Why Simbra?

Simbra

Since • Sedert 1987

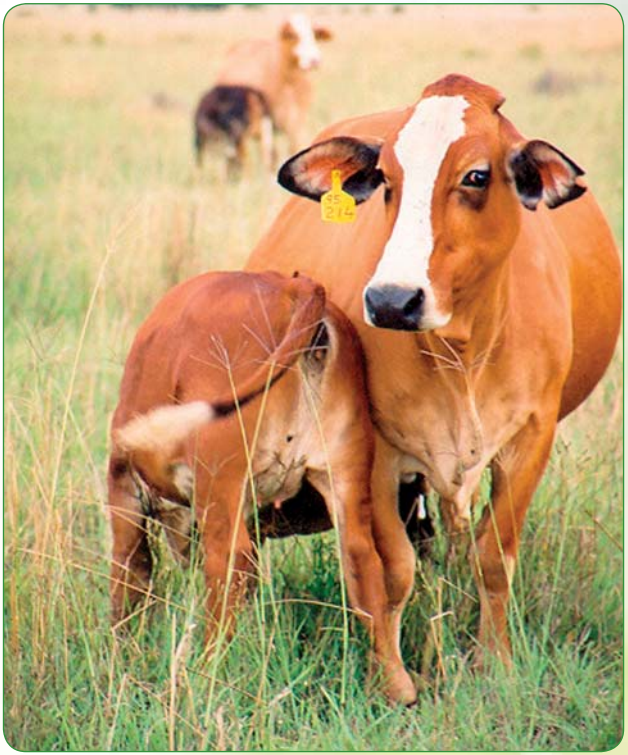
Why Simbra?

Dr. Johan Kluyts, President Simmentaler/Simbra Cattle Breeders Society

Introduction

The Simbra breed is one of the numerically strongest, largest and most popular breeds of cattle in Southern Africa. This is a remarkable achievement in view of the fact that the breed has only been regestred in Southern Africa for a relatively short period of time. Although American breeders have worked on the Simbra idea since 1960, the Simmentaler Society only decided in 1985/1986 to develop the Simbra concept. Simbra was only declared a developing breed in the Government Gazette on 11 December 1987. The popularity and performance of the Simbra can be attributed to various reasons.

Most synthetic breeds are raised from specific base breeds and has a system for upgrading. Occasionally, a synthetic breed has a system without specific base breeds, or the choice of base breeds was not fully considered. In some cases hybridisation occurs. Consequently, results do not always meet expectations. In the case of Simbra, however, the choice of base breeds was well considered, an effective system was established and it is driven by a dynamic and independent Society.



Choice of base breeds

The choice of base breeds are extremely important in the development of a synthetic breed. These breeds must be

numerically strong in order to enhance selection possibilities. A broad inner breed gene pool will ensure enough variation to select the right animals for a specific purpose and environment. The base breeds must differ widely to maximally utilise heterosis. The breeds must be able to compliment and supplement each other over a wide range of characteristics. The choice of Simmentaler and Brahman as the base breeds for the Simbra satisfy these requirements.

The ancestors of the current Simmentaler was the Bernese, a breed from the Simme valley in the Bern region of Switzerland. These animals were very popular in this cold, harsh mountain region, owing to excellent beef and milk production. They were also great draught animals. In 1806 the first herd book was created with a performance requirement for registration. From this valley, the Simmentaler spread across the world and is one of the most popular and numerically superior dual purpose breeds on earth today. The first Simmentalers were imported to Namibia in 1893 and to Southern Africa in 1905. Simmentaler was bred to adapt to our unique environment and remains the most popular dual purpose breed, the third most important beef breed and the fourth most important milk breed in Southern Africa.

The Brahman was developed in 1835, on the southern coastal plains of the USA near the Gulf of Mexico. The breed was developed from various Indian breeds, of which the Guzerat, Nelore and Gir were the most prominant. The area is described as subhumid and is ravaged by external and internal parasites. The first Brahman was imported to Namibia in 1953 and to Southern Africa in 1956. Brahman's popularity has increased sharply and it is currently the second most important beef breed in Southern Africa.

It is clear that Simmentaler and Brahman were the best choices for the development of a new synthetic breed. Both have a wide gene pool, is numerically strong, differs significantly from each other and can supplement each other in a distinctive manner.

Simbra system

The purpose of the Simbra was to raise a breed that could adapt to the Southern African environment; not only the physical environment, but also the production systems and market requirements. To achieve this goal, the milk and beef production capacity of the Simmentaler was combined with the adaptability, disease resistance and hardiness of the Brahman. In view of the popularity of the Simbra, the plan was highly successful.

