

# Surviving drought: strategies to date and plans for the future

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## Background

'Gundabooka' is a mixed farming and grazing property of 606 ha on the upper central west slopes between Orange and Dubbo. Altitude over the property ranges from 500-600 m. Average annual rainfall of 640 mm is spread evenly, with April and September being lowest at 49 and 45 mm. Soils and vegetation include shaley gum tree ridges, basalt white box slopes and basalt/limestone creek flats with a mix of yellow and white box. Overall there is about 15% tree cover.

Ninety percent of the property has been cultivated at some time, but only 40% could be considered arable. Soil pH ranges from 4.5 to 5.9, and most of the more acidic paddocks have been limed over the past 20 years. Pastures are predominantly a mix of Australian phalaris, lucerne and subclover, with some fescue/subclover and lucerne stands. The non-arable ridges and stony areas remain under native grasses, improved with subclover.

Our target carrying capacity is 280 cows with sale steers and heifers being taken to 500-600 kg for sale over the hook into the EU market. Cows are joined for 6 weeks to calve mid-July and calves are yard weaned at 140 kg. Most crops are fodder cereals sown in February-March then grazed until August, and either locked up for grain or square-baled into pit silage. About 1000 tonnes of silage and 150 tonnes of round hay bales are stored during average seasons.

## Drought decision-making

I am a member of Little River Landcare Group, with over 150 members, covering an area of 350,000 ha. During the 2002 drought the Group held a forum, "Surviving the Drought", with the key speakers from NSW DPI - Agronomist Bob Freebairn, former Agronomist, Gerry Hennessy, Climatologist Paul Carberry and Beef Cattle Officer Ian Blackwood. The take-home messages from the forum were:

- Pastures are expensive to establish
- Ground cover must be maintained
- Long- and medium-term rainfall predictions are uncertain at best
- Plans to feed livestock must have "an out" if conditions deteriorate
- Most importantly, *triggers for action must be set.*

## The situation in August 2006

- we had 260 cows with calves at foot with limited saleability
- we had 240 mixed sex yearling weaners, saleable at 230 c/kg
- we had 6 weeks fodder on hand
- there was no subsoil moisture and limited pasture, with <50% chance of average rainfall in spring
- eastern states crops had very limited potential, with some being considered for baling.
- grain supplies were already being committed to feedlots and other end users.
- on the other hand, beef market prospects were good.

By late August we had sold weaner calves and negotiated firm prices and options on fodder (Table 1.). The 200 weaners sold at 235 c/kg liveweight, generating cash for other options.

## Management options post-August 2006

We felt our management options were:

1. Sell all livestock and fodder.
2. Sell cows.
3. Sell calves
4. Feed cows to assure joining in October and then feed on to April as 3+ score
5. Early wean calves in December at 100+ kg and production feed to achieve 200+ kg by April, then reassess.
6. Wean calves December, sell cows, and purchase 250 calves to feed to April.
7. Wean calves December, sell calves, feed cows to April, then reassess.

Having early-weaned calves in the 2002 drought, I felt confident to again wean early and feedlot calves and cows. If choosing to feed, then I would wean calves at 120 kg in December. Infrastructure required would include a large feeder and roller mill, a 2 ha feedlot area for calves and feed troughs. Water from a bore passed close by the proposed feedlot site, and two adjacent paddocks had reliable dams if pumps or bores broke down during summer. The site also had sufficient tree shade for all calves, as well as good drainage, with the water trough well away from feed troughs. The total cost of feedlot, feed troughs

**Table 1.** Feeds available as firm options at the end of August 2006.

Tonnage	Feed type	CP <sup>A</sup>	ME <sup>B</sup>	Price (\$/t)	Distance km	Comments
200	Barley	14	12	240	110	Delivery and payment up to February
100	Barley	14	11.5	200	330	
70	Field Peas	25	13	240	150	Delivery and payment up to February
	Oaten Hay	7.3	8	200	330	
	Wheaten Hay	11	11.5	160	430	

<sup>A</sup>Crude protein (%)      <sup>B</sup>Metabolisable energy (MJ/kg DM)

and water, without labour, was approximately \$17/head, with 50% of the cost of the feed mixer included in the feed ration costings.

