakes flock pregnancy scanning for clients in Queensland and New South Wales (NSW).

"An important question from producers is 'what is a "normal" lamb marking result and how do you know if there is a fertility or other health issue impacting your flock's productivity?', " Dr Gole said.

"Pregnancy scanning is essential to answering this question and I think of it as a measurement, management and forecasting tool.

"Scanning data is important because if you've got great conception rates but a poor lamb marking result, you can quickly work out where the losses are occurring. This gives you a very different insight to just putting the rams in with the ewes and waiting until lamb marking to see the result.

"The main benefit of scanning is the ability to identify the pregnancy status of ewes and allocating nutritional resources efficiently according to need.

"Identifying the pregnancy status of ewes is a powerful management tool as it allows you to put in place measures to influence lamb survivability, which is directly related to birthweight and in turn, ewe nutrition. This is particularly important for twin-bearing ewes.

"Every producer should be undertaking ewe body condition scoring at scanning time. It's easily learnt and producers can undertake this themselves giving very cost-effective data collection.

"If a twin-bearing ewe's body condition score is 2, her lamb survivability is likely to be quite low at under 50 per cent. However, if you take her up to a body score 3, you can increase lamb survivability rates to well over 60 per cent.

"In contrast, for a single-bearing ewe, if you take her body condition score from 2 to 3, the change

in expected lamb survivability is only likely to be a couple of per cent.

"Identifying your twin-bearing ewes and treating them differently is the best return on investment for feeding or pasture management."

Control the controllable

Dr Gole said the best time to undertake pregnancy scanning is usually 80 to 90 days after joining.

"Knowing the pregnancy status of a flock is an effective risk management tool because if you've had a really poor joining, it's better to know 90 days after the rams went in than 150 or 170 days after," Dr Gole said.

"If you get a poor scanning result, you can work your way back from scanning to assess the likely impacting factors.

"There are a number of factors to consider, and the first should be body condition scores. Comparing the scores of each ewe at scanning to their scores at joining can yield valuable insights.

"Producers should also look at nutrition because there's a direct correlation between nutrition and conception rates.

"External factors can also play a role, so review the calendar and examine climatic conditions at joining, particularly heat."

Dr Gole said producers should also look at their ram team and investigate any possible diseases that can impact fertility, such as ovine brucellosis.

Pre-joining ram examinations are typically undertaken at least six weeks prior. If producers are achieving good scanning results but a low lamb marking result, disease testing can be undertaken.



Dr Tim Gole, Western Rivers Veterinary Group, teaching vet student Andrew Pegg about scanning

Top 5 benefits of pregnancy scanning

- Powerful measurement, management and forecasting tool
- Early identification of fertility or other health issues impacting your flock's productivity
- Allows you to manage the nutrition requirements of single and twin-bearing ewes to maximise lamb survivability
- Can help identify possible diseases in your ram team that may be affecting fertility
- Producers should examine flock nutrition, possible diseases and their ram team management to help identify any fertility issues highlighted by pregnancy scanning

Key diseases behind lamb losses and late abortions can include ovine vibriosis, a campylobacter infection; toxoplasmosis, which is associated with feral cats; and pestivirus.

Setting benchmarks

Dr Gole said scanning data helps producers set their own benchmarks.

"When you start generating data from your own flock, it's always a challenge, particularly for wool producers, to identify what's normal for your flock," Dr Gole said.

"You've got the classic rubber band—there's reproductive performance on one side and wool production on the other. If you select constantly for heavy wool cutting sheep, it comes at the expense of reproductive performance.

"That's why I think generating your own results is beneficial because it allows you to compare like with like and set benchmarks.

"At scanning time, you can look to budget and do cost-benefit analysis and see where big gains can be made.

"There were some studies done at Trangie Agricultural Research Centre that found a massive difference between the top 25 per cent and bottom 25 per cent in terms of your flock, and the big difference came in the number of lambs reared. The research found a \$436 difference in lifetime value, with most of that figure based on net reproduction rates.

"For the data it gives you, it's rewarding. There has been some really big uptake of pregnancy-scanning programs in western NSW, because lamb production as sale of offspring makes up such a significant proportion of income now."



Keep an eye out for AWI and Leading Sheep's Picking Performer Ewes workshops, that cover many of the concepts in this article such as the dollar difference between top and bottom performers and the impact of ewe condition score on lamb survival. Or get in touch to request one in your area. For more information about pregnancy scanning, including a list of pregnancy scanners in Queensland, visit leadingsheep.com.au and search 'scanning' or 'pregnancy scanners'.

Not just jobs—we do careers.

GROW YOURS WITH US.

AUSTRALIAN COUNTRY CHOICE IS A THIRD GENERATION, PROUDLY AUSTRALIAN OWNED AND FAMILY OPERATED INDUSTRY LEADER. TOGETHER WITH AUSTRALIAN CATTLE AND BEEF HOLDINGS, WE ARE THE WORLD'S LARGEST, FAMILY OPERATED, VERTICALLY INTEGRATED, BEEF SUPPLY CHAIN.

Stretching over 5 million acres, carrying up to 300,000 head of cattle, our operations encompass large scale cattle breeding, backgrounding, farming, feedlotting and a modern food processing and value add packing facility. With our continued growth, innovation, development and investment in people, infrastructure and technology comes greater career opportunities for you.

Our way of life? We are values driven, focused on the wellbeing of our staff, the welfare of our animals and committed to delivering quality products every time. You'll thrive with an authentic, family run business who values loyalty and offers structure and security of a major, corporate pastoral operation. Seeking a challenging, rewarding role with long term stability and diverse opportunities? Visit careers at accbeef.net.au.



ACCBEEF.NET.AU