

# Combining backgrounding and breeding

## Better manipulation of stocking rates and other benefits

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### Supplementary S1

*Editors Note: This paper was presented in 2001 and still contains very relevant material.*

I am originally from a dairying background in which my family had been involved for three generations. The lessons and principles which were employed in milk production can be adapted directly to beef and any other form of animal production i.e.; maximising pasture production as cost effectively as possible.

My main focus is on pasture production and one of the most critical elements I believe is to have a system that will enable stocking rates to be varied according to feed availability. In an attempt to manipulate stocking rates, breeding and backgrounding are the two main options we employ. In addition agistment and cattle trading are commonly used to assist in making maximum use of pasture growth. Custom or opportunity feedlotting and fodder conservation are tools which can assist in difficult seasons (we try not to do these regularly but will occasionally) and try to avoid forced sales at any time.

This presentation has been divided into four parts beginning with pastures as this to me is the most critical.

### Pasture Management

There is much information that can be gathered on pastures. I have identified some crucial points that I believe should be considered in pasture management and refer specifically to my locality in the Central NSW Tablelands but also more broadly to pastures in general.

Once properly established a well managed pasture should last indefinitely in our environment.

After successfully establishing an area with high quality pasture, how are we going to manage this resource to recover the investment and make maximum use of its earning capacity? The secret I believe is to be able to vary stocking rates as seasons dictate.

Critical Points in perennial Pasture Management	
Prior to sowing	<ul style="list-style-type: none"> <li>• Initial preparation to begin well in advance i.e. 12 months</li> <li>• Soil Test</li> <li>• pH &lt; 5 may need lime application</li> <li>• Minimise competition</li> <li>• Traditional or spray fallow will reduce inferior varieties and restore moisture which should allow timely sowing</li> </ul>
At sowing	<ul style="list-style-type: none"> <li>• Balanced variety mix i.e. summer and winter active, high legume content</li> <li>• Adequate fertiliser application</li> <li>• Sow early where possible</li> <li>• Control predators i.e. earthmite</li> <li>• Don't cover crop</li> </ul>
Post Sowing	<ul style="list-style-type: none"> <li>• Weed and insect control</li> <li>• Early light grazing</li> <li>• Manageable paddock size with central watering points where possible</li> <li>• Heavier grazing through active growing period</li> <li>• High quality pasture in first year would be utilised</li> <li>• Allow time for all varieties to seed</li> </ul>
Established Pastures	<ul style="list-style-type: none"> <li>• Regular rest periods</li> <li>• Stock heavily to prevent grasses becoming too dominant</li> <li>• Regular rest periods</li> <li>• Under prolonged dry periods or drought, minimise stocking rate</li> <li>• Identify best pastures and manage with highest priority</li> </ul>

## Breeding

This represents a major part of our business and is influenced by a personal preference to breed livestock. Along with other options this allows us to vary stocking rates as required. The merits of proven genetics and superior bloodlines are high on my list of priorities. However, with the property still not completely developed, pastures at this stage take preference as I believe they have a greater influence on profitability. This then presents the dilemma of how to build a decent herd of cows to meet specific markets as economically as possible.

Five years ago our herd consisted of predominately Hereford females. After taking on backgrounding for Rangers Valley the decision was made to move to an Angus herd which now enables us to market a portion of our production direct to the feedlot. To enable us to supply suitable stock for this B3 feeder market it was important to produce an animal that had above average growth for the breed, was structurally sound, had an acceptable temperament and suitable carcass characteristics with an emphasis on marbling. We have endeavoured to access stock which have an average frame score, generally in store condition, and rely on good quality pastures to build up these cows. In the process of building a herd we now have a range of cow types. From here we try to separate the different types and join accordingly i.e. larger framed types to moderate bulls and smaller framed types to larger framed bulls. We have a split joining - spring 80% and autumn 20% - with the intention of moving to a 65/35 ratio to enable better use of bulls, spread income and workload as well as making greater use of spring growth.