The Simbra breed development programme is kept as simple as possible to make it easy for new and aspiring breeders. An open herd book allows the continued recording of new first generation compositae. This ensures genetic variation and facilitates easy adaptation to changing environments and requirements. As much heterosis as possible is maintained, especially in later generations. This is done by using many sires in the programme, limiting inbreeding and keeping large herds. Breeders actively participate in performance testing and strive for optimal performance in various economically important properties.

Breed Society

The Simmentaler and Simbra Cattle Breeder's Society of Southern Africa is a dynamic and independent Society. It is currently the largest Society in Southern Africa, in terms of membership. The Society is in a strong financial position and offers many unique services to members. These services include an annual visit to the herd of every member by one of the Society's Technical Advisors, accredited consultants. During this visit useful information and knowledge are shared with breeders. This service is invaluable, especially for new and young breeders. The staff members of the Society is extremely qualified with years of experience. This ensures that all the core and other services of the Society are performed effectively. The breeder family in the Society is intelligent, well informed, purposeful and usually prominent members of the community.

In Conclusion

Simbra delivers optimal performance in a number of economically important properties, which satisfies the needs of commercial breeders, feedlots and the end user. The Simbra system uses and manages the genetic resources of two unique base breeds as effectively as possible. Risk is reduced as a result of the adaptability of both the breed and the system, a large gene pool, open herd book, as well as compulsory inspection and selection. The breed, as part of a large Society, is economically viable and very profitable, thanks to excellent production and low input costs. Simbra and the

Simbra system are socially acceptable because it can be managed and controled with ease, and because it is based on logical and scientifically founded principles.

It is clear from this short overview that Simbra satisfies all the requirements (best base breeds, unique system, dynamic Society and breeders) to be a successful breed; a breed that can make a significant contribution to the Southern African beef cattle industry.

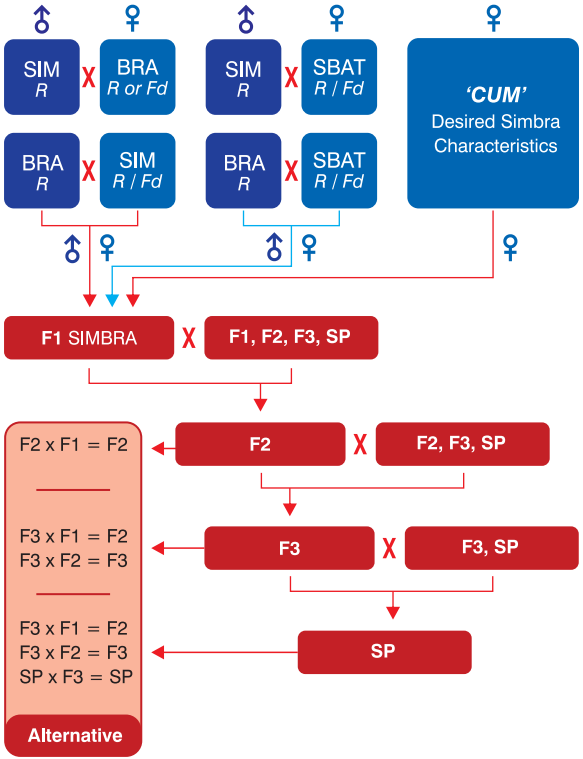
Simbra is indeed ***The Complete All-rounder***

Simbra Breeding Programme

Key:

SIM = Simmentaler: Bull always registered.
BRA = Brahman: Bull always registered.
SBAT = Simbra type – Can also be presented as "cum".
R = Is or was registered. Recording without inspection – Supply official ID.
Fd = (Foundation) Grade cows. Recording subject to inspection.

- Bulls must be registered.
- Multiple sire permissible for F1 + F2.
- Dehorn all F-animals, except F1 cum.
- Registration subject to inspection.



Retention of hybrid vigour (Heterosis) by using Simbra bulls

Johan Potgieter, CEO Simmentaler/Simbra Cattle Breeders Society

It took more than a century of breeding and genetic selection to establish and stabilise the unique breed characteristics of the Simmentaler (fertility, growth potential and milking ability) and Brahman (heat tolerance, hardiness, adaptability and tick resistance). The Simbra breed (Simmentaler x Brahman) combines the characteristics of these two wonderful breeds. The main aim with developing the Simbra breed was to breed the type of cattle that will meet the different market requirements and/or environmental conditions.

Retention of hybrid vigour

In designing the Simbra breed it was aimed to utilize the breed differences between the Simmentaler and Brahman and also to retain hybrid vigour (heterosis) in future generations without continuous crossbreeding. Hybrid vigour (heterosis) can be defined as the increased performance of a composite breed relative to the purebred parents. The challenge of maintaining hybrid vigour and minimizing inbreeding in composite breeds (Simbra) can only be met using large populations of cattle. In Table 1 the percentage of hybrid vigour that are retained in the Simbra breed at stabilization are shown.

