Maranoa – Factsheet 2: Optimising the age of steer turnoff

The Queensland Department of Primary Industries (DPI), together with ConnectAg and Rural Solutions Queensland, evaluated the economic implications of implementing a range of management strategies on a representative beef property in the Maranoa to build resilience. The optimum age of steer turnoff is influenced by the relative profitability of breeders and steers, which is a function of breeder productivity, steer performance, available markets, and the relative price of steer and female cattle.

Key finding
Shifting from turning off weaner steers to turning off feeder steers at 20 months of age increased profitability each year by $14,985.

Age of steer turnoff strategies

The representative property and herd outlined in *Maranoa – Factsheet 1* was used to compare alternative steer sale ages based on a property grazing 940 adult equivalents for each strategy. The steer sale weights and on-property net sale prices used in the analysis are shown in the table on the right. Average prices over 10-years, July 2013 to June 2023, were used in this analysis to reflect a long-term cattle price, net of selling costs (freight, fees, levies, etc.).

Age of steer turnoff	8 months	20 months	32 months
Sale weight	261 kg	435 kg	587 kg
Net sale price	$3.70/kg	$3.16/kg	$2.83/kg

The table below details production, sales and gross margins for each age of steer turnoff. As the steer turn off age increases, the number of breeders mated decreases to maintain the same grazing pressure. Turning off steers older than 3 years of age is not common in the Maranoa and was not considered in this analysis. Being close to the Roma saleyards and southern Queensland feedlots has made turning off steers as weaners or feeders appealing options to Maranoa producers. Turning off 20-month-old feeder steers has a higher gross margin than turning off weaners or bullocks. Turning off weaners results in running more breeders than the other strategies, which reduces a producer's ability to sell non-breeding animals in dry times. Turning off bullocks provides more selling options, and the ability to sell animals earlier than planned if market prices rise sharply. Additionally, these selling options may limit the need to reduce breeder numbers if conditions turn dry.

Production and sales	8 months	20 months	32 months
Adult equivalents	940	940	940
Breeders mated	569	483	395
Calves weaned	454	386	315
% of females sold	48%	49%	49%
Cows and heifers sold	212	180	147
Steers sold	227	189	151
Steer price ($/head)	$904	$1,347	$1,601
Net cattle sales	$405,494	$425,083	$381,535
Variable costs	$51,266	$44,433	$37,020
Herd gross margin	**$354,228**	**$380,650**	**$344,515**
Herd gross margin after imputed interest	$315,232	$338,779	$299,904

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What is the effect on profitability of changing from turning off weaners to turning off feeder steers?

An investment analysis was undertaken to evaluate the effect on cash flow and profitability over 30 years when changing from turning off weaner steers to turning off feeder steers. It was assumed that no upfront investment was needed to turn off older steers. While the gross margin is higher for feeder steers, the cashflow impacts of keeping steers for an extra 12 months needs to be carefully analysed.

The results identified that turning off feeder steers at 20-months increased profitability of the representative property each year by $14,985 (Annualised NPV as outlined in *Maranoa – Factsheet 1*) relative to turning off weaner steers. The transition from turning off weaner steers to turning off 20-month-old feeder steers needs to be planned carefully. Some breeders will need to be sold to maintain an appropriate number of AE on the property as the weaner steers, that would have otherwise been sold, increase in weight. Producers may also wish to sell some weaners for one or two years to maintain cashflow. Furthermore, producers need to have capital available to cover the expected peak deficit of -$82,278 which will be paid back in five years. Finally, the reduction in breeder numbers when the strategy is implemented, provides the opportunity to sell non-breeding animals in dry times.

Does it pay to sell weaners 2 months earlier to gain higher cents per kg?

An examination of the average monthly price of 201-280kg steers for the last 10 financial years at the Roma saleyards found the average price in May was 365 c/kg and in March it was 22 c/kg higher at 387 c/kg. The price difference between March and May was 56 c/kg over the last 3 years (2020-23). Some producers may consider turning off steers earlier to gain this extra price per kilogram.

Production and sales	**6 months**	**8 months**
Steers paddock weight at sale (kg)	217	278
Gross steer price ($/kg)	$3.92	$3.70
Gross steer price ($/head)	$800	$967
Net steer price ($/head)	$744	$904
Total steers sold	235	227
Net income from steer sales	$174,508	$205,232
Net income from all cattle sales	**$367,068**	**$405,494**

The strategy to wean and sell in May at 8 months results in 227 weaner steers being sold at $904/head, generating a net income of $205,232. The strategy to wean and sell in March at 6 months results in 235 weaner steers being sold at $744/head, generating a net income of $174,508. Despite the higher price per kilogram of 22 c/kg, this price differential is not sufficient to offset the reduced sale weight of the 6-month-old weaners, compared to the 8-month-old weaners. If the price differential between the March and May price was 56c/kg, which was the average for the last 3 years, the 235 weaner steers would be sold at $810/head, generating a net income of $190,132. This is still lower than the net income for weaners sold at 8 months of age or steers at 20 months of age.

These findings do not diminish the relevance of early weaning and adjusting sale ages as drought management strategies. Please note, these results are specific to the assumptions used for the analysis . Further detail on these, and other strategies that influence profit, are available in the full report (QR code link below).

Find your local DPI Officer on the FutureBeef website.
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All factsheets and full reports are found on the FutureBeef website.
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