### Key Points:

- Set joining period of 6-9 weeks
- Reputable bloodlines
- Even lines of stock
- Wean early rather than late (preferably in yards)
- Regular handling
- Even growth patterns (avoid nutritional shortages)
- Remove stock with poor temperament
- Maintain flexibility (avoid extremes)
- Fertile, sound bulls (aim to single sire mate)
- Effective record keeping
- Supply to specifications especially if building an alliance

### Benefits Backgrounding Arrangement has Brought to our Breeding Program

- Direct marketing including market access and information
- Information on specific bloodlines
- Feedback on our own stock and breeding program
- Free flow of information and ideas
- Effective record keeping on farm
- No requirement to fatten (requirement only to meet entry specification)
- Less risk than trading

## Manipulating Stocking Rates

This is difficult due to seasonal variability. After 20 years experience in our area we would expect the majority of springs to provide a reasonable bulk of feed with the worst seasons providing adequate pasture production to maintain weight gain until the end of December. With this knowledge we would endeavour to have a stocking calendar as follows:

Stocking Calendar	
July/August	<ul style="list-style-type: none"> <li>• Signals the start of our season</li> <li>• Commence spring calving (allows calves to have enough age to utilise pastures later in the season and to wean early in the event of a difficult autumn)</li> <li>• Introduce backgrounding stock (would like the bulk of our spring intake to arrive during this period to allow adequate time to reach minimum target turnoff weight in the event of a short spring)</li> <li>• Aim to turn off a portion of our autumn intake of stock</li> <li>• Possible stock trading (depending on store values, availability of backgrounding cattle and seasonal outlook)</li> </ul>
September/October	<ul style="list-style-type: none"> <li>• Most stock should now be taking advantage of optimum growing period</li> <li>• Move stock regularly to prevent pastures becoming old and rank</li> <li>• Autumn intake returned to feedlot</li> <li>• Stock possible returning from agistment</li> <li>• Critical period for best pastures in a "big" spring - need to maintain a high stocking rate</li> </ul>
November/December	<ul style="list-style-type: none"> <li>• Monitor weight gains to minimise overweight cattle to feedlot in a good season</li> <li>• Wean autumn calves</li> <li>• Reduce stock numbers in a difficult season</li> <li>• Ensure adequate carry over feed available</li> </ul>
January/February	<ul style="list-style-type: none"> <li>• Most backgrounding cattle returned by now</li> <li>• Trading cattle turned off depending on seasonal conditions</li> <li>• First autumn intake of backgrounding steers arriving</li> <li>• Maintain good pasture cover</li> </ul>
March/April	<ul style="list-style-type: none"> <li>• Autumn backgrounding stock on by now</li> <li>• Spring calves weaned</li> <li>• Agistment used for weaners in difficult autumns</li> <li>• Autumn calving</li> <li>• Critical period for best pastures in poor autumn</li> </ul>
May/June	<ul style="list-style-type: none"> <li>• Keep backgrounding stock moving onto fresh pastures</li> <li>• May need to hand feed lower quality feed to breeding herd if autumn break comes late</li> <li>• Ensure autumn cows have adequate pasture for joining</li> <li>• Hand feed high quality fodder for backgrounding and growing stock (optional)</li> <li>• Lighter stocking rate in average to good autumn</li> </ul>

## Backgrounding

Entering into a backgrounding agreement is not suited to all operations. Of the businesses I know that have been involved, close to half have not continued for more than a few years. There would be a number of reasons for this. However I suspect the main reason would be the pastures. I believe to be successful, properties must have the ability to allow stock to gain weight at a minimum of 0.5kg/day year round. This may sound easy but with the uncertainties of our seasons it is not.

This rate of gain would be easy to achieve if cattle intakes could be limited to August/September through to January/February. However in our arrangement the feedlot requires a year round commitment to carry stock which also includes the more difficult months. If these requirements cannot be met the operation would not be suitable for backgrounding. I understand most feedlots would be looking for a year round commitment otherwise agistment would be a much more cost effective alternative for the feedlot.

- 36 head in 1997 were the original cattle purchased, and were from a well established herd. Although age could have a bearing on the results, it would indicate the importance of a planned breeding program.
- The lighter entry weights of both lots in 1998 would be a result of difficult conditions early in the year.
- Low rib eye area in 1998 would be consistent with stock receiving a "set back" during their critical growing stage.

