Maximise profits with Simbra

Simbra breeders have introduced three Rand Value Indices, expressing genetic differences between animals in terms of profitability. By **Annelie Coleman**.

Johan Potgieter, CEO of the Simmentaler and Simbra Cattle Breeders Society of Southern Africa, says the selection of breeding animals has become burdened with information overload.

Currently, the estimated breeding values (EBVs) are produced for many production, reproduction and carcass traits, with more becoming available in future. It's hard to identify the most desirable and profitable animals from so much raw information. A well-formulated selection index is the best way to summarise EBVs for optimum economic improvement. In 2010, Simbra breeders introduced new Rand Value Indices. These are formulated on general representations of beef production systems used in southern Africa, and cover a group of economically relevant traits that characterise these systems.

To produce a Rand Value Index, the relative economic values for these traits are combined with EBVs. The difference in the Rand Value of the Index expresses the difference in profit potential.

As yet, no other beef breeders' society in southern Africa has developed genetic indices that express the differences between two animals in terms of profit potential.

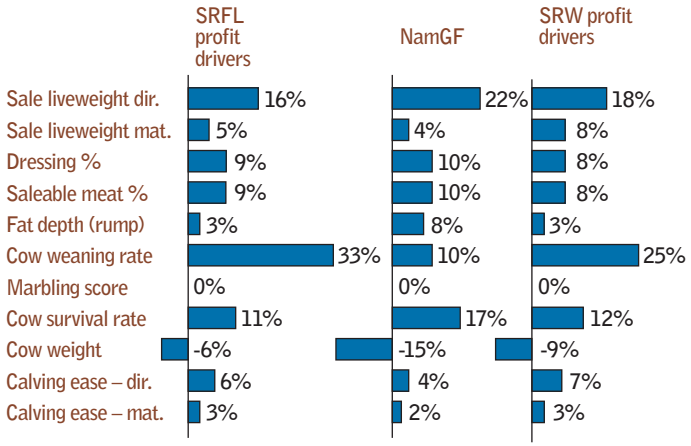
Most southern African Simbra stud and commercial breeders use EBVs in their day-to-day breeding decisions.

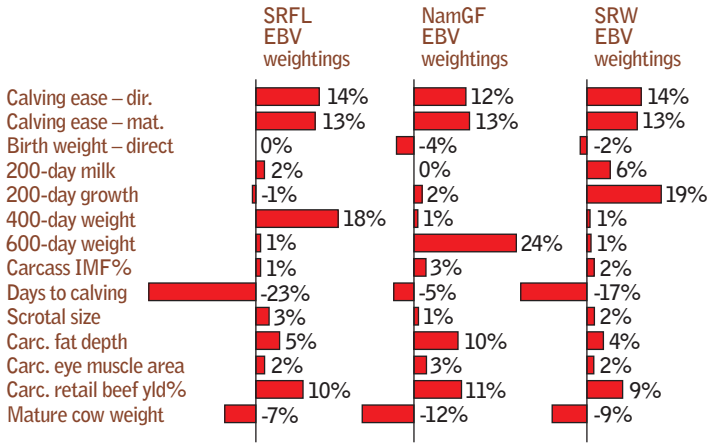
They consider EBVs an integral part of the decision-making process, emphasising fertility, growth and structural soundness.

Breeders also increasingly scan animals, resulting in better use of carcass breeding values.

Progress is also made with the measurement and application of days to calving to express fertility. These indices have subsequently been revised to focus on indices relevant to the breed within the southern African context, and its position in the southern Africa beef market.

The technical committee appointed by the Simbra Advisory Committee consist of leading experts in the field, including Prof Frikkie Neser (University of the Free State), Dr Johan Kluyts (President: Simmentaler/ Simbra Breeders' Society), Dr Michael Bradfield (Breedplan, South Africa), Jack Allen (Breedplan, Australia), Diethelm Metzger (Namibian Simmentaler breeder), Stephan Voigts (Namibian Simmentaler breeder), Thys Meyer (Simbra breeder and member of Simbra Advisory Committee) and Johan Potgieter. The committee included





a weaner index in light of the Simbra's position in the market as a dam line in commercial weaner production systems.

The committee also decided that the Simbra would not compete with Bos taurus cattle as a terminal cross breed, as this usually conflicts with the preferred dam line of the Simbra. This led to the Terminal Sire Index being excluded.

