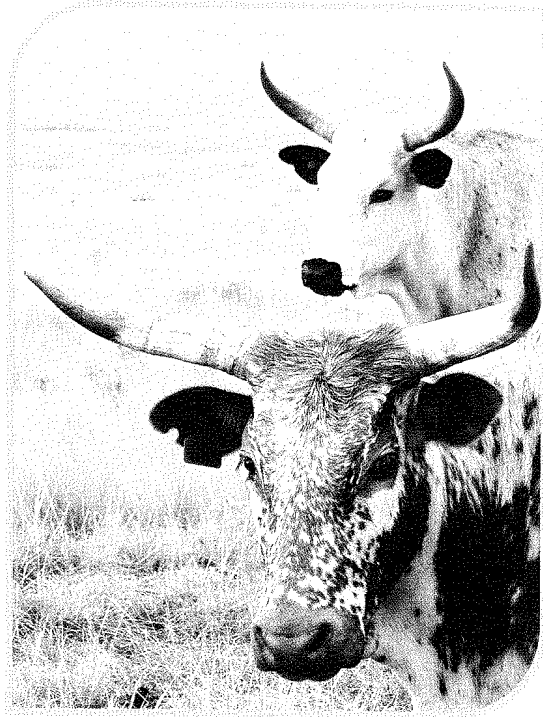


# NGUNI

## AN INDIGENOUS CATTLE BREED FOR AFRICA.

Louw Pretorius



When one looks at the Nguni, it is a lifelike example of nature's laws, namely that the function of a living animal is determined by its conformation. It is interesting that the latest technology of breeding values (BLUP), has confirmed this principle and in practice this can be turned around so that the conformation of an animal can be used to estimate its genetic potential. Similarly, an animal's estimated economic potential can be derived from some typical traits.

Here is a list of some of these:

Adaptability and hardiness

Fertility

Ease of calving

Carcass traits

Wean and post-wean performance

Cow productivity and longevity

A custom-made marketing potential.

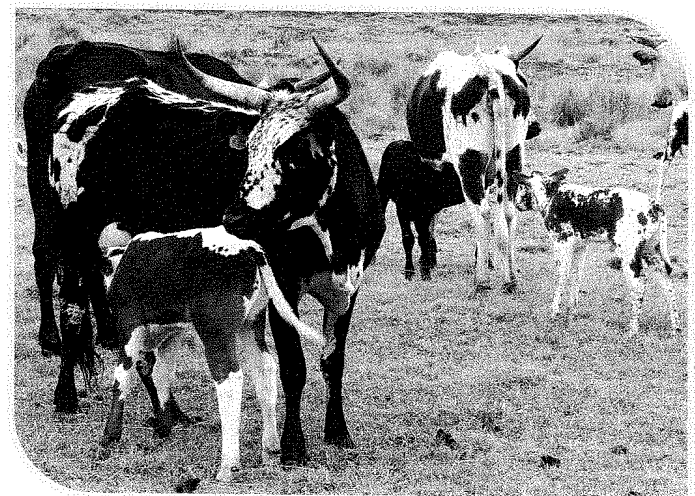
Regarding adaptability and hardiness, the Nguni bears the stamp of centuries of natural selection to withstand the extreme conditions of Africa. Exposure to extreme climatic and environmental conditions, such as internal and external parasites, sub-optimal grazing and primitive management practices has resulted in heat tolerance and resistance to disease and ticks.

Commercial beef farmers are increasingly forced to ignore breed preferences and other impressions in favour of the economic production of the optimal amount of saleable beef per hectare without damaging the natural resources.

The future for sustainable beef production in Southern Africa is determined first and foremost by the available natural grazing and veld orientated production systems. Currently, production is mainly focused on European market trends without taking into account the impact of severe natural climatic conditions. For this, more open-minded approaches and discretion is needed, making use of customized production systems based on Africa's natural resources. This includes a fresh approach to the indigenous breeds.

This group is overall classified as the Sanga, which according to the latest scientific views are genuine African and thus classified as *Bos taurus africanus*. Of the many ecotypes in the Sanga group the Nguni is the most prevalent and the breed on which most research has been done with a large number research topics listed. The test results consistently relate to the economics of the Nguni - the result of natural selection.

Even in the hottest areas of Africa, it is very rare to see an Nguni resting in the shade of a tree. The breed's oval body with the long axis in a vertical position increases the skin surface for respiration and heat loss from the sides, while a small back area is exposed to direct sunlight and heat. For the same reason, the small stomach and chest area do not absorb reflected heat from the ground.



The prominent dewlap from the chin to the chest increases the skin surface further. A short, shiny and straight hair coat also promotes heat conduction from the body. Very high day temperatures had no adverse effect on the libido and semen quality of the bulls. Within the indigenous breeds the Nguni, shows the greatest resistance to ticks. This natural feature is heritable, and furthermore can be improved with selection. It was also found that a waxy substance, found in serum, was excreted through the animal's skin. This has resulted in very few ticks on the Nguni reaching maturity. The aforementioned benefits along with the cattle's unique appearance and also because it is partly a browser, create, amongst others, the Nguni as a winner as part of a game farm - a tourist friendly tick-remover and mower.

