

Pasture spelling within a highly variable climate

Goodwood Boulia

BACKGROUND

Rick and Ann Britton operate Goodwood Pastoral Company Pty Ltd as a family owned beef operation at Boulia in far western Queensland. They have developed grazing strategies to manage their livestock and land within the bounds of the highly variable climate and diverse landscape of the famous Channel Country.



Rick and Ann Britton at Goodwood

Rick is a 5th generation Boulia resident. He worked for 20 years as a ringer, overseer and manager throughout the Boulia district before taking over Goodwood in 1996 from his parents and brother. He has transformed the operation into Goodwood Pastoral Co Pty Ltd which includes the holdings Goodwood, Scarsdale Clearview, Hedford, Queenvera, Kewpie, Black Mountain and Lucknow. Goodwood is the home property and is 10 km east of Boulia—about 300 km south of Mt Isa and 360 km west of Winton. Black Mountain is 34 km to the north and Lucknow 100 km to the east.

Rick and Ann are strong supporters of their community. Rick is currently (2012) in his second term as Boulia Shire Mayor, as well as sitting on many community and beef industry boards. Ann is a keen photographer and promoter of the beef industry and outback lifestyle.

Livestock enterprises

Goodwood Station is the centre of the Britton family operation. Lucknow and Black Mountain are breeding grounds for their Santa/Droughtmaster breeding program, with about 2000 cows joined each year. Backgrounding of young steers and heifers is usually spread across Goodwood and Scarsdale with bullocks finished on either property. Heifers are expected to have their first calf as two-year olds and cows are sold by the age of 10. Empty cows are culled earlier. Heifers are joined on Goodwood, scanned and then moved to Lucknow and Black Mountain by mid-pregnancy for calving from January through to April. Cows are joined on Lucknow and Black Mountain.

The carrying capacity across the 128,760 ha (1287.6 km²) of mixed country is about 4000 head of cattle. Up until the late 1990s the Britton family also ran sheep.

A key aspect of the business is flexibility, especially in the marketing approach. Rick operates so that he can respond to a range of market opportunities and deliberately retains cattle at various stages of maturity.

‘You have to know how to live within the limitations of the Boulia country, not work against it’ said Rick. ‘We aim for Jap ox (300-420 kg carcass weight), but if the price is there we will sell earlier. You have to keep one eye on the market. If you can get \$800 for a feed-on steer, why keep it longer and only get \$900 as a bullock? Selling earlier gives you money to reinvest and is better for the land. It lightens the stock numbers off and gives the country a break when it needs it. If we have the feed, we will buy more cows.’

‘We don’t supplement though’, said Rick, ‘because if you are thinking of supplementing in this country it is telling you to lighten off—and this might lead to the country being pushed too hard during dry periods’.

Following the 2008 drought Rick and Ann re-built their cattle numbers with Brahman cows—to create live-export opportunities beyond their Santa/Droughtmaster herd. When the gulf country is inaccessible during the wet season, the Britton’s are able to muster and transport cattle that meet live-export market specifications. The lack of cattle from other areas helps to maximise the price received. ‘The live export banning last year [2011] put us into a down-slide, but we’re still pretty open minded—we realise that the people up there need to be fed so we can help—it’s a long term goal.’

In early-2012 there were 4500 branded animals across the enterprise, following a run of good seasons. Rick and Ann were expecting to brand up to 1800-2100 and to sell 900 to 1000. They try to sell the same number that they brand in most years.

For most of the year, Rick and Ann run the operation with the assistance of two employees. This increases to six at peak animal husbandry times e.g. around weaning and tailing-out. More recently a locally-based helicopter has improved mustering efficiency and the opportunity for aerial inspection of waters—especially useful when it’s too wet to drive around the boggy clay soils.

Natural resources

Goodwood sits at the northern end of the Channel Country of far western Queensland and is within the catchment of the Georgina River. Goodwood includes floodplains of the Burke River. Lucknow is mostly open Mitchell grass downs, with double frontage along the Polygammon channels. Black Mountain is mostly Mitchell grass downs with double frontage to Warendra Creek and areas of spinifex in the hills. There are also areas of lighter country timbered with waddy-wood and some sandy mulga country.

Rainfall is generally low and highly variable. Lucknow averages 281 mm of rain—the highest on record is 851 mm whilst the lowest is just 14 mm. The Boulia district has a history of prolonged dry periods, including the 2005-2009 drought.



