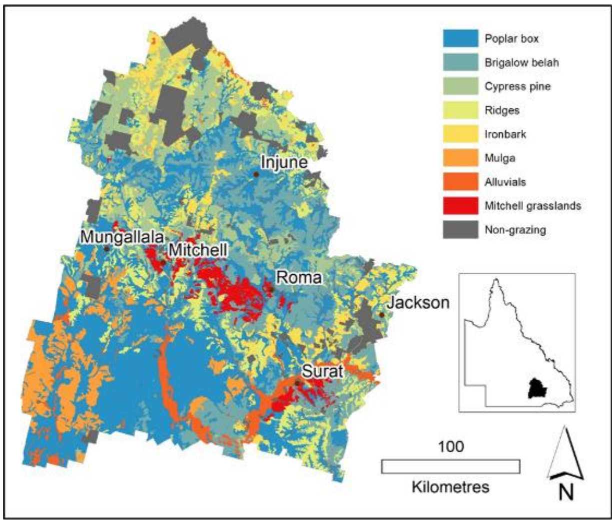
Farm Business Resilience Program

Maranoa – Factsheet 1: Analysing alternative management strategies to build resilience – Representative property

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 beef property in the Maranoa region to build resilience. The Maranoa covers an area of 5.9 million ha and has a diverse range of soils and vegetation, with the five most predominant broad land types being box woodland, box-mulga, cypress pine, brigalow-belah and Mitchell grass.

Key finding
Of the eleven management strategies analysed, several resulted in comparable profit levels to the base strategy.

Extensive beef cattle production is the principal land use across the Maranoa region. Grazing of sheep for wool and meat production, as well as rangeland meat goats, are also found in the Maranoa. Many properties in the region contain arable soils used for winter and summer grain and forage cropping.



Modelled Maranoa property and herd

A representative property and herd were constructed using published data and the expert opinion of experienced local beef cattle producers, industry specialists and DPI staff. The base property is 4,000 ha of poplar box and brigalow belah country, entirely used for a beef cattle grazing enterprise utilising predominantly buffel pastures. The property has a carrying capacity of 940 Adult Equivalents (AE).

The base strategy is a self-replacing crossbred (<40% Bos indicus) breeding herd, utilising pasture to turn off feeder steers at 20 months of age (458kg), to be sold to a feedlot.

The heifers selected as replacements are mated at 14 months of age. Conception rates of breeders and calf loss were modelled to reflect the region. The table on the right shows productivity, sales and gross margin information.

Average prices over the 10-year period until June 2023 were used in this analysis to reflect a long-term cattle price. After weaning, steers graze pasture on the brigalow belah country, to be turned off as feeder steers at 20 months of age and sold to a feedlot for $3.16/kg. Heifers not required as replacement breeders are sold after weaning for $3.12/kg, while cull cows were sold for $2.26/kg.

Base strategy

Productivity traits	
Weaning rate	80%
Steer liveweight gain/yr	180 kg
Breeder mortality rate	2.6%
Female sales/total sales	49%
Production, sales & gross margin	
Total breeders mated	483
Total calves weaned	386
Steers & bullocks sold	189
Cows and heifers sold	180
Steer weight at sale	458kg
Average steer price	$1,347
Average female price	$945
Net cattle sales	$425,083
Variable costs	$44,433
Herd gross margin	$380,650
Herd gross margin after imputed interest costs	$338,779

Australian Government
Future Drought Fund
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Strategies to improve profitability and resilience

To help inform decision-making, an economic analysis was undertaken to evaluate changes in cash flow and the effect on business profit over 30 years, as a result of implementing alternative management strategies.

The quality of the brigalow and poplar box country assumed to make up the base property, provides options for alternative cattle management strategies, forage cropping, cash cropping and other grazing enterprises.

The table below outlines the annualised net present value (NPV), for the strategies analysed. Annualised NPV is the average annual change in profit resulting from a change from the base strategy (described on page 1) to a new management strategy. While none of the strategies analysed in the report have proven to be a silver bullet that dramatically increases profitability, several strategies result in a similar profit to that of the base strategy.

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 factsheets 2, 3 and 4, and the full report (QR code link below).

Management strategy	Annualised NPV
Turning off weaner steers at 6 months	-$65,487
Turning off weaner steers at 8 months	-$16,693
Turning off bullocks	-$31,091
Sell surplus heifers at 20 months	-$1,112
Sell spayed surplus heifers at 32 months	$2,348
Feeding supplements to steers & selling 31.5kg heavier	$5,004
Feeding supplements to steers & selling 21.0kg heavier	-$672
Grazing the lead 40% of weaner steers on forage oats	-$6,534
Grazing all weaner steers on forage oats	-$24,675
Growing 400ha of wheat	-$11,183
Trading and backgrounding steers	-$10,052

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All factsheets and full reports are found on the FutureBeef website.
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