[a]Table 1 Expected retention of hybrid vigour (%) and estimated increase in performance for various Simbra breed compositions (at stabilisation)

Breed Composition	% of heterosis	Estimated increase in weaning weight
$^{1}/_{2}$ Simmentaler x $^{1}/_{2}$ Brahman	50.0	11.6
$^{5}/_{8}$ Simmentaler x $^{3}/_{8}$ Brahman	46.9	10.9
$^{3}/_{4}$ Simmentaler x $^{1}/_{4}$Brahman	37.5	8.7

What is the ideal breed composition for Simbra?

Due to commercial breeder preference and the different environmental conditions under which we have to farm in Southern Africa, the Simbra breeding policy is to maintain an open herd book (providing the opportunity for new animals/genes to enter the breed) and enabling commercial and stud breeders to develop the type of animal that will perform well in their specific environment. The Simbra breed is not only one of the largest breeds in Southern Africa in terms of numbers, but also one of the fastest growing breeds in terms of popularity and cow numbers.

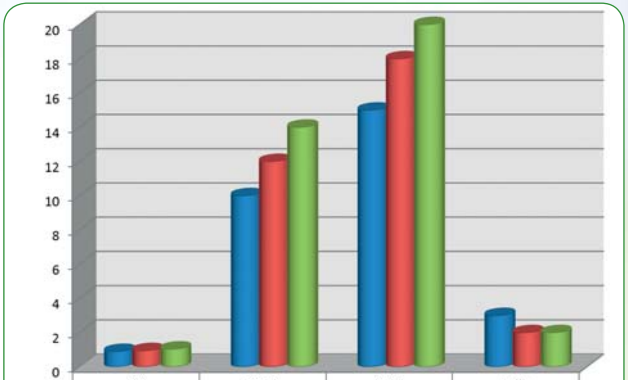
[a]Adapted from David Johnston, Animal Genetics and Breeding Unit, University of New England, Armidale, NSW.

The environment should determine the ideal breed composition for Simbra. The most popular breed composition for Simbra, both for registered and commercial farmers, seems to be $^{5}/_{8}$ Simmentaler x $^{3}/_{8}$ Brahman. This breed composition can be achieved as follows:

Registred Bull	**Commercial or Simbra cow**
Simmentaler bull	$^{1}/_{4}$ x $^{3}/_{4}$ of $^{3}/_{8}$ x $^{5}/_{8}$ cow
Simbra $^{3}/_{4}$ x $^{1}/_{4}$	$^{3}/_{8}$ x $^{5}/_{8}$ of $^{1}/_{2}$ x $^{1}/_{2}$ of $^{5}/_{8}$ x $^{3}/_{8}$ cow
Simbra $^{5}/_{8}$ x $^{3}/_{8}$	$^{1}/_{2}$ x $^{1}/_{2}$ of $^{5}/_{8}$ x $^{3}/_{8}$ of $^{3}/_{4}$ x $^{1}/_{4}$ cow
Simbra $^{1}/_{2}$ x $^{1}/_{2}$	$^{5}/_{8}$ x $^{3}/_{8}$ of ¾ x ¼ cow
Simbra $^{3}/_{8}$ x $^{5}/_{8}$	$^{3}/_{4}$ x $^{1}/_{4}$ of Simmentaler cow
Simbra $^{1}/_{4}$ x $^{3}/_{4}$	Simmentaler cow

What about genetic progress?

Many stud and commercial Simbra breeders are sometimes concerned that they might not acheive the same rate of genetic gain and progress with SP (Studbook Proper) animals as oppose to using F1's. Due to the large size of the Simbra breed and participation of registred Simbra breeders in performance recording it is possible for Simbra commercial and stud breeders to make genetic progress. (Figure 1)



	BW	200d	400d	Milk
F1	0.9	10	15	3
F2	0.95	12	18	2
F3 + SP	1.04	14	20	2

Figure 1 Improvement in genetic performance of the different F-generations in Simbra females older than 24 months for birth weight (BW), weaning weight (200d), yearling weight (400d) and maternal milk (milk).

Benefits and features of Simbra

The Simbra has been described as the *All-rounder Southern Africa Breed*, which means it is not only an outstanding breed for maternal and longevity characteristics in a hot and dry environment, but it produces a modern, lean and high quality of beef. Some of the benefits in using Simbra – All-rounder - bulls for the commercial farmer:

- Commercial farmers can maintain and retain hybrid vigour.
- Produce a high quality product for the market.
- Simbra can easily match a uniform biological type (size, milk production, growth and body composition) for a specific type of environmental conditions, which can be both cost effective and easy to manage, as well as being profitable.
- Simbra cattle adapt easily to many different environments and management systems.

Important: Not just any Simbra bull or female will do. Just like with purebred animals, make sure there is a registration certificate (animals have been inspected by Society) and performance data (breeding values) behind the animals that you plan to use. No one needs any surprises!!!!!!!!

