

Breedcow+ enables northern producers to model the effects of options to improve gross margins and improve land condition

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Introduction

In Northern Australia, long-term beef business performance is maximised when animal performance is optimised and stocking rate (SR) is matched to available pasture over time (McLean and Holmes, 2015). Income per animal and per enterprise is highly correlated to greater kg beef per animal, driven by improved reproductive efficiency, turnoff weights and reduced mortality rate. These improvements depend on good nutrition, most cost-effectively provided by sustainably grazed land in good condition. Breedcow Plus (<https://breedcowdynama.com.au/>) is an online software package designed to plan, evaluate and improve the profitability and financial management of extensive beef cattle enterprises. Current herd productivity, structure and turnoff figures, management, production costs and returns can be entered. Reproductive efficiency, mortality rates and profitability can be modelled and confirmed by records if available. The likely profitability of possible management changes aimed at improving enterprise kg beef/AE (Adult Equivalent; 450 kg animal) productivity can be evaluated before strategies are implemented, providing reassurance to graziers.

Methods

Management changes aimed at improving growth, weaning and mortality rates, turnoff weights, and culling of pregnancy tested empty (PTE) cows were evaluated for three beef properties (1800 to 2400 AEs) in Queensland's Northern Gulf. Production benefits of the implemented changes on growth, weaning %, turn-off weights, and mortality were estimated from published research and Breedcow's internal modelling. Gross margins (GM) were calculated, maintaining stable herd SRs (AEs).

Results

Breedcow modelling shows that a weaning rate of 60% enables culling all PTE cows. At lower rates culling reduces herd numbers. Improving weaning rates from 50% to 60% through heifer M8U supplementation from early weaning to the first wet season and then for a period in their second year was economically marginal but enables PTE culling. Supplementing the entire herd with phosphorus (giving greater weight gains, weaning rates and lower mortality) was always positive – lifting herd GM by up to 24% from non-supplemented herds. Delaying steer turnoff through to 3 years old (higher turnoff weights) improved GM by up to 21%. Culling 100% of PTEs had less of an impact on GM, improving GM by 1.5 to 15%. However, in combination these management practices could improve herd GM by up to 42%. Cattle numbers and hence SR (AEs) increases with improved weaning rates and delayed steer turnoff, so breeder numbers should be adjusted down. SR reductions of 25 to 30% can be undertaken, while maintaining GM equivalent to those achieved prior to improved management.

Conclusions

Breedcow+ evaluations indicate that improved herd management specifically aimed at improving enterprise kg beef produced/AE, enables northern producers to significantly reduce SRs but maintain GM. This reduces grazing pressure, thereby facilitating land condition improvement or preservation.

References

McLean, I. and Holmes, P. (2015). Meat and Livestock Australia Limited, June 2015, ISBN 9781740363006

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