



# BEEFTALK

Taking stock of your future

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# Plan property upgrades

**G**RAZIERS in regions that have enjoyed a good season have hit the beef industry trifecta with low interest rates, record cattle prices and a promising seasonal outlook for summer.

While this rare occurrence offers many opportunities, graziers may be inclined to upgrade capital infrastructure.

Capital infrastructure - including fences, stock waters (including water sources), stockyards, roads, sheds, airstrips, quarters and the main house - represents a huge investment, usually over several generations on all cattle properties.

The quality and functionality vary immensely depending on design, age and state of repair.

A good starting point is to create an inventory based on functionality and a whole-of-property infrastructure plan that suits the chosen grazing system.

The beef industry trifecta presents an opportunity for the accelerated maintenance of serviceable infrastructure.

Remove infrastructure that is unserviceable or abandoned rather than allowing it to decay into the ground, but be aware of contamination issues such as asbestos from old buildings and chemical residues from old stockyards and dips.

## Fences

Fencing to separate land types with different grazing preferences will allow for better management of land condition.

Fences located on ridges (where possible) will minimise erosion risk and

reduce the number of flood crossings required.

## Waters

There is a sweet spot for distance between stock waters which is based on the carrying capacity of the land and the cost of additional watering points.

Generally, the lower the carrying capacity of the land, the higher the cost per head of extra waters. Waters located on non-preferred land types will help spread grazing pressure.

A maximum walking distance of 2 kilometres is more than adequate for cattle (topography permitting). Therefore, locating waters closer than 4km apart may be over-capitalisation.

Critically assess the reliability and yield of new water sources (dams or bores) during severe drought before starting work.

Many well-built and well-located dams have been drained by poorly constructed, undersized and eroding bywashes.

Therefore, enlist the services of soil conservation professionals to design dam bywashes and provide tips on constructing stable dams and bywashes.

## Stockyards

Well-designed and constructed stockyards are essential for occupational health and safety and animal welfare.

Other considerations include accessibility, site suitability including soil type and compatibility with the existing and proposed paddock layout, legacy chemical residues, availability of water and dust problems if close to residences and quarters.



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## Roads

Good roads save time and reduce maintenance costs on vehicles and machinery.

Roads located either on ridgetops or directly downslope are preferable to those that are diagonally

cross-slope. Properly surveyed and constructed whoa-boys at the time of installation prevent roads from becoming gullies.

This is particularly important at water-course crossings.

## Housing

High-standard accommodation and facilities can be key to retaining staff on-property.

Well-spread accommodation will give the owners, managers and staff room for privacy and a 'patch of their own'.

It is essential that modern quarters are in keeping with current community expectations by including good beds, wi-fi, washing machines and TV.

A good supply of domestic water will help maintain trees and lawn which makes for appealing surroundings and reduced dust problems.

Higher ground with a northerly aspect is essential when considering location. Avoid steep ridges/hilltops as they are high-risk sites during bushfires.

## Airstrips

A well-constructed and maintained landing ground is an essential asset in an emergency.

There is also the added opportunity to cut hay if the soils/climate are suitable for sown pasture species and area is kept free of woody plants and ant hills.

The low interest rate, high commodity price, favourable season trifecta is a rare occurrence for all agricultural industries. When it comes along, opportunities arise that may occur only once or twice in a producer's lifetime on the land.

Examples of opportunities cover all components of the beef business including financial management, increasing long-term carrying capacity, livestock, environmental management and the family and staff working in the business.

Seldom are the best options clear-cut; therefore, seek advice from people with the relevant technical, economic, financial and legal information. Consult mentors and other producers that have successfully managed environmentally sustainable and economically viable beef businesses.