Internationaly the benefits of Simbra are summarized as follows by renowned animal scientist and researchers:

"One of the main benefits of composite breeds (like Simbra) is sustainable hybrid vigour that will improve economic important traits like fertility, longevity and surviveability, which is normally difficult to improve due to low heritability in pure breds" (Gaden. B & Llewellyn. D)

"Composite breeds (Simbra) have been developed to maintain hybrid vigour in future generations without the need for further crossbreeding" (Ritchie et al)

"The main benefit of using composite breeds (Simbra) is simplicity and retention of hybrid vigour" (Barham.B)

"The Simbra is a hardy, smooth-coated, well adapted breed, with virile, hard-muscled, growthy bulls and feminine, fertile, highly functional cows. A breed possessing the best of the Simmentaler and the Brahman breeds, a breed that has all the potential to produce beef efficiency, especially in extensive cattle breeding areas." (Mr Dave Morley, Senior Judge of Brahman, Simbra and Simmentaler in Namibia and Southern Africa).

SIMBRA
BENCHMARK OF EXCELLENCE®

Features and Benefits

Adaptability
Simbra is an easy care breed which means docility, ease of calving and resistance to parasites

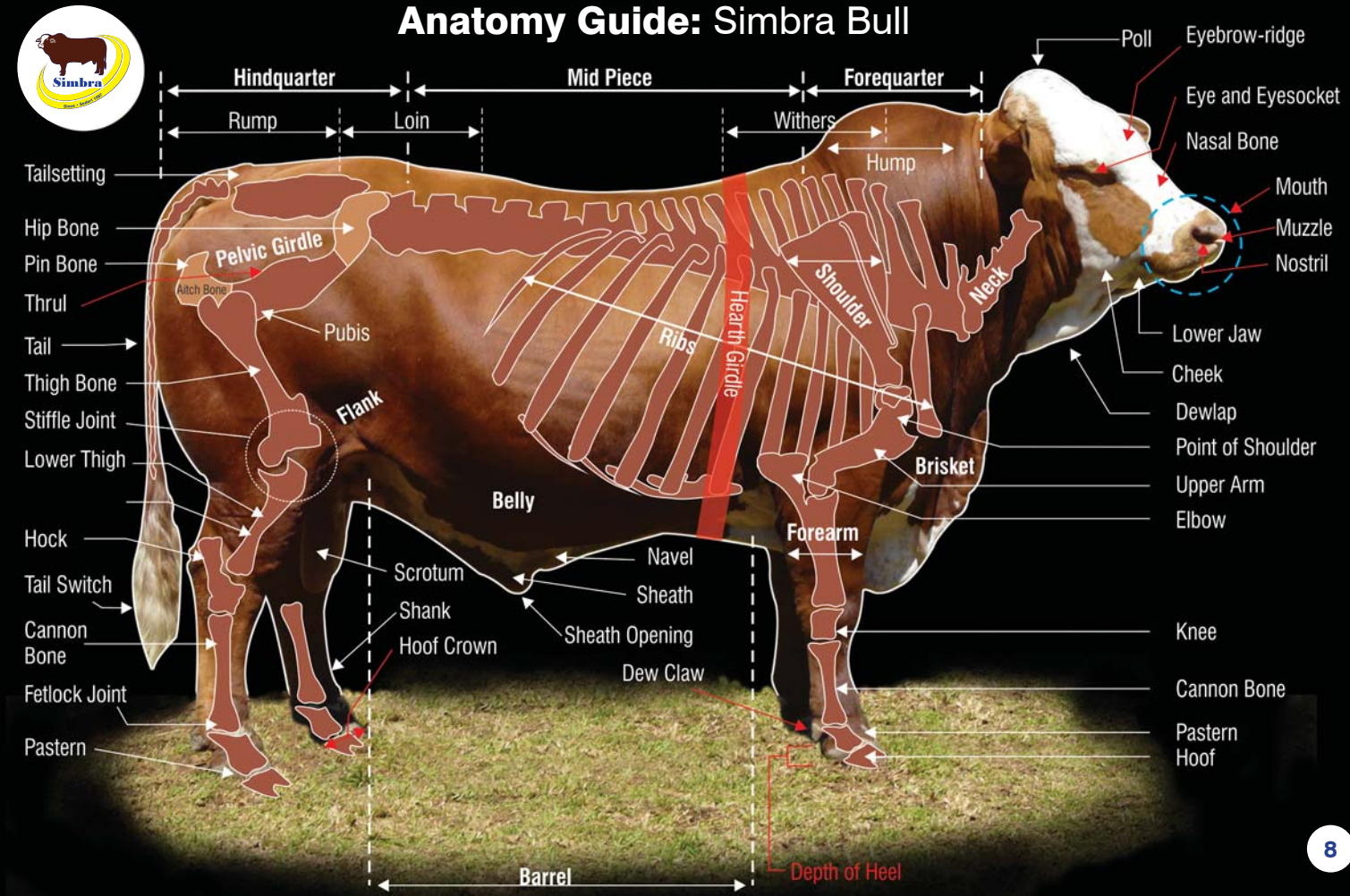
Hybrid Vigour
Simbra harnesses the benefits of hybrid vigour

