


**NORTHERN MUSTER**

Information for rural business in North Queensland



# 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 in line



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 2009-2011.

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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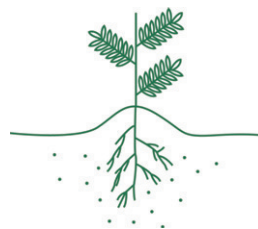
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# New, improved booklet

## Latest tips for managing in a dry season

THE *Dry season management of a beef business* guide has been updated with the latest information to assist land and livestock management during dry seasons.

"Whether you are running 10 head or 10,000 head, there are fundamental nutrition, grazing management and herd structure principles that apply to all beef operations," Department of Agriculture and Fisheries (DAF) principal extension officer and co-author Joe Rolfe said.

"No matter the herd size, the key challenge remains the same: balancing cattle numbers with seasonal grass supplies.

"The guide describes management strategies appropriate for the highly variable annual rainfall and pasture growth that occurs in Queensland, including the pros and cons for each."

DAF principal extension officer and co-author Nicole Sallur said the guide aimed to help producers right across Queensland.

"The booklet includes a step-by-step guide to help graziers objectively review the status of their business, taking into account climate, land and pastures, workforce, finances and cattle, so proactive decisions can be made when a dry period is anticipated," Ms Sallur said.



The 'Dry season management of a beef business' guide describes management options such as early weaning and culling strategies that will reduce grazing pressure

"It includes templates, worked examples, helpful descriptions, supplementation recipes and links to additional information.

"When in the middle of drought, it can be difficult to decide what to feed your cattle and find reliable information, so we have included a summary of everything that needs to be considered when undertaking supplementation of the herd.

"Additionally, the booklet describes management options such as early weaning and culling strategies that will reduce grazing pressure, and alternative enterprises that may provide greater destocking flexibility."

# “

Successful drought and dry season management depends on early planning and having an open mind to all options. Regardless of where you are in Queensland, no rain, no grass, no cattle is the fundamental management principle for all beef producers.

**Joe Rolfe, principal extension officer**

The guide also includes feed labels and comparing nutritional value of feed options. The guide's revision, which was funded by the Drought

and Climate Adaptation Program and FutureBeef, was necessary to provide Queensland beef producers with the latest information on planning for, and managing seasonal variability.

Since the revised guide was released at BEEF21, more than 4000 booklets have been delivered to 14 DAF offices across Queensland for distribution to local beef producers.

To obtain a copy of *Dry season management of a beef business*, contact your local beef extension officer or download an electronic version from [bit.ly/3FLHAMv](http://bit.ly/3FLHAMv).

■ Jodie Ward, beef extension officer, DAF, Brisbane

## 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. It replaces StocktakePlus, which was originally released in 2013.

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. Data can also be synced to another device.

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.

— **GREG BATH, DAF BEEF EXTENSION OFFICER**

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# Plan property upgrades

## Capitalise on beef industry trifecta

**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



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

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.

### 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, particularly at

watercourse 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, legal and personal information. Consult mentors (if you have them) and other producers that have successfully managed environmentally sustainable and economically viable beef businesses. Make the most of the situation to improve the beef business.

■ 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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