Bob Shepherd, principal extension officer, Department of Agriculture and Fisheries

*This article is an excerpt from Bob Shepherd's paper that was presented at the 21st Australian Rangeland Conference in Longreach recently.*

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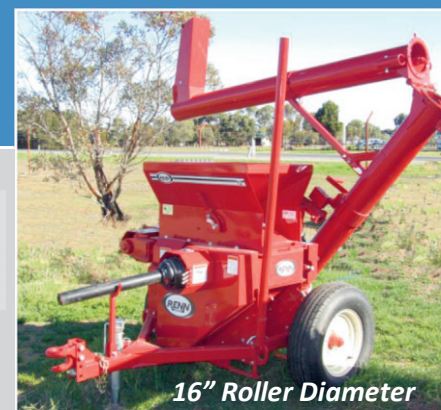
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# Calf birth data is crucial

## Weaning rates given a boost with EBVs

NORTHERN Australia can have one of the harshest and most variable climates, placing a large amount of environmental pressure on beef breeding operations.

One of the key profit drivers in northern beef production systems is weaning rates and there are many environmental and genetic factors that influence weaning outcomes.

One effective way to lift weaning rates is by using sires with accurate and superior estimated breeding values (EBVs) for reproductive traits that suit your breeding objectives and environment. These EBVs can be enhanced with genomic information.

The 'Repronomics II - Building and delivering effective genomic selection for northern Australian cattle' project (funded through MLA and MLA Donor Company) is continuing to build genomic reference populations for northern breeds - particularly in regards to female reproductive traits - to lift the accuracy of these EBVs. This can only be achieved through intense phenotypic data collections and single nucleotide polymorphisms (SNP) genotyping.

For three months each year, calves born in the highly recorded breeder herds at Brian Pastures Research



One of the key profit drivers in northern beef production systems is weaning rates.

Facility and Spyglass Beef Research Facility are caught, tagged and monitored for a number of traits within 24 hours of birth.

Data collected at birth is fed into Breedplan EBVs of birth weight, gestation length and days to calving. This is crucial to increase the accuracy of these hard to record traits.

Date of birth is also critical for many other trait EBVs that require adjustment for age of animal and age of dam (e.g. weights, carcass scans and heifer age at puberty).

Other data recorded at birth includes calving difficulty scores, calf deaths, cow body condition (1-5), teat



EBVs are estimates of the genetic merit of an animal. The more data available, the higher the accuracy and the closer the estimate is to the true breeding value of an animal.

and udder score (1-5) and mothering score (1-5).

This data provides scope for future research into development of additional traits that may impact breeding performance.

EBVs are estimates of the genetic merit of an animal.

The more data available, the higher the accuracy and the closer the estimate is to the true breeding value of an animal. In general, EBVs with less than 50 per cent accuracy are considered low and have the potential to change substantially as more data is

fed into the EBV. Therefore, it is important that these accuracies are increased to give the users confidence when selecting suitable genetics for breeding programs.

Through the selection of young industry sires into the Repronomics project's natural mate program, the use of highly influential sires in the fixed-time AI program and a large amount of data recording, we are building relevant genomic reference populations that will generate EBVs with higher accuracies across the entire breed for Brahman, Droughtmaster and Santa Gertrudis.

And it all starts with records from birth!

## Updated app helping graziers

STOCKTAKE GLM is the new and improved smart device application that assists beef and sheep producers with their grazing land management, replacing StocktakePlus, which was originally released in 2013.

With remarkable advances in app tech development, Stocktake GLM features the latest in terms of coding and architectural design and a fresh user interface.

Based on the popular Stocktake workshop, the app provides graziers, consultants and other land managers with a simple tool to monitor land condition and undertake forage budgeting on their property.

Available in the AppStore or via Google Play, Stocktake GLM is free to download and use with no subscription fees. The app works in remote areas without mobile reception, backing up securely once a connection is restored.

Setting up a property is simple as the app contains the latest spatial mapping where users can quickly locate and pin their grazing property. Using updated pasture growth modelling data, land type mapping and revised adult equivalent data, the app can calculate long-term carrying capacity using grazer on-ground monitoring inputs. Stocktake GLM also guides users through a basic or detailed forage budget to determine short-term stocking rates by balancing pasture supply with stock demand. To learn more or download the app visit [stocktakeglm.com.au](http://stocktakeglm.com.au).

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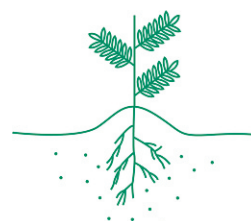


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# Value of stocking rates

La Nina, land condition and long-term carrying capacity - bringing back the desert

**E**VEN when it is pouring with rain, many producers are planning for the next dry year. When the landscape and the herd are in good condition, it is easier to ride out the dry spells.