that will improve fertility and growth traits

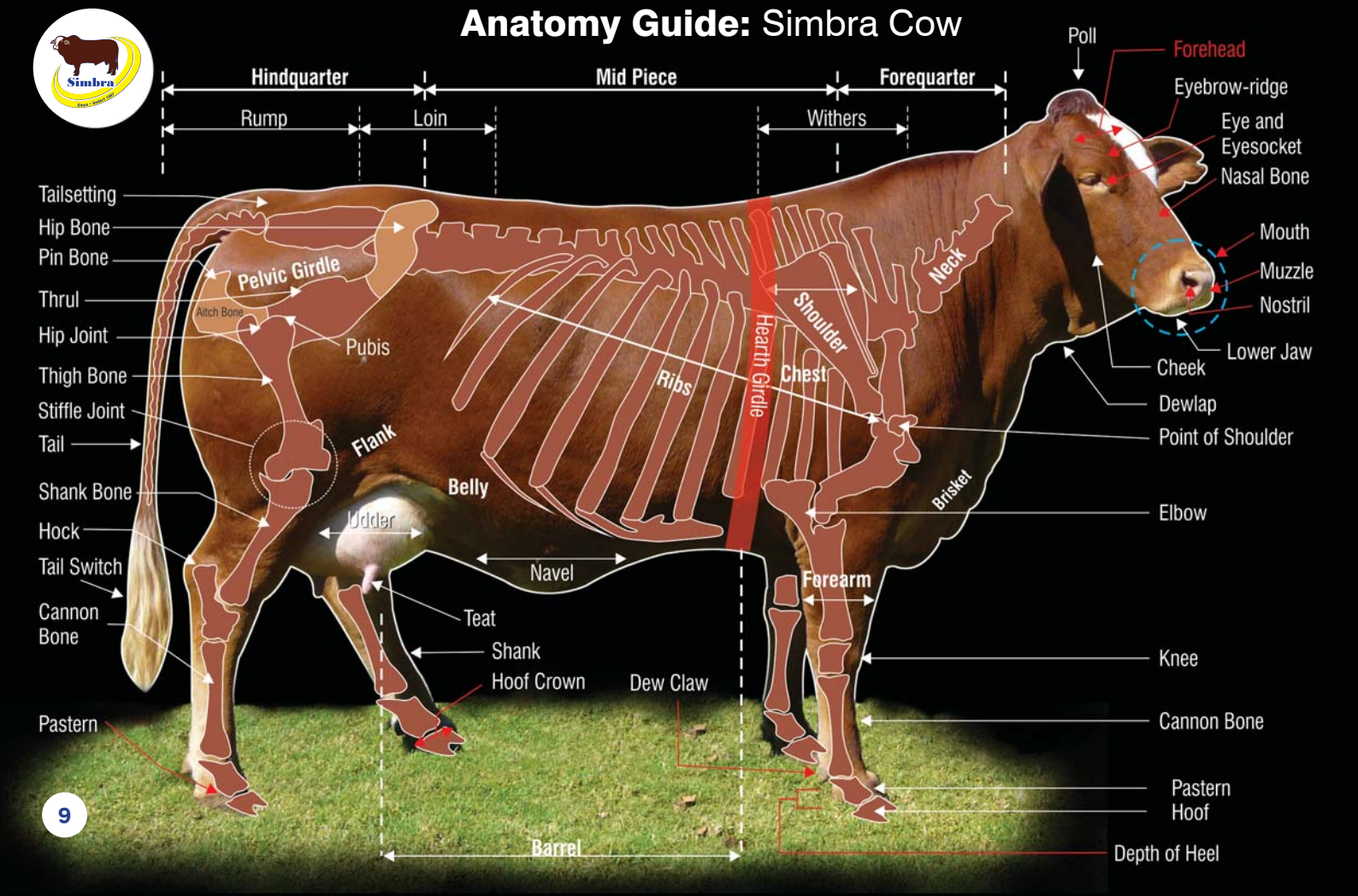
Science and Technology
Simbra breeders are supported by innovation and a progressive Breed Society, dedicated staff, independent registration and recording system and excellent extension services

Sustainability
Economic viability due to high beef production, maternal milk and low input cost

Anatomy Guide: Simbra Bull



Anatomy Guide: Simbra Cow



Twelve reasons to persuade you to breed with Simbra!