Analysis of blood and rumen samples of Hereford, Bonsmara and Nguni 20 years ago showed that there were significant differences between the breeds in respect of urea and ammonia content. Subsequent studies have confirmed that the Nguni also has significantly higher urea and nitrogen levels in the blood plasma. Reasons for this are not clear, but it is probably either an adapted circulatory system whereby the kidneys play a significant role or differences in the feed through selective foliar grazing. The result is that the breed needs significantly less additional protein or urea lick in the dry periods compared to other breeds. This poses a significant economic benefit.

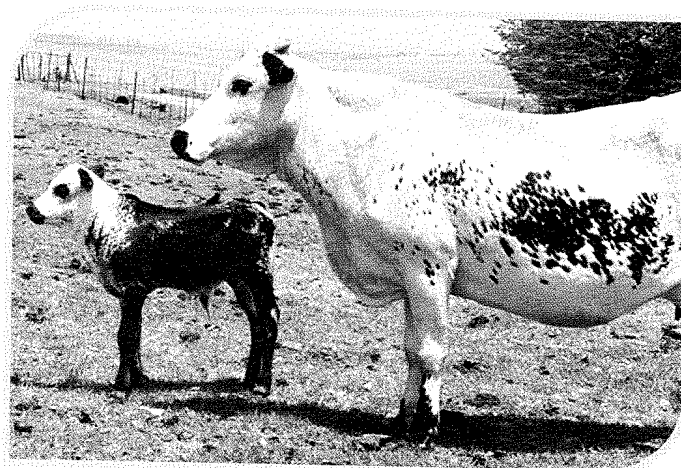
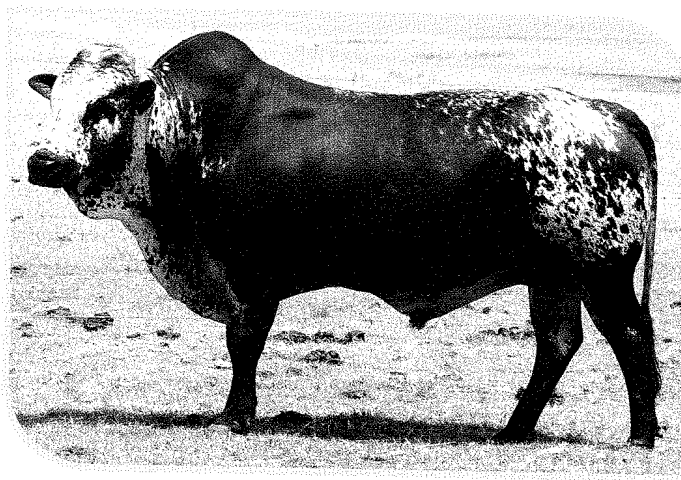
It was also found that the breed's fluid needs at a particular level of feed intake was lower when compared to other breeds. This could be the result of a changed renal function due to a lower filtration by the kidneys, and water and nitrogen losses will be reduced and consequently the animal's water needs decrease.

Due to their smaller frame size, long legs with flexible joints and the small but hard hooves for rough terrain, the Nguni can walk easier over the long distances between watering places. In the northern communal areas of Namibia they usually walk 15 to 20kms, every second or third day.

The breed's resistance to drought is reflected in their ability to maintain condition in the dry winter months, an excellent walking ability, strong herd instinct, resistance to heat and the handling of water stress - a very cost-effective cattle breed for Africa.

The Nguni Cattle Breed seems to be of the most fertile in Southern Africa and probably in the world. Despite very dry conditions in the 1990s Namibian stud breeders maintained an average inter calving period of 402 days. It is not rare that some of the country's stud herds have calving percentages of 90% and above. The pressures of suckling does not delay oestrus and re-conception takes place quickly after dry periods. Nguni heifers, in extensive areas, attain puberty earlier and at a lighter weight than other breeds, namely 350 days and 238kg. The optimum age at first calving in extensive conditions, according to experts, is 26 to 30 months. The crux of the matter remains that natural selection effectively be utilized to promote adaptation traits that have lower heritability, such as fertility.

The Nguni gives birth easily. Calves of both sexes weigh an average of 26kg at birth or 7.5% of the mother's weight. There are seldom any problems at birth because of the distinctive sloping rump of the cows and maternal constraint on birth weight. The result is strong and vigorous calves at birth.