Boulia channel country following a good flood

Rainfall is enhanced through the floods that regularly spread across the floodplains and produce high quality feed. A good flood results from 100 mm of rain over 24 hours across a wide area of the Georgina and Burke catchments and can grow up to 8000 kg/ha of pasture. More frequent handy and gutter floods result from 100 mm of rain across smaller areas, or 50-75 mm across large areas. Handy to gutter floods can grow 2000-6500 kg/ha of pasture in the flooded areas. Good flood events include 1974, 1977, 1991, 1997, 2001, 2004, 2007 and 2009.



Goodwood Mitchell grass during the wet season

According to Boulia locals, their Mitchell grass country is different to other areas. In a lot of places there is 3 m of clay over the top of a sand layer which always seems wet. Local knowledge

says this helps the country to 'hang on' a bit longer, and that it needs less rain than Winton country to respond. Boulia country also grows good herbage amongst the Mitchell grass.

Infrastructure

The Goodwood, Scarsdale, Clearview, Hedford, Queenvera and Kewpie aggregation is divided into 12 paddocks, Black Mountain into five paddocks and Lucknow into nine paddocks. Rick has retained relatively small paddock sizes on Goodwood from when sheep were run there. According to Rick, this allows him to have a set weight of cattle or steers in any one paddock ready for market opportunities. 'If someone rings up for steers in a particular weight range we know that we've got about six decks or more in a particular paddock and we can just go to that paddock to fill the order.'

Aging windmills are gradually being replaced by solar pumps to pump to enclosed tanks, troughs and cup and saucer watering points. This has been planned out through experience, monitoring grazing patterns from a helicopter and with professional advice. Frontage country provides natural water holes and there is generally temporary surface water during the wet season.



Reducing evaporation at water points is crucial in the dry Boulia environment

Business goals

Rick said that 'as a beef producer my objective is to look after the land and animal welfare, all while running a sustainable, economical and environmental operation. Out here—if you look after your country it will look after you.'

Decision making is driven by this management philosophy which values sustainability, heeds seasonal conditions—including an awareness of increasing climate variability—markets, social responsibility and a comprehensive knowledge of

the country gained over time. Changes in any of these elements will provoke a management response.

Stocking rate management

The Goodwood enterprise is run at a conservative stocking rate of approximately 80% of the estimated long-term carrying capacity—adjusted with the seasons. 'This gives you the flexibility that you need when it comes to responding to the seasons. Said Rick 'It is not always possible to anticipate when the rains might come, or when the pasture may deteriorate rapidly. If you have to carry them [the cattle] a little longer before the rains come you've got the flexibility to do that or if the unforeseen eventuates, you've got some room to move.'

Offloading older cows and bullocks is part of the strategy to keep stocking rates low. Bullocks are progressively offloaded from July to September and replaced with lighter weaners, reducing the stocking rate by reducing animal size and taking pressure off the paddocks which had carried the heavier animals. Steers are weighed and split into weight ranges of 200-300 kg, 300-400 kg and 400-500 kg and put into separate paddocks according to recent grazing pressure and pasture yield. Ten year old cows are trucked with the weaners from the breeding blocks to Goodwood, run separately and fattened ready for sale.

Rick takes the attitude that cattle are a commodity and they can be traded like shares—so if you need to de-stock in a hurry you can. Bullocks and older breeders are the first to go and are run separately to steers or younger breeders to make mustering and trucking simpler. Feed is saved for the younger and more productive classes of cattle. Cash allows Rick to restock quickly or invest in other opportunities until conditions improve. Rick has also used agistment—especially if the selling market is weak.

'Out here, we always have to be thinking about that next dry period' said Rick. 'Its not a matter of "if", its "when" will we get the next dry spell. Climate change has been here since earth was created and we have been working with it, it's not new for us'.

'I've always lightened off my numbers at the start of a dry spell' said Rick, 'but I did a Grazing Land Management (GLM) workshop back in May 2007 which made me realise just how important it is to keep grass cover and stubble on the ground. The production figures and economic information that they showed in the workshop convinced me that you have to look at a long term approach: look after your country first if you want it to look after your business'.

As a result of participating in GLM, Rick agisted off all 1500 breeders in early March 2008 when it seemed unlikely that the drought would break. This was about 3 months earlier than he would usually move cattle, and at a cost of about \$400,000 for the next 12 months. 'I'm glad that I moved earlier than usual. The cows travelled really well because they were still in such good condition. They were straight onto good feed, and their calves ended up better as a result. The calves were sold as weaners off the agistment block, and the best of the heifers brought back home with the cows in April 2009. The sales basically paid for the exercise' said Rick. 'We haven't lost any productivity from our breeding program either—it just didn't happen at home until the dry spell broke! Usually your heifers are set back by a year and your whole breeding and rebuilding program is knocked about'.