1) **Become a breeder** of one of the fastest growing breeds of cattle in Southern Africa.
2) **You will be visited once a year** by one of our technical advisors during which the selection of replacement heifers, reproduction status of the herd, selection of the right bulls and genetic progress will be discussed.
3) **Purchase animals** (with the assistance of technical advisors) and/or begin by presenting your own Simbra type cow for inclusion as an F1 cum.
4) **A very large gene pool** and genetic variations are available.
5) We as a society have a **focused, practical breeding programme** with an open herdbook approach.
6) **Which Simbra breed combination?** The breeder himself decides which Simmentaler/Brahman breed combination will perform the best in his specific environment.
7) **Multi-bull matings** can be used in the breeding of F1 and F2.
8) **Technical Advisors evaluate all the animals** on a farm before the registration of animals can take place. Evaluation is based on phisical appearance and breeding values.
9) **You will enjoy voluntary participation** in the world's most advanced beef cattle performance testing system.

10) Pedigrees, breeding value, genetic indices, general information **and much more is available at www.simbra.org**
11) You will have the opportunity to breed with **two breeds at the cost of one membership.**
12) **Your registration, performance and annual visit** to a herd of 100 animals by a technical advisor is less than one and a half culled weaners per year.

Simbra the All-Rounder

Although breeders prefer uniformity within herd context, the breeders' society maintains a large variety within breed variation in the vast area it covers in order to accommodate the varying consumers' preference and environmental conditions.

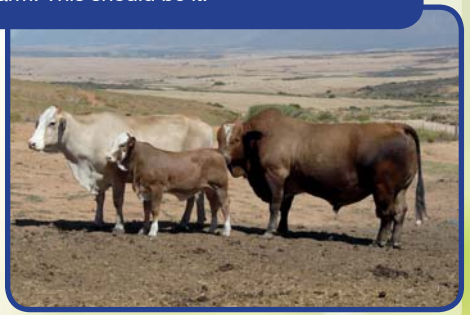
Simbra Beats the Heat…

and produces more meat

Simbra cows are hardy and thrive under harsh conditions. They are good mothers which wean heavy calves. The breed is fast becoming known as "the All-rounder Southern Africa Breed".

The Management-friendly Animal

The prime reason for the increasing popularity of the Simbra is ascribed to the fact that the laborious multi-breed crossbreeding system used in the past, can no longer be readily applied. Management is simplified because the Simbra is a carefree animal, developed for extensive farming conditions. If you prefer only one breed on the farm. This should be it.



Benchmark of Excellence

Since all that is associated with reproduction is of prime importance, only Simbra bulls which conform to the minimum scrotum circumference measurements are registered. Furthermore, every Simbra bull is evaluated for sheath by the breed technical adviser and those with a long pendulous and uncontrollable sheath are not registered.

Colour Blind

Which colour is prescribed? The most profitable cow on the farm has the colour that is pusued by the breed society. All Simbra's must be dehorned and some breeders are developing natually polled lines!

"Size is a 4-letter Word":

The recommended size is determined by selection for reproduction. The cow which calves regulary in her environment and weans a heavy calf relative to her own weight, has the size that is pursued by the breed society. It is normally the "middle-of the-road-cow" which excels.

Simba, Grass Converter to Profit

"The Simbra is a hardy, smooth-coated, well adapted breed, with virile, hard-muscled, growthy bulls and feminine, fertile, highly functional cows. A breed possessing the best of the Simmentaler and the Brahman breeds, a breed that has all the potential to produce beef efficiency, especially in extensive cattle breeding areas." (Mr Dave Morley, Senior Judge of Brahman, Simbra and Simmentaler in Namibia and Southern Africa).

Science and Technology

Simbra breeders are supported by innovation and a progressive Breed Society, dedicated staff, independent registration and recording system and excellent extension services

Simbra Rand Value Index

Johan Potgieter & Thys Meyer

The new Rand Vaulue Indices allow Simbra breeders and their commercial customers to select sires that maximize profit under different procudtion situations. The indices are formulated on general respresentations of beef prodution systems used in Southern Africa and cover a group of economically relevant trait that characterise these systems. Relative economic values of this group of traits are combined with component edtimated breeding values (EBV's) to produce a Rand Value Index. The difference in the rand value of the index expresses the difference in profit potential.

Most Southern African Simbra stud and commercial breeders use EBV's in their day-to-day breeding decisions. These breeders consider EBV's 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. Three Simbra Rand Value Indexes were introduced in 2010.

To utilise this type of indices as a selection tool is a well established principle internationally in many animal breeds. These economic indices are scientifically proven and were developed and adapted over a period of time.

Simmentaler breeders in Southern Africa led the way regarding the implimentation of Rand Value Indices a few years ago. Simbra breeders followed suit and introduced three Rand Value Indices in 2010.