### Key Points if Entering a Backgrounding Arrangement

Take stock on early in the season	Cattle can vary from 2-4 weeks to adjust to a new environment and diet before they start to make efficient use of pastures. If cattle are not introduced prior to their main growing period they miss a large percentage of their best growing time
Effective animal health treatments	
Draft into similar weight groups	Allows heavier cattle to be monitored without disrupting lighter cattle
Regular but not over handling	
Avoid fattening	The higher the fat depth on entry to the feedlot the less efficient on feed
Smaller mobs (50-70 head) and regular paddock changes	Settles the cattle, achieves greater weight gain and good for the pastures, similar nutrition
Try to have pastures of a similar composition so as not to vary the animals diet too significantly	
Effective communication and record keeping facilities	
Commitment to the stock and the partnership with the feedlot	

### Kill Data for Wills Bred Cattle versus Agistment Cattle to Rangers Valley

Breeder	Year	Number	Feedlot Entry Weight (kg)	P8 Scan (mm)	Feedlot Weight Gain per Day (kg)	Carcase Weight (kg)	% Dressing	P8 Fat Depth (mm)	Dent Out	Marbling	Rib Eye
Wills <sup>+</sup>	1997	36	423		1.03	426	57	31	4.8	3.2	
Various <sup>#</sup>	1997		421		0.97	415	57	28	4.3	2.9	
Wills	1998	51	409		0.98	406	56.5	27	3.8	2.9	21
Various	1998		413		0.93	405	56	26	4.6	2.9	20
Wills	1999	144	416	4.5	0.91	409	55	25	4.1	2.9	28
Various	1999		424	5.5	0.95	433	58.5	27	3.6	2.9	31
Wills 1999 <10%*	-	130	422		0.96	419	57	25	3.9	2.9	30*

\* If 10% of the less desirable cattle had been marketed elsewhere, the result would have been significantly different.

<sup>+</sup> Wills bred cattle to Rangers Valley.

<sup>#</sup> Average of all cattle in the intake to Rangers Valley.

Note: Most cattle come in as milk teeth and approximately 25% as 2 teeth.

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## Backgrounding Results for the Years 1996-1999

Year	Backgrounder	Paddock Weight Gain (kg)	Average Days Out	Average Gain/Day (kg)	P8 Fat Depth (mm)	% on Feed *
1996	Wills <sup>+</sup>	99	187	0.53		
	All RV <sup>#</sup>	140-99	298-186	0.57-0.38		
	High/Low Average of All RV	113	242	0.47		
1997	Wills	106	179	0.60		
	All RV	136-94	288-163	0.73-0.40		
	High/Low Average of All RV	110	220	0.56		
1998	Wills	104	144	0.82		99
	All RV	139-92	307-81	1.17-0.39		99-88
	High/Low Average of All RV	107	181	0.70		95
1999	Wills	126	205	0.62	7	97
	All RV	132-93	268-135	0.89-0.44	9-6	99-69
	High/Low Average of All RV	115	199	0.62	7	93

\*% onto Feed – indicates agistment cattle returned suitable to feed on. Over weight, under weight and dentition (i.e. too long reaching entry weight) would account for the majority not going onto feed.

<sup>+</sup>Results for the Wills Backgrounding operation with RV purchased cattle.

<sup>#</sup>Results for a group of seven backgrounders who work with Rangers Valley.

- 1998 Average Gain/Day is high due to a large spring intake and compensatory growth, as many of the cattle had been through a difficult season in the south.
- 1999 saw our largest autumn intake which extended our Average Days Out. In addition better seasons allow us to carry cattle longer to gain extra kilograms.
- A 0.6 kg/day gain over a 12 month period with a turnover of approximately 200 days would indicate a reasonable result. The challenge is to improve weight gain/day while endeavouring to have stock return to the feedlot with an optimum fat reading of 6-7 mm at the P8 site.
- Small increases in performance, both at the backgrounding level or in the feedlot can make a dramatic difference to profitability. As both sectors grow, we will continue to monitor our progress against others. This along with the additional information that we will continue to source, makes the industry an interesting one in which to be involved.

### Future Directions

I see areas that present the best opportunities to increase productivity and profitability as:

- Improved genetics
- Further pasture development
- Moving breeding stock onto less highly developed pasture i.e. breeding country and using better pastures primarily for weight gain
- Nutritional advice
- Better marketing