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Insight Paper No. 2

Trading

Steer Trading versus Breeding

More production, but not necessarily more profit

READ

In brief

A steer trading herd delivers between 30 and 50 percent more production than a breeding herd taking trading livestock to a feedlot-acceptable weight, but this does not necessarily equate to more profit. Whether a well-managed breeding system will deliver equivalent or superior operating profits to a steer trading system depends on weight gain, buy to sell ratios and the level of pasture investment in the trading system. The skills required to manage each system are vastly different.

Background

This is Insight Paper #2 in a series of papers that look into the components of beef herd productivity and profitability.

In Insight Paper #1 the methodology was provided for an analysis which disaggregated a beef herd selling trading cattle, at feedlot entry weights, into their components. This paper, Insight Paper #2 explores sensitivities and differences in key performance indicators.

Insight Paper #1 found the trading component of a beef herd generated far higher profits and more production than the breeding component per unit of feed consumed (DSE), when the systems components were disaggregated.

This Insight Paper #2 will compare the breeder feeder system (BFS) with a steer trading system (TRS). It is acknowledged that livestock traders don't necessarily constrain themselves to trading a single class of livestock.

This analysis used steer trading as the key comparative trading enterprise because the addition of multiple classes of livestock to this comparative analysis added unnecessary complexity to the exploration of the factors driving differences between systems.

It is plausible that some of the differences in production and financial performance between systems components, shown in Insight Paper #1, occur due to differences in the allocation of pasture resources between enterprise components.

It is also plausible that the pasture resources allocated differentially have different costs and management requirements. Insight Paper #1 did not specifically investigate these implications but they will be explored in more detail in this analysis.

Insight Paper #1 showed that the mid-winter stocking rate of the trading component was significantly higher than the breeding component of the system. It is plausible that the higher mid-winter stocking rate of the trading component was sustainable as a component of the system because the breeding component stocking rate was relatively lower. This paper will establish whether the higher mid-winter stocking rate driving the performance in the trading system is sustainable when trading is the only enterprise rather than a component of the breeding system.

This analysis will also assess the sensitivity of the profits to the pasture resource base and inputs necessary to maintain those resources. Finally, it will discuss some of the features of a trading business that are frequently overlooked by those who move from breeding to trading only enterprises.

The Breeding System

The breeding system (breeder feeder system BFS) used in this analysis is a September calving, self-replacing breeding herd weaning at the end of February.

All male progeny (steers) are sold as trading livestock at feedlot acceptable live weight (448 kilograms per head) by 15 months of age prior to feed quality declining by the end of December. All female progeny are joined to calve at 2 years of age and surplus (non-replacement) heifers are sold after pregnancy testing in February (418 kilograms per head live weight) at 17 months of age. This is the same system as was disaggregated in Insight Paper #1.

Farm enterprise performance analysis data has shown this to be one of the most profitable beef systems in southern Australia. It generates higher profitability when compared with some alternative systems because it allows for higher levels of feed utilisation. This delivers more production (kilograms beef) from the available feed resources at low cost which drives a low cost of production.

When compared with systems selling progeny at lighter weights this system delivers higher profits as it produces more liveweight for the same mid-winter energy consumption. The additional kilograms come not only from selling trading livestock at heavier weights but also from a greater number of cow sales from the same feed base.

The enterprise cost structure includes an allocation of supplementary feed to the breeding herd primarily to provide weaners with energy to ensure growth is not compromised during Autumn when feed quality is typically low.

The steer trading system

To deliver an equitable comparison between systems the trading system in this analysis has been designed to deliver similar annual feed demands as those required by the spring calving breeder system. For the purposes of this comparative analysis a trading system is a system where livestock are purchased externally to the farm rather than bred on the farm. This analysis uses steers (male castrated cattle) as the key livestock trading class for comparison because the pool of comparative production data is greatest for this livestock class.

In this analysis trading livestock are purchased in Autumn at approximately 250 kilograms liveweight per head and managed to gain approximately 200 kilograms for sale prior to feed quality decline in December at 450 kilograms per head. The sale date in the trading system is matched to the sale of the male trading progeny in the breeding system with the key market being similar (a feedlot desirable liveweight).

What system delivers the highest profit?

The challenge in conducting an equitable comparison between systems is establishing the assumptions driving the analysis outputs. Two scenarios are presented to demonstrate the extent to which analysis assumptions drive the outputs.

Under the base case the trading steer system delivers $77,000 more profit than the breeding system.

Under the base case less 5% production the trading steer system delivers $92,000 less profit than the breeding system.

Base case scenario with the following assumptions:

Scenario 1 (Base case)

- Steer sales at $3.80 per kilogram liveweight at approximately 450kilograms liveweight per head.
- Other livestock classes sold at representative values and weights indexed off the steer price.
- A similar overhead cost structure between systems including similar pasture and labour costs.
- An enterprise cost structure reflective of differences in herd numbers.
- A $0.70 per kilogram liveweight buy to sell premium in the trading herd (buy $4.50/kg lwt).