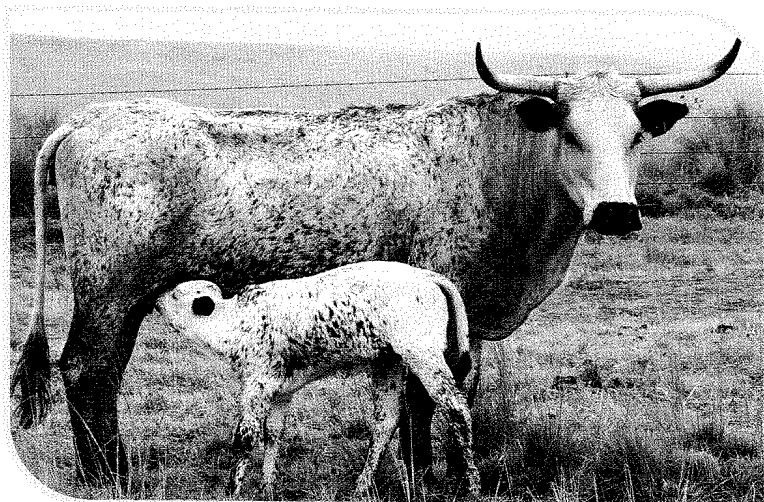


Nguni oxen give an outstanding carcass of 180kg to 220kg at an age of 24 to 30 months off the veld. Fat distribution on the carcass is even and usually less than 20% of the total carcass weight. The same study showed that Nguni meat is very tasty with good marbling, while the latter also contributes to its tenderness, as confirmed by the latest DNA analysis for the GeneSTAR tenderness marker

Probably the most important trait from an economic point of view is that the animals adapt very well without supplementation off grass.. Precisely the natural yellowish colour of the Nguni's fat, because of carotene in grass, is a sure sign that they are veld finished.

Numerous studies regarding wean and post weaning performances and cow efficiency have been completed. The economics of it is probably best reflected in the results of a Mara experiment conducted from 1995 to 2002 where two marketing strategies, in sweet bushveld, on the production performance of four different breed types, namely large, medium, small and medium to small frame, were investigated. The numbers in each group were controlled to ensure that equal metabolic weight of livestock units was maintained. In all four the categories measured, the Nguni were leaders (second best in brackets):

The average pregnancy for cows and heifers was 83% (78.7%). The average weaning percentage (cows) was 89.3% (87.2%). Weaners: The total live weight marketed (calves and culls), 11 928kg or 44.89 kg per 100kg mated (10 798kg or 36.88 kg/100kg mated). Thirty-month-old oxen: Total live weight marketed, 13 863kg (11 988kg).



Over the past four years, 45 males from five Nguni breeders were tested at the eastern Free State Vrede Veld Bull Club and respectively had an average daily gain (ADG) of 598g, 615g, 630g and 525g. Their growth over the whole test period of 220 to 240 days was about 600g/dag. In a mid-summer period of 90 to 100 days, the average ADG respectively was 865g, 710g, 776g and 793g. Feed conversion ratio (FCR) is a ratio measured under controlled feeding conditions, such as a phase C-test which gives the kilograms of feed consumed for each gain of 1 kilogram live-weight. At the Vrede club, the grazing feed conversion ratio (GFCR) is calculated using the Kleiber ratio. The average GFCR for the Nguni over three years from 2001/02 was 9.76, 9.44 and 11.46. That puts the breed among the top performers on sour veld with only a salt / phosphate lick.

A particularly good temperament is also one of the collective economic benefits of a trouble free Nguni. Researchers continually refer to the breed as an ideal dam line. Marketing risks can be distributed between weaners, long weaners and older oxen.

Some feedlots pay premium prices for weaning and slightly older calves that eventually finish off quicker and cheaper in the feedlot. In addition they fulfil the increasing domestic demand for lighter carcasses with smaller cuts.

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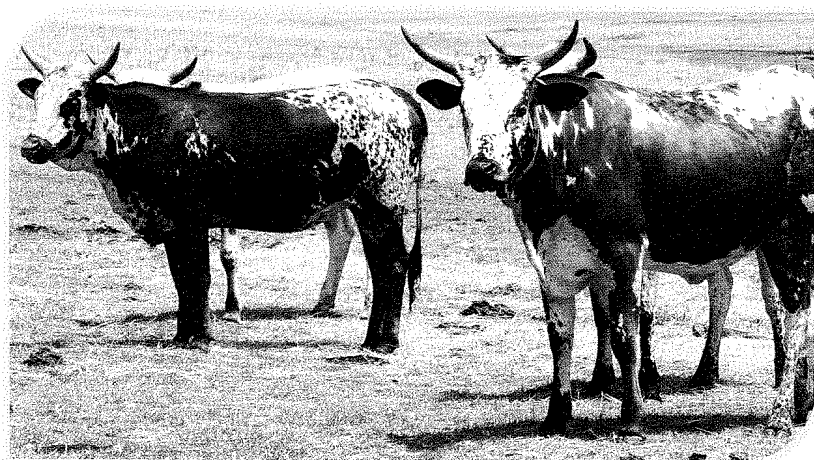
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