Lightening off early meant there was enough feed saved on Goodwood to carry the young cattle through to target weights over winter. 'Rather than struggling to carry all of the breeders and young stock, and setting them all back 6 months, we were able to do both. We maintained income from the sale of young cattle from out here'.

'Best of all, our country was ready to respond quickly when it rained' said Rick. The country had a full wet to get over the drought. We realised how well the country responded with nothing on it so well we thought maybe we need to do that right through our management system. That's where it's dawned on us it has not actually cost us more—it's just being smarter. We can't work any harder. There's not enough day light. We need to be working smarter with what we've got. I think all that would be proof in the pudding. I think this wet season spelling will be that line to go down.'

Rick's family had noticed as early as the 1970s that the stock routes grazed during the dry season—but spelled over the next wet season—produced better Mitchell grass. According to Rick 'the cattle used to be walked down from gulf breeding properties to fatten in the channel country. The droving would stop in the beginning of November and wouldn't start up until probably Easter for the first herd of cattle. That's when we observed that the heaviest Mitchell grass country seemed to be on the stock routes.'

A combination of these earlier observations, discussions with Department of Agriculture, Fisheries and Forestry (DAFF) scientists, GLM training and destocking over the 2008-09 wet season convinced Rick to adopt wet season spelling over the entire 128,760 ha of the business.

Wet season spelling

There are one or two paddocks spelled at any one time on each aggregation across the Goodwood enterprise. In most cases one of those paddocks will have been spelled for a year. Rick explains that choosing the paddocks to spell 'depends on where the rain fell. Often it is the paddock eaten out the most that is the one we spell—it's more of a visual assessment. We also like to rotate through our paddocks to keep fresh feed in front of our cattle'. It is also a matter of local knowledge. 'If a paddock has had a little rain we may rest it more to help it recover in the hope it gets some more rain. So it's the condition of the country, how it's been used and the rain it has or has not received'.

Rick and Ann are in the unique situation of having about one-third of harder jump-up and spinifex country, one-third of open Mitchell grassland and one-third of floodplains and frontage country across their holdings. All of these land types are spelled. This spelling is made possible by stocking at 80% of the long-term carrying capacity, good planning and refining the animal husbandry and management calendar to suit the way the different land types respond to rain. According to Rick 'you can't run any one of those three with the same system, because of the different grass types, different land types in there.' Depending on the seasons, Rick adjusts stock numbers in paddocks—and

overall—to retain the ability to spell and to keep his animals in good condition.

Black Mountain and Lucknow are the breeder blocks, running 800 breeders on 33,000 ha and 1200 breeders on 47,000 ha respectively. The properties are mustered to ensure all the cows are on the harder country for the summer, spelling the open downs for a full wet-season each year. The cows calve in the harder country, which is quick to respond to summer rain and grows feed of a high diet quality. Rick's goal is to match the high energy and protein requirements of cows in the last trimester of pregnancy and first weeks of milk production, with the high quality feed that grows quickly in response to early summer storms and the wet season that follows.



Cows are run on harder jump-up, spinifex or mulga land types over summer, spelling the Mitchell grass country

'The hard country grows short feed that doesn't last long' said Rick. 'If we didn't graze over summer, it would burn off and blow away. So long as enough of the grass and herbage is going to seed it will come back year after year.'

The first round muster around Easter is when the cows with calves at foot are mustered out of the harder country. They are put onto the open downs where a mix of fresh Mitchell grass, Flinders grass and herbage provides both bulk and good diet quality to maximise milk production and calf growth rates whilst maintaining breeder weights. Rick delays the first round if there is plenty of bulk left in the harder country—delaying the restocking of the downs as late as possible to maximise the improvement in land condition and quality of feed available from spelling. Calves are

branded with the older calves weaned and trucked to Goodwood. The dry cows remain with the wet cows over winter.

During the dry season, Rick moves the cattle to new Mitchell grass paddocks after about one-third of the bulk has been eaten—or when grazed down to no shorter than the recommended 15-20 cm minimum stubble height. In the meantime, only a small number of bulls remain on the harder country—allowing it to respond to any unseasonal rains.

The second round muster around September-October is when the cows and calves are removed from the downs country on Black Mountain and Lucknow. This leaves all of the downs country on these two properties spelled over the wet season.

Calves are weaned and trucked to Goodwood, as are 10-year old and empty cows. The remaining cows are split into three age groups and mustered back into harder country on Black Mountain and Lucknow, where they survive on dry feed until the summer rains start. In-calf heifers are trucked from Goodwood into paddocks with the younger cows at the start of the summer storms. 'The cows spread out once the storms start and the surface water is there' said Rick. 'They don't flog out any areas but just spread around and lightly graze'.