Scenario 2 (Base -5% production + $73K pasture)

Base case less 5% production and $73,000 additional pasture base costs. The key changes in this analysis relative to the base case follow:

- Production declines by 5% delivering lower sale weights across all sale classes in the breeding system and across steers in the trading system. The impact of this is that steer sale weights fall from 450 to 430 kilograms per head while the sale weight of all other classes of livestock also fall by 5%.
- An additional $73,000 allowance for the pasture base has been allocated to the trading herd to deliver the production necessary in the trading herd.This figure has been generated on the assumption that 30% of the total pasture area is sown annually to annual/biennial ryegrass or pastures with similar performance. The costs of seed spraying sowing, starter fertiliser and urea equate to $455 per hectare over the 240 hectare area. This compares to an assumed annual investment in lower term perennial pastures where the costs include the annualised cost of establishment, fertiliser and urea ($150 per hectare). The difference of $307 per hectare multiplied by 240 hectares is how the marginal pasture investment was calculated.

A comparative summary of the assumptions, financial performance and productivity of the trading and breeding systems follows in Table 1 to Table 4.

Table 1. The outcome of the two presented scenarios is dependent on the assumptions.

	Financial performance per production unit			
	Base case		Base -5% production + $73K pasture	
	Breeder feeder	Trading steer	Breeder feeder	Trading steer
System	BFS	TRS	BFS	TRS
Sales ($/DSE)	$76	$295	$73	$280
Purchases ($/DSE)	$7	$201	$7	$201
Inventory change ($/DSE)	$0	$0	$0	$0
Gross profit ($/DSE)	$69	$95	$66	$80
Enterprise expenses ($/DSE)	$10	$22	$10	$21
Overhead expenses ($/DSE)	$24	$26	$24	$34
Operating profit/EBIT ($/DSE)	$35	$46	$32	$25
Operating profit/EBIT ($/ha)	$457	$554	$413	$299
Operating profit/EBIT ($/ha/100mm)	$76	$92	$69	$50

Table 2. Production is higher in the trading herd due to higher livestock turnover.

	Productivity and efficiency key performance indicators			
	Base case		Base -5% production + $73K pasture	
	Breeder feeder	Trading steer	Breeder feeder	Trading steer
System	BFS	TRS	BFS	TRS
Cost of production ($/kg lwt)	$1.60	$1.46	$1.67	$1.61
Price received ($/kg lwt sold)	$3.50	$3.80	$3.50	$3.80
Price received ($/head sold)	$1,605	$1,723	$1,534	$1,637
Productivity - system (kg lwt/DSE)	21.3	33.3	20.4	29.4
Productivity - land (kg lwt/ha)	277	400	265	353
Productivity - rainfall (kg lwt/ha/100mm)	46.2	66.6	44.1	58.8
Average annual stocking rate (DSE/ha)	13.0	12.0	13.0	12.0
Mid winter stocking rate (DSE/ha)	10.5	17.7	10.5	17.7
Average annual stocking rate (DSE/farm)	10,391	9,612	10,391	9,612
Mid winter stocking rate (DSE/farm)	8,406	14,123	8,406	14,123
Area allocation (ha)	800	800	800	800
Labour productivity (DSE/FTE)	13,855	12,817	13,855	12,817
Labour productivity (Gross profit/FTE)	$959,401	$1,211,198	$912,809	$1,022,118

Table 3. The trading herd requires far more capital invested for a similar financial outcome.

	Enterprise financial performance - gross			
	Base case		Base -5% production + $73K pasture	
	Breeder feeder	Trading steer	Breeder feeder	Trading steer
System	**BFS**	**TRS**	**BFS2**	**TRS**
Sales	$789,551	$2,836,198	$754,607	$2,694,388
Purchases	$70,000	$1,927,800	$70,000	$1,927,800
Inventory change	$0	$0	$0	$0
Gross profit	$719,551	$908,398	$684,607	$766,588
Enterprise expenses	$103,912	$215,334	$103,912	$205,407
Overhead expenses	$250,000	$250,000	$250,000	$322,333
Operating profit/EBIT	**$365,639**	**$443,065**	**$330,695**	**$238,848**

Table 4. The trading system is highly sensitive to small changes in production.

	Trading system performance indicators	
	Base	-5% prodn+$73K pasture
	Trading steer	**Trading steer**
	TRS	**TRS**
Purchase price ($/kg lwt purchased)	$4.50	$4.50
Sale price ($/kg lwt sold)	$3.80	$3.80
Trading margin ($/kg lwt sold)	-$0.70	-$0.70
Weight gain margin ($/kg lwt sold)	$3.80	$3.80
Net trading income ($/kg lwt sold)	$1.22	$1.08
Gross income ($/head sold)	$1,723	$1,637
Trading margin ($/head sold)	-$182	-$182
Weight gain margin ($/head sold)	$734	$648
Net trading margin ($/head sold)	$552	$466
Liveweight at sale (kg/head sold)	453	431
Liveweight gained (kg/head sold)	193	170

What do this means to you?

Trading enterprise profits are far more sensitive to deviations in sale weight than are breeding enterprise profits.

This occurs because there are far more livestock for the same amount of feed consumption.

Understanding and implementing the management factors necessary to deliver target weights is critical to optimising profit.

If you missed Part 1 of this article you can read it here:

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