# Breedcow Lite – streamlined for dynamic use by graziers and advisors

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## Introduction

The profitability of Australian primary producers is critical to regional economies. But what options do graziers have to improve their returns, and that is within their control? Strategic decision-making requires managers to gather information, evaluate alternative options and take actions that improve business performance. However, graziers and advisors have limited time and imperfect information, so tools that streamline these processes are fundamentally valuable.

## Methods

Breedcow+ was designed to help graziers better understand their herd and cost structures and weigh up the costs and benefits from employing different management options. Despite the tool's capabilities, user feedback identified that it is complex to navigate and time consuming to use. To address these challenges, grazing economists consulted with graziers, beef extension officers and coding programmers on ways to improve the functionality of Breedcow+ to service a wider range of users. This information was used to guide the development of a streamlined version of the tool, which was reviewed with further feedback incorporated after extensive testing and model validation.

## Results

A simple online interface was developed requiring one input for each Breedcow+ section (Fig 1. weight gain, conception, mortality, prices). Each input is informed by historical data and advisor experience to construct a full Breedcow+ file. Consequently, the number of user inputs decreased from around 590 to just 13, enabling new users with minimal training to use the tool. Some assumptions are static (e.g. 3% bull to cow ratio), while others dynamically adjust based on input values (e.g. higher growth rates result in earlier maturity). Herd information and financial metrics are displayed with users able to compare up to 5 scenarios. Users can also refine all inputs in the full Breedcow file allowing for detailed customisation to suit individual circumstances.



**Figure. 1. Partial screenshot of the Breedcow Lite herd modelling tool.**

## Discussion and conclusion

Breedcow Lite automates the development of a Breedcow+ file and eliminates the need for more complex tasks, such as balancing the herd and allocating surplus heifers. Consequently, the tool is less complex and more user friendly for time poor graziers and advisors. Moreover, users can quickly proceed to evaluating their options to improve business performance. Breedcow Lite supports identifying the most profitable turnoff ages, conducting breakeven analyses, and exploring supplementation and other management strategies. It delivers the same strategic insights as its powerful parent but with lower inputs. Breedcow Lite is currently being extended to industry.

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