### Using tools to assist planning

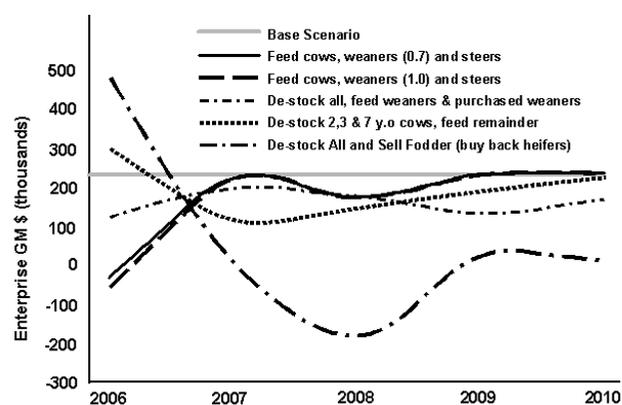
Using the DPI Feed Cost Calculator, I costed a ration to feed calves for 150 days at 0.65 kg/day wt gain (16-17% CP 12 MJ/kg DM ME) and a ration to maintain cows at 3+ fat score until April. Ian Blackwood (Beef Cattle Officer, Paterson) used GrazFeed™ to check and adjust the base rations using combinations of the available feeds.

Greg Meaker (Beef Cattle Officer, Goulburn) also ran the feed or sell options through Stockplan® to calculate break-even animal values for feeding until April 2007 (Table 2) and to give gross margin projections till 2010 for a full range of management options (Figure 1), and the overall effect on cash flow till 2013 (Figure 2). Stockplan indicated the best long-term return was to feed cows and feed calves to grow at 0.7 kg/head/day, then reassess the situation in April. If there was no break by April, then cows should be in saleable condition at about 500 kg and calves 225 kg and also saleable. (*In April 2006, Northern Rivers and Casino abattoirs estimated calves at 225 kg live-weight [120 kg on the hook] were worth 400 c/kg carcass wt, or \$480/head*). Our cull and barren cows made \$770 in April 2006.

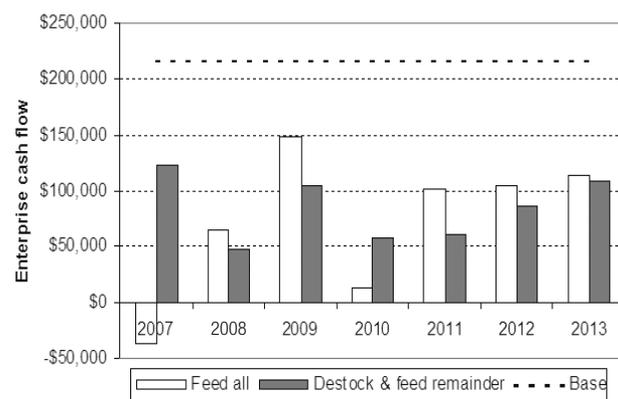
We decided to feed cows with calves at foot until December by which time the cow value had dropped by \$75 (Table 3), strengthening the proposition of continuing to feed cows after calves were weaned.

**Table 2.** Assumptions and break-even value for calves and cows fed from November 2006 to April 2007.

	Calves gaining 0.7 kg/hd/day	Calves Gaining 1 kg/hd/day	Cows maintaining
Value at 1/11/2006	\$250	\$150	\$605
Feed cost until April	\$191	\$268	\$284
Interest foregone on sale	\$12	\$12	\$34
Interest on feed costs	\$12	\$17	\$18
Break-even value in April	\$365	\$447	\$941