These indices have subsequently been revised to focus on indices relevant to the breed within the Southern African context as well as its position in the Southern Africa beef market. The Technical Committee appointed by the Simbra Advisory Comittee consisted of leading experts in the field including of Prof Frikkie Neser (University of the Free State), Dr. Johan Kluyts (President Simmentaler/Simbra Breeders' Society), Dr. Michael Bradfield (Breedplan) and Mr. Diethelm Metzger (Namibian Simbra Breeder), Stephan Voigts (Namibian Simmentaler Breeder), Thys Meyer (Simbra Breeder and member of Simbra Advisory Committee and Johan Potgieter (CEO, Simmentaler, and Simbra Cattle Breeders Society of Southern Africa). The Committee decided to include a Weaner Index in light of the Simbra's position in the market as a dam line, particularly as far as commercial weaner production is concerned. The Committee also decided that the Simbra will not compete with the Bos Taurus 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:

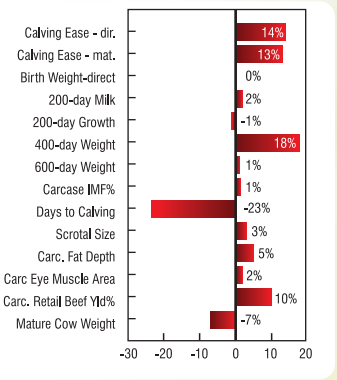
- Simbra Self Replacing Feedlot Index(SRFL)
- Simbra Self Replacing Weaner Index(SRW)
- Namibian Self Replacing Grassfed Index(NSRGF)

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

Simbra Self Replacing Feedlot Index

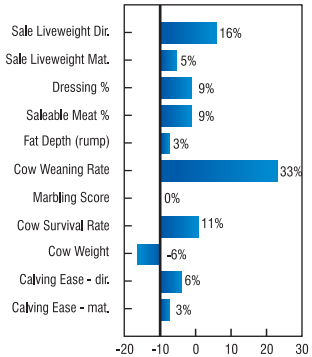
The Simbra Self Replacing Feedlot Index is aimed at a production system in which calves are weaned at 7 months. Steers are fed extra rations for 120 days and are slaughtered at around 11 months and 410kg liveweight. The Feedlot Index predominantly emphasises Calving Ease and fertility as well as the 400 day growth (as depicted in Graph 1 below).

Graph 1: Self Replacing Feedlot Index (SRFL) EBV Weightings



The economically relevant traits (as shown in Graph 2) emphasised are firstly the Cow Weaning Rate and the Sale Weight (at 11 months of age). This is followed by the Cow Survival Rate with the carcass traits following. 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.

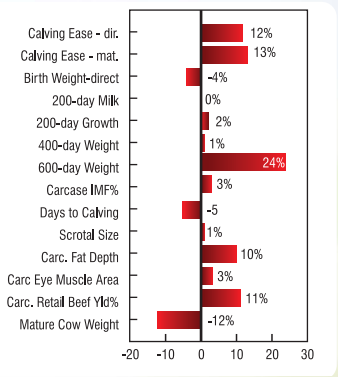
Graph 2: Self Replacing Feedlot Index (SRFL) Profit Drivers



Namibian Self Replacing Grassfed Index (NAMGF)

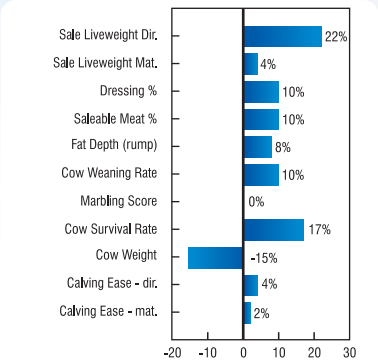
The Namibian Self Replacing Grassfed Index is aimed at a production system where calves are weaned at 7 months and then kept on natural veld to be slaughtered at around 28 months and 470kg steer live weight. The Namibian Self Replacing Grassfed Index predominantly emphasises fertility growth (600 day and Calving Ease EBV's as well as carcass fat depth and retail beef yield (depicted in the Graph 3).

Graph 3: Namibian Self Replacing Grassfed Index (NamGF) EBV Weightings

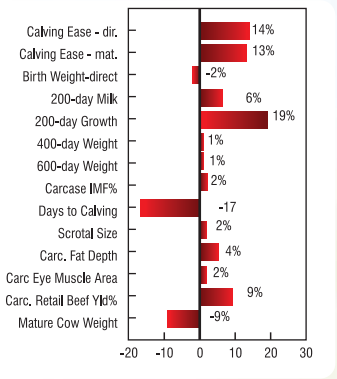


The economically relevant traits (as shown in Graph 4, top next page) emphasised are firstly the sale weight (at 28 months of age) and thereafter the Cow Survival Rate and carcass traits following. Consistent longer term application of the Index should also result in hardy, fertile, easy calving animals with good carcass characteristics for this type of production system.