The cows are put into fresh paddocks which were spelled over the previous summer on Black Mountain and Lucknow—rather than the paddocks the cows and calves were grazing before the first round muster. This means the cows are rotated through paddocks of harder country, ensuring at least some harder country is spelled over summer.

On Goodwood, the 10-year old and empty cows are fattened ready for sale before Christmas. Early maturing heifers are joined over October-December and the later maturing heifers given 6-12 weeks to grow and then joined—with the goal to have the heifers with a calf at foot by two years of age. All heifers are pregnancy tested and dry heifers are placed with the steers on Goodwood. Weaner steers start to be grown out on good floodplain country until they reach target weights

in 12-24 months time. The floodplain paddocks are grazed in rotation, ensuring they are all spelled for 8-12 months over a four to five year cycle.

During above average seasons, Rick will buy cows from the Kynuna district to put on condition on Lucknow. This property is strategically located on the Winton to Boulia Road and the Kynuna to Boulia branch road. The cows are then sold on to the eastern breeder markets.

‘On anyone of these places, we’re trying to spell some of the country, some of the time for six months or more’ Rick said. ‘Mother Nature dictates and we don’t have a set management plan. We ride around and look at the feed, what our numbers are and what the market is doing. It’s a pretty an open-ended plan. The principle is simple—we need to be sustainable’.

‘Tip them in and tail them out’

Rick combines his pasture and animal management as part of his approach to ‘working smarter not harder’. At the first muster he brands and ‘tips them in’ to the better country where the cows can maximise milk production to maximise calf growth rates over the dry season.

At second muster Rick ‘tails them out’ as weaners—educating the weaners by quietly working and holding them through the yards at Goodwood over a week to 10 days until they are used to the yards and to being handled. They are rotated through fresh paddocks next to the yards and quietly worked and blocked-up with motorbikes in the paddock—until the weaners will ‘just stand there and look at you’.

This means quiet cattle for the future making them easier to muster and work in the yards. ‘We can go muster any paddock on our own because we’ve made the cattle so quiet. The quieter through the yard, you can employ people with little experience and the cattle had got the temperament. We’re trying to improve work place health and safety as well’ says Rick. ‘My theory is that you’re giving the weaners a good experience in the yards. The first time they get mustered in the first round, they get separated from their mother, and we brand them and process them and put them back inside. It’s not really a good

experience. The second time they come into the yard, they get taken off their mother and trucked them here. So what we’re trying to do is bond them with the yard so that they can come in and out of that yard with no bad experiences.’

Monitoring and benchmarking

Regular wet season spelling within a highly variable climate requires regular monitoring of the pasture and grazing impact as well as cattle and waters to be able to respond to changing conditions. A regimented rotation system is not viable when rain may fall over part—but not all—of a property and where failed wet seasons are frequent. As Rick pragmatically states ‘in order to implement wet season spelling, you have to have a wet season’.

Rick’s regular monitoring is practical. The bore-run is done from motorbike to easily check pastures or cattle off the track and to make quality assessments of cattle condition and pasture yield and quality. During the wet season he checks pastures, cattle and waters from a chopper—which he finds to be efficient and cost effective. It provides a useful view-point to monitor the progress of floods, assess cattle grazing behaviour in relation to water-points and different land types and plan for future fencing and water placement. It also allows for spotting of weeds—such as Parkinsonia along drainage lines—that might be missed from the ground.

Planning is underway to adjust paddock sizes across different properties and land types to run similar mob sizes. This will make spelling country easier and more efficient, rather than having to split or box up mobs. All this will take time, as plans need to consider the variable rainfall and flooding events as well as land types.



Day-to-day planning of cattle movements and work needs is flexible

The final word

The Brittons enjoy working with the land and doing so in a sustainable way. Those attitudes and the freedom of living in the far west have been passed to their children who now live away from the property but love to come home. Ann and Rick are keen to promote their operation so that 'Mums and Dads of Queen Street better understand what we're doing out here' and to see that industry best practice can be implemented where-ever you are. To this end they are both active in the community and use the social media to sell a positive image of the lifestyle and of the grazing industry.

As Rick says 'I'm proud of where I live'.

For more information

For more information about grazing management you can:

- Attend a Stocktake pasture monitoring course
- Attend an *EDGE*network Grazing Land Management workshop
- Contact your local DAFF FutureBeef extension Officer on 13 25 23 or beef@deedi.qld.gov.au
- Visit the FutureBeef website <http://futurebeef.com.au/> for more case studies, fact sheets, videos and information.
- This case study is also available as a video by following the link http://youtu.be/xnCuHR7C_sA or searching the Desert Channels Digital YouTube channel at www.youtube.com/user/DesertChannels

This work was made possible through support from Meat and Livestock Australia and the Australian Government.