But how do you improve land condition on pastoral land while still carrying cattle? Not surprisingly, locking up country isn't a very palatable option.

A long-term grazing trial in central Australia has demonstrated it is possible to improve land condition while maintaining a stable breeder herd and producing high-value steers for the premium beef market.

The key to success seems to be maintaining the stocking rate at close to the recommended long-term safe carrying capacity.

Quality Graze is a 15-year grazing trial at the Northern Territory government's Old Man Plains Research Station (OMP), south-west of Alice Springs. During this period, which included the wettest and driest three-year periods on record, production has remained consistent. This stability has helped reduce stress on the property's human, cattle and natural resources.

The Department of Industry, Tourism and Trade (DITT) is trialling six grazing strategies at OMP - all based around the long-term safe carrying capacity. The strategies cover set stocking rates, annual adjustment of

stocking rates in response to seasonal conditions and rotational grazing to achieve spelling.

Before 2002, OMP was part of the Owen Springs pastoral lease, with a long grazing history and ground cover levels similar to the surrounding pastoral land.

The grazing trial started in 2006, but ground cover recovery didn't really occur until the double La Nina event from 2009 to 2011. Since then, ground cover at OMP has been equal to or higher than that of neighbouring properties.

There's little doubt that the double La Nina event was critical in accelerating land condition improvement from predominantly C condition to B condition for much of OMP. Getting the grazing pressure right has allowed native pastures to recover and buffel grass has become more established, contributing to cover and yield increases, especially in the drainage lines.

Improvement in land condition has been the same in both the rotational strategies and the continuously grazed strategies. One of the rotational strategies is a simple 12-month rotation between two paddocks.

The other is a four paddock rotation providing an annual summer spell for the more productive pastures and spelling every second summer for the remaining two paddocks. Because all strategies are stocked



Mustering Quality Graze project cattle on Old Man Plains Research Station, south-west of Alice Springs.

“Grazing land management is a numbers game and the most important number is the long-term carrying capacity. Getting that right allowed a big improvement in land condition in the double La Nina event of 2009 to 2011.

in line with the long-term carrying capacity, pasture utilisation is only what can be safely consumed without causing long-term decline in

land condition. Stock numbers are not increased in wet years when feed is more abundant, so grazing pressure is effec-

tively reduced and pastures can recover from the heavier pressure that occurs in the dry years.

In 2015, a new grazing strategy was added, with the stocking rate increased by 50 per cent in that paddock. The ground cover in this paddock has declined and is now the lowest of all the strategies. After only two years, this paddock had significantly lower cover than the others. Pasture composition tends to be dominated by early successional species, typical of country after drought but also a feature of land in poor condition.

The land condition improvement at OMP has reduced runoff and since 2012 most of the dams have rarely been full. Increased ground cover and perennial grass density have resulted in higher rain infiltration and reduced runoff. This has improved the land's ability to respond to rain. On some highly productive land types, the pasture yield per millimetre of rain has more than doubled.

A valuable characteristic of central Australian pastures is their ability to retain nutritional quality after haying off. Improved land condition has resulted in more pasture growth and because it retains its value, there is more useful forage available well into the inevitable dry years.

The improved rainfall use efficiency also means pastures can respond better to isolated storms. Even through the driest three-year period experienced in central Australia (2017 to 2020), the Quality Graze project turned off the same number of high-quality steers as in wetter years.

Over the 15 years that OMP has been stocked at recommended rates, there has been an improvement in land condition, the density of preferred grass species, ground cover and rainfall use efficiency.

Cattle growth and beef production are now consistently high, and cattle numbers stay pretty much the same even through very dry years.

For more information contact Alison Kain, pastoral production officer, NT DITT Alice Springs, (08) 8951 8101.

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# Sheep and sheepdogs: an iconic duo

THOUGH often not cheap or a quick fix, sheepdogs continue to drive extensive return on investment for Queensland sheep producers, proving to be a valuable resource amid prolonged labour shortages.