The following Rand Value Indices will be available to Simbra breeders and their commercial customers:

- Simbra Self-Replacing Feedlot Index (SRFI).
- Namibian Self-Replacing Grassfed Index (NamGFI).
- Simbra Self-Replacing Weaner Index (SRWI).

These indices express the genetic differences between animals in terms of nett profitability per cow in a specific production system.

SIMBRA SELF-REPLACING WEANER INDEX

The SRWI is aimed at a self-replacing (keeping replacement and breeding progeny) straight-bred herd. Calves are weaned at seven months and then sold live at 250kg bull-calf liveweight.

The index emphasises calving ease, days to calving, and the 200-day EBVs (red graph). The economically relevant traits (blue graph) emphasised are, firstly, the cow weaning rate and the sale weight (at seven months of age), and thereafter the cow survival rate, with the carcass traits following.

Consistent longer term application of the index should result in medium-framed, hardy and fertile animals with an excellent calf-to-cow weaning percentage and moderate carcass characteristics.

FAST FACTS

- Rand Value Indices strengthen Simbra's position in the market as a dam (maternal) line.
- It places strong emphasis on fertility, growth and structural soundness.
- The genetic indices express the profitable differences between animals.

NAMIBIAN SELF-REPLACING GRASSFED INDEX

The NamGFI is aimed at a production system where calves are weaned at seven months and then kept on natural veld to be slaughtered at around 28 months and 470kg steer liveweight.

The NamGFI emphasises 600-day and calving ease EBVs, as well as carcass fat depth and retail beef yield (red graph).

The economically relevant traits (blue graph) emphasised are, firstly, the sale weight (at 28 months of age) and thereafter the cow survival rate, with the cow weaning rate and carcass traits following.

Consistent longer term application of the index should also result in hardy, fertile, easy calving animals with good carcass characteristics.

SIMBRA SELF-REPLACING FEEDLOT INDEX

The SRFI is aimed at a production system in which calves are weaned at seven months. Steers are fed extra rations for 120 days and slaughtered at around 11 months and 410kg liveweight.

The feedlot index emphasises calving ease and days to calving, as well as the 400-day EBVs (shown in the red graph left).

The economically relevant traits (blue graph) are firstly the cow weaning rate and the sale weight (at 11 months), and secondly, the cow survival rate and carcass traits. Consistent longer term application of the index should result in hardy and fertile animals with a high calf-to-cow weaning ratio and acceptable carcass characteristics.

OPPOSITE PAGE: Simbra breeders introduced three Rand Value Indices in 2010. These express the genetic differences between different animals in terms of nett profitability per animal.

TOP RIGHT: The Simbra Advisory Committee decided that the Simbra won't compete with *Bos taurus* as a terminal cross breed, which led to excluding the Terminal Sire Index.

PHOTOS: L ANGUS

'LIMITED RECORDING MAY RESULT IN POOR SELECTION DECISIONS.'

CONSIDERATIONS

Rand Value Indices identify animals with the most profitable genetic profile overall.

However, breeder animals must be used carefully to avoid undesired results.

While independent culling levels tend to select animals that are close to average for a large number of traits, Rand Value Indices may identify animals that are rather extreme in their genetic values (curve benders). Because these indices allow one trait to compensate for another, they can be used to select animals that are extremely favourable for a single trait, and somewhat undesirable for several others. Cattlemen should scrutinise the individual EBVs of top index sires to be sure that all EBV values are within an acceptable range.

This is especially important when selecting calving ease sires for commercial herds.

While all three indices emphasise calving ease, commercial cattlemen selecting heifer bulls should continue setting minimum levels for calving ease and birth weight EBVs.

Cattlemen wishing to maximise genetic progress using these indices must record calving ease (direct and maternal) and birth weights, 200- and 400-day weights, ultra sound scans, days to calving and mature cow weights. While mature cow weights aren't used in the index, they are affected by days to calving, 400-day weight and fat.

In Rand Value Index selection, it's very important to measure as many of the component EBVs as possible. Limited recording may result in poor decisions when selecting future breeding animals.

As with all indices, producers should use the Rand Value Index to rank potential replacement animals, consider the component EBVs of those animals in terms of their own breeding objectives, and select animals with component EBVs meeting these breeding objectives.

Selection should also consider the non-EBV characteristics of the animal, such as conformation and temperament.

- *Call Johan Potgieter on 051 446 0580.*