**Figure 1.** Projected annual gross margin from various management strategies 2006-2010.



**Figure 2.** Impact of feeding during drought on overall cash flow, post April 2007.

**Table 3.** National averages - Saleyard cattle prices (£/kg) from August 2006 to May 2007<sup>A</sup>.

Date	Japan Ox carcase wt (c/kg)	Japan Ox lwt (c/kg)	Korean Steer lwt (c/kg)	Trade Steer lwt (c/kg)	US Cow lwt (c/kg)	Cow at 500 kg (\$/head)
24/08/06	345	191	186	196	134	
31/08/06	346	192	185	194	136	\$680
07/09/06	342	190	184	194	137	
26/10/06	318	175	165	159	106	
02/11/06	334	184	170	168	121	\$605
09/11/06	339	187	175	170	124	
29/03/07	316	174	172	189	125	
05/04/07	325	178	166	192	123	\$650
12/04/07	324	178	174	195	127	\$635
04/05/07	310	171	160	187	123	

<sup>A</sup>Source: National Livestock Reporting Service, 09/05/07

### Putting the plan into action

#### December 2006

Calves were weaned in yards for 10 days, then moved to the feedlot after treating for 5 in 1 and Vitamins A, D and E. Nineteen small and pinkeye calves remained in the yards for extra treatment, and 2 calves were lost in the feedlot between December and April due to a broken neck and feedlot bloat. The ration was never above 70% grain, as early signs of acidosis were observed above this level. Cows were fed 75% grain plus hay and lime at 6 kg/hd/day, but this had to be raised to 7 kg/hd/day to stop weight loss.

#### April 2007

Calves were put out of the feedlot onto pasture on 27th May, but there was absolutely no subsoil moisture and only about 600 kg DM/ha in lucerne paddocks. To continue to feed cows until late August would cost \$460 per head, if hay and grain could be sourced at all. The weather outlook as summarised by Paul Carberry [DPI] for our area was:

*The historical analysis provides a 48% chance of getting above-median rainfall (120mm total) for the April to June three month period. The analysis also says there is about a 30% chance of getting above 150 mm, which is what is probably needed to get a reasonable pasture response, given the very low soil moisture and the condition of pastures. The Bureau of Meteorology outlook says a 55% chance of above median rainfall for this region. Recent changes in the sea surface temperatures in the mid Pacific mean the El Nino which was evident late last year has faded back to near neutral, but it appears unlikely it will go through to a La Nina and, even if this does eventuate, it will not translate into above average rainfall till early spring.*

Given the expected climatic outlook, with no break before mid-August, the cows would have lost weight, leaving slaughter the only way of disposal, with a break-even value of over \$1100, and a likely sale price (at 115 c/kg) of about \$520. A decision was made to start selling 70 cows a week at the saleyards, beginning the week after Easter (9th April). The first sale realised \$660 and the next \$550. Further sales were suspended due to tumbling prices and a forecast of rain within a week. We received 35 mm at the end of April and, based on estimates of pasture growth, we decided the remaining cows could be carried through winter if cows and calves were fed for a further 4 weeks. Calves were allowed 3 hours on grazing barley (960 kg DM/ha) with hay/grain supplement from 9th May. Paddock feed was to be reassessed at the end of May to confirm enough feed for winter

### Lessons learnt

1. When the decision to de-stock cows came, I should have classed my cows in case I didn't have to fully de-stock.
2. Spreading feed troughs out and not in a line helped the small and shy calves cope better.
3. Wetting feed at about 1.5% and Vitamin A, D and E injection and inclusion in ration prevented any pinkeye this year.
4. Trees need to be wrapped with netting in all feedlots. A change from dry to green Sudan grass hay started cattle chewing bark from trees in the feedlot, and this wasn't picked up in time to save some trees.
5. Somehow, time off must be factored into a program. The stress of feeding twice a day with no breaks puts stress on relationships.
6. Predicting prices is like forecasting weather.

## Conclusions

Only time and hindsight will decide if my approach has been successful. The options put forward by others and scenarios offered under programs such as Stockplan, Grazfeed and Feed Cost Calculator have forced me to consider hidden long-term repercussions that were difficult to assess before the advent of these tools. Positive plans and attitudes kept me focussed, but there were times of doubt and physical stress for both me and my family. All farmers have learnt from this drought, some more painfully than others, and no two farms are the same in resources and situation. We must make decisions on the best available information, but accept that some of these decisions will be wrong.

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