Department of Agriculture and Fisheries (DAF) Leading Sheep extension officer Jed Sommerfield said with staff being hard to find, it was little wonder sheepdog prices were setting records.

"Faced with significant challenges stemming from COVID-19 and drought, farmers have had to think more and more about quality over quantity when it comes to working dogs," Mr Sommerfield said.

"We often hear that 'a good dog is worth two men in the yards', which I think people have realised and had to put to the test over the past 18 months to get essential jobs done effectively and efficiently.

"Sheep work and sheep handling are highly labour-intensive tasks, but producers are increasingly realising that a good sheepdog can supplement the need for an employee and still get the job done well.

"Regardless of what's going on, you still need to tend to your mobs and property, move flocks, push them through the yards and more-skilled sheepdogs will always have the capabilities to do this."

Mr Sommerfield said there would always be disputes over which breed of sheepdog was best, though kelpies, coolies and border collies continued to be preferred by most producers.

"What makes a good sheepdog can depend on a number of factors.

"Personal preference plays a part, as does the kind of work you're wanting the dog to do. Some breeds are better suited to yard or paddock

work, while training and practice requirements also differ from breed to breed.

"Though it's not a cheap or easy process to train sheepdogs, studies have shown the returns can pay dividends - as results from the Farm Dog Project at the University of Sydney confirm.

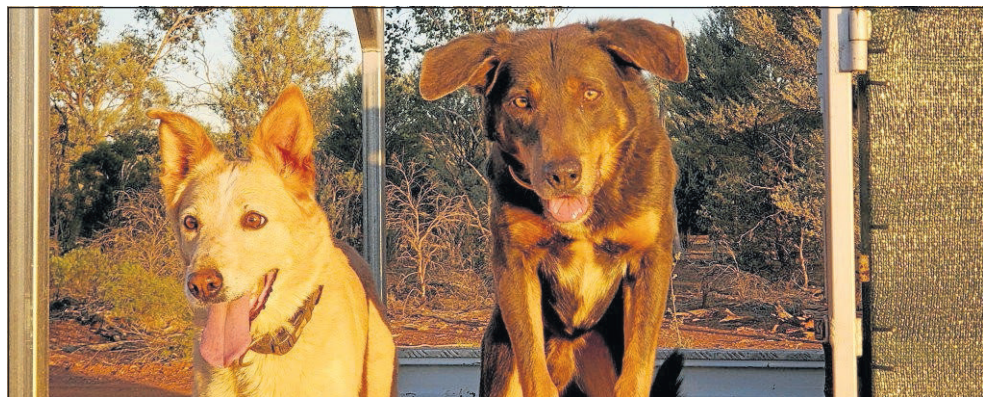
"The average price of a working dog typically sits between \$300 and \$700, with a kelpie called Hoover setting the world record price of a whopping \$35,200 at an auction in Casterton, Victoria, earlier this year.

"Though these prices can seem exorbitant, many producers say a good dog is worth every dollar considering the amount of work they do and the potential for them to reduce staff costs."

*Leading Sheep is a partnership between the Queensland Department of Agriculture and Fisheries and Australian Wool Innovation and is supported by AgForce.*



Numerous trainers and online resources are available to help producers learn more about the fundamentals of handling sheep.



Good dogs can come in all shapes and sizes. A dog that works well with you and your other dogs and does the job you want makes your day more productive.

## Effective flock handling tips

LIVESTOCK handling methods heavily influence the effectiveness and efficiency of sheep producers' flock management.

Department of Agriculture and Fisheries (DAF) Leading Sheep extension officer Jed Sommerfield said educating livestock producers about various sheep handling methods could increase

handler safety, profitability, animal welfare and staff retention.

"It's important that producers have access to information on how to best handle and herd sheep, with and without sheepdogs," Mr Sommerfield said.

"The benefits of having well-trained and responsive sheepdogs are evident.

"While certain trainers suit particular dogs and producers, the key in upskilling producers to use dogs in sheep handling is bringing together lessons from a range of places and people."

Webinar recordings about herding foundations and how working dogs can move sheep efficiently are available at [leadingsheep.com.au](http://leadingsheep.com.au).



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