Graph 4: Namibian Self Replacing Grassfed Index (NamGF) Profit Drivers



Graph 5: Self Replacing Weaner Index (SRW) EBV Weightings

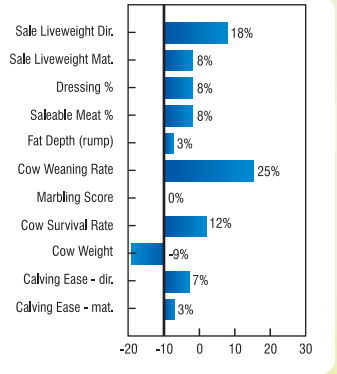


Simbra Self Replacing Weaner Index (SRW)

The Simbra Self Replacing Weaner Index is aimed at a self replacing (keeping replacement and breeding progeny) straight bred herd. Calves are weaned at 7 months and then sold as live animals at 250kg bull-calve live weight. The Weaner Index predominantly emphasises calving ease, fertility as well as the 200 day growth (as shown in Graph 5).

The economically relevant traits (as shown in Graph 6) emphasised are firstly the Cow Weaning Rate and the Sale Weight (at 7 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

Graph 6: Self Replacing Weaner Index (SRW) Profit Drivers



framed hardy and fertile animals with an excellent calf to cow weaning percentage with moderate carcass characteristics.

Rand Value Indices identify animals with the overall most profitable genetic profile for a specific production of farming system.

However as any tool, Rand Value Indices 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 Rand Value Indices do allow one trait to compensate for another, they can be used to select animals that re extremely favourable for a single trait, and somewhat undesirable for several others.

Cattleman should scrutinize the individual EBV's 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 heavily emphasize calving ease, commercial cattlemen selecting heifer bulls should continue setting minimum levels for Calving Ease and Birth Weight EBV's.

Owners of herds wishing to maximize genetic progress using these indices must record Calving Ease (direct and maternal) and Birth Weights, 200 and 400 Day Weights, Scrotum Size, ultra sound scans, Days to Calving and Mature Weights. While Mature Cow Weights are not used in the index directly, they are affected by Days to Calving, 400 Day Weight and Fat.

In Rand Value Index selection, it is very important to measure as many of the component EBVs as reasonably possible. Limited recording of traits may result in poor selection decisions of 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 own breeding objectives, and select those animals with component EBVs meeting these breeding objectives. Selection should also consider non-EBV characteristics of the animal such as structure and temperament.

According to Johan Potgieter (CEO, Simmentaler Simbra Cattle Breeders Society of Southern Africa) selection of breeding animals has become burdened with information overload. Currently, genetic evaluations (EBV's) are produced for many production, reproduction and carcass traits, with more becoming available in the future. It is not easy to identify the most desirable and profitable animals from such an array of raw information.

A well-formulated selection index is the best approach to summarising EBV's in a way that leads to optimum economic improvement.

Benefits of Membership

The Simmentaler/Simbra Cattle Breeders' Society of Southern Africa is presently one of the largest and most dynamic Breed Societies in Southern Africa. It is made up of members with an intense interest in breeding and raising Simmentaler and Simbra animals.

Our head office is located in Bloemfontein. The Society is a non-profit organisation that offers advice and delivers services to all our members in Southern Africa.

- **Adds value to animals**
  Members, who farm with registered Simmentaler and Simbras, have an income potential above and beyond weanlings only. Registered Simmentaler and Simbra animals create new marketing opportunities and income possibilities for members.

- **Join a network of dynamic beef producers**
  Simmentaler and Simbra breeders are some of the most progressive and dynamic farmers in the country. Members of the Society have the opportunity to exchange ideas and meet fellow farmers with the same goal – to operate a profitable beef cattle farm.

- **Outstanding professional client service**
  www.simbra.org is available 24 hours a day to give information regarding animals and to allow inspection of herd reports. It is also an excellent source of information and is updated regularly.

- Our expert Technical Advisors visit every member of the Society once a year to assist in the selection of animals, discuss genetic evaluations and to give advice.

- The Society uses the most sophisticated system of data capturing for registration and other performance purposes. This means that we can quickly send out certificates and other information to our members.

- The Society's well-trained and competent staff members offer client services and deal with member enquiries from Mondays to Fridays.

- Get a FREE visit from one of our Technical Advisors if you present more than 25 Simbra* or Simmentaler ** type cows for inclusion in our system.

  * *Simbra type: Structurally correct heifers and cows that look like Simbras. In other words, the two base breeds Simmentaler and Brahman must be clearly visible in the animal. If these approved animals are serviced by a registered Simbra bull, their sons and daughters will be accepted as registered F2.*

  ** *Simmentaler type: Structurally correct heifers and cows that look like Simmentalers.*

The All-Rounder

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