

The key to genetic selection for profitable beef cattle

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There are a number of factors that contribute to the profit generated by a primary red meat production unit, such as the price per animal, feed, veterinary and marketing costs, and even taxes.

SA Stud Book utilises all these factors and combines it with the knowledge of what breeding animals' progeny will look like if breeders were to select for traits that will underpin net profit. Trait selection is

therefore based on what they contribute to net profit, as well as the ease with which they are measured and their relation to other key traits. The contribution that recorded traits make to the profit of a beef cattle system is contained in *Table 1*.

If you want to select parents that will produce more profitable offspring the best approach would be to base your selection decisions on genetic merit predictions while taking into consideration each factor's relative contribution.

By using the Logix cow value for selecting animals you will be able to select breeding animals with the genetic merit to produce offspring that:

- Calf without problems.
- Produce vigorous offspring that grow well.
- Have lower maintenance requirements.
- Are more fertile than heifers and cows.

At the very least, commercial beef producers should record the basic traits influencing profitability and cull unproductive females without hesitation. Always opt for an 80% or higher weaning percentage.

All replacement bulls, whether stud or commercial, should be selected based on genetic merit for profit (Logix cow value and its building blocks).

Logix cow value in practice

A study by SA Stud Book on the eight most popular beef cattle breeds in the country shows distinct differences between the actual performance of one-star cows (low Logix cow value) and those with four or more stars (high Logix cow value).

In terms of the lifetime productivity of cows, the top group produced an average of 1,9 more calves in ten years, generating R796,65 more per calf, hence additional income of R1 513,64 from a cow weighing an average of 35kg less (15% lower metabolic weight).

The comprehensive Logix catalogues that buyers have access to assist prospective buyers of especially bulls to identify the animals that will have the biggest positive influence on their herds based on the genetic merit for Logix cow value. **SF**

Table 1: The relative importance of traits that contribute to the profitability of beef cattle production at farm level.

	Trait group	Actual trait	Recorded trait	Bottom line
Pre-weaning phase	Calving ease	Foetal growth	Birthweight and/or calving ease	Veterinary costs Breeding and replacement costs Grazing costs Labour costs Marketable offspring sold
		Maternal contribution		
	Pre-weaning growth rate	Calf growth rate	Weaning weight	
		Maternal contribution		
	Female reproduction and productive life	Heifer fertility	Age at first calving	
Cow fertility		Calving interval		
Female herd life		Birth and cull dates	Grazing costs Veterinary costs Breeding and replacement costs	
Breeding herd maintenance	Maintenance requirement of cow	Cow weight (at weaning and/or calving)	Feed and supplement costs Breeding and replacement costs Grazing costs	
After weaning	• Female replacements on farm after weaning • Growth rate and condition	Growth rate per day of age	Year-old and 18-month-old weights	Breeding and replacement costs Grazing and feeding costs Income from cull animals sold Price realised per animal
		Veld/pasture adaptation/growth		