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Improving efficiency in herds

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Holmes Sackett and Associates benchmark beef herds in south-eastern Australia, from the northern tablelands of NSW down through the high rainfall and wheat-sheep zones into Victoria, Tasmania and the south eastern corner of South Australia.

The production system and market that has consistently shown to be the most profitable for southern temperate beef production is spring born 16-18 month old steers with an average weight of turnoff of all stock sold of 450kg.

This optimum production system has not been tested in tropical or semi-arid and arid regions.

This system is most profitable because it allows low cost of production. Table 1 shows the differences in cost of production and price received for average and top 20% beef producers. There is considerably less difference in price received each year than in cost of production.

This makes sense if you consider that most of the differentiation achieved comes in steer prices but that difference is then averaged out across all heifer and cow sales which by and large go undifferentiated.

Low cost of production is principally driven by productivity or kilograms of beef (note no differentiation between steers, heifers and cull cows) per hectare. Table 2 shows the differences in kilograms of beef per hectare per 100mm of rain. The benchmark is per 100mm of rain to remove rainfall

variation and therefore variation in pasture production.

This is not a new message, it seems simple, but it has not been readily adopted by industry because it requires a fundamental shift in thinking. To achieve high kilograms of beef per hectare you will most likely sacrifice some per head animal performance. This concept erects an often underestimated hurdle in the path to higher profitability.

Getting beyond per head animal performance and treating it always as a secondary consideration to per hectare performance in an effort to attain higher profitability borders on sacrilege for some producers. People don't overcome this mental barrier easily.

Your language when you discuss the issue will tell you if you are ready to go down this path. If you catch yourself saying something like 'but what will those early weaned steers be worth', then you have not overcome this barrier.

The good news for those who negotiate this hurdle is that the majority can't, therefore you have a competitive advantage in the industry and this will go a long way to ensuring your survival.

Steer production is the optimum way to maximise the kilograms of beef per hectare because it is the best trade off between kilograms of beef turned off per cow and the number of cows that can be run per hectare. There are insufficient premiums in the market to make vealer (<1 years) or bullock (2+ years) production pay.

Pasture Utilisation

Making the most effective use of pasture is the key to profitable beef production because it has a significant effect on

		96/97	97/98	98/99	99/00	00/01	01/02
Cost of Production	Top 20%	\$0.63	\$0.72	\$0.62	\$0.61	\$0.60	\$0.85
	Average	\$1.28	\$1.22	\$0.98	\$0.91	\$0.86	\$0.96
Price Received	Top 20%	\$0.92	\$1.03	\$1.15	\$1.40	\$1.63	\$1.78
	Average	\$0.88	\$0.94	\$1.08	\$1.28	\$1.55	\$1.67

Table 1: Top 20% key performance indicators for beef herds 1996/97 to 2001/02.

		96/97	97/98	98/99	99/00	00/01	01/02
Kilograms of Beef Per Hectare	Top 20%	204	235	258	226	217	251
	Average	166	170	175	210	218	227

Table 2: Kilograms of beef per 100mm of rain for average and top 20% producers.

the cost of production. The two major considerations are the nutrition of the breeding cow and the finishing of the steer.

The most profitable way to utilise pasture is to consume it directly rather than harvest, store and feed at a later date which all add costs. This implies maximising the number of cattle that are grazing. To do this you have to align cow nutritional demands to pasture availability. You can draw your own conclusions here but it generally means late winter/spring calving.

When the optimal stocking rates for the property are being approached it is very difficult to avoid annual supplementary feeding of autumn calving cows. This has been shown to cost between \$50 and \$80 per cow, per annum, which adversely affects the profitability of the enterprise.

Cows calving in late winter and early spring rarely require supplementary feeding except in times of severe seasonal failure and drought. This applies even when the optimal stocking rates for the property are being approached.

In finishing steers at approximately 15-18 months the objective should be for them to have experienced two spring pasture growth flushes. In the case of a late winter spring calving this will occur for the first time while they are still on their mothers and for the second time when they are approximately a year old. On the other hand an autumn calving system only allows a 15-18 month old steer to experience one spring and finishing generally has to be aided by supplementary feeding or a forage crop both of which add expenses.

The Overall Plan

The optimal system design is shown in Figure 1.

The hatched area depicting calving time is not meant to represent the calving span. It shows that calving can commence anywhere in that period and should proceed for no more than nine weeks in cows and six weeks in heifers. Just where calving should commence in that period is determined by rainfall, altitude, latitude and the quality and quantity of available pasture.

Weaning should occur no later than the end of April and preferably earlier in most herds. The primary consideration here is to avoid excessive weight loss in the cow in late lactation leading into winter. Using cow condition score as a barometer, weaning should occur when condition score is a minimum of 2.5. August calving cows should not be allowed to slip below condition score 2.5 in June and July and if they are in lighter condition than this when weaned in April, it is too difficult and expensive to put condition back on them.

Weaner Management

Both the heifer and the steer weaners should be managed to maintain condition score 2.5-3.0 through until August. This will probably mean a weight gain of 8kg per month. Typically by the beginning of August, the steer portion would average 280kg and the heifer portion 260kg.

The combination of compensatory weight gain and spring pasture growth will then take over and individual weight gains of up to 2kg per day can be expected with a mob average of over 1kg per day. This means that market specifications rates in the case of steers and critical mating weights in the case of heifers will be achieved in an average spring between November and February.

Problems

Although this system is the most profitable of all the options for steer beef production, it does have some problems. The most important of these are:

1. Difficult birth rates especially in heifers will always be higher in a late winter/spring calving herd.

2. Condition score of the cow in the autumn needs to be carefully managed. Avoid excessive weight loss and the need to wean much earlier and supplementary feed both the cow and the weaner.

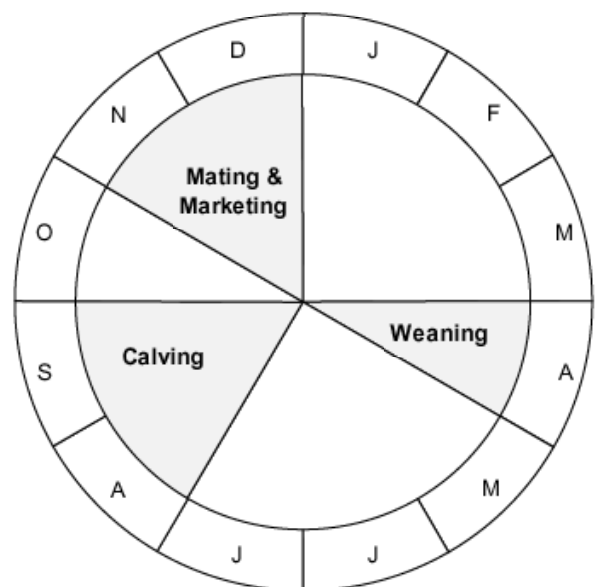
3. The temptation to feed weaners through winter. Most weaners in this system are not a pretty site in June and July and the temptation is to feed them. This should be resisted unless condition score drops below 2.5.

4. Not all steers in all years will make the turn-off date and in a dry year you will have considerably more that don't make the weight. A plan needs to be put in place for the most cost effective way of dealing with this.

In summary the main issues are pasture utilization and cost of production. The efficiency and profitability is achieved in most districts in southern temperate Australia with a late winter early spring calving system if 15-18 month steers are the end product.

Setting up a beef production system in an attempt to capitalize on seasonal market premiums, or per head premiums is a futile exercise. The basis for the design of the production system should be biological efficiency and pasture utilization.

Figure 1



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