

Beauty with Purpose

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The Ankole horns knock together with the tone of African drums, whilst they move through the land with the rustle of a veld fire. They are intelligent, fertile, adaptable, built to survive and thrive in the harshest of African climates. They are proven to stand the test of time and are rightfully called the cattle of the ages.

A trademark of the Ankole is their contrasting half crescent-shaped ivory white horns that halo their heads like crowns. The gentle slope inwards and the angle of the horn is perfectly in balance. The collection of these crescent-shaped horns gives the "Ankole effect" of a wall or sea of horns when they group closely together and is positively selected for by Ugandan farmers. The structure of the horn curving up has a low centre of gravity which allows them to carry more horn mass and weight with energy efficiency.

Their horns are used for display, fighting, protection, social hierarchy, thermoregulation, communication and even for the function of breaking branches which enables browsing during drought. Ankole cattle share the traits of strong maternal, paternal and family bonds of their originators.

The bright white horns and dark deep red coat highlights a contrast that is intimidating to predators. Ankole have noticeably exaggerated nodding of the head, along with a concertina-like body motion and rocking gait which aids in their energy efficient movement.

Their bodies are narrow with a small surface area exposed to the sun, fine bones enable a light bone, compared to muscle ratio, a high shoulder height, high hips with an exceptionally long body and legs, which enables them to take considerable strides,

allowing the Ankole to cover large distances with less effort. Their sloping rump facilitates the ease of calving. These cattle can gain weight if conditions are favourable and lose weight when necessary in order to conserve energy in "survival mode". The ideal 45 degree angle of their half crescent horns, allows for a low centre of gravity which enables them to carry large horns with relative ease.

Other environmental adaptations, which make the Ankole breed so well suited to so many areas of the country, include the ability to utilise lower quality feed, to walk far distances for food and water and to resist insects and external parasites whilst withstanding vast climactic differences. They also have the ability to reproduce on a regular basis in a stressful environment and do not show any effect from extremely high temperatures.

An abundance of loose skin and dewlap aids in its ability to withstand warm weather by increasing the body surface area exposed to cooling. A factor which contributes to the Ankole's unique ability to withstand temperature extremes, is a short, thick, glossy hair coat which reflects much of the sun's rays, allowing them to graze in midday sun without suffering.

In colder weather the skin is contracted, increasing the thickness of the hide and density of the hair, which aids in retaining body heat. They can grow



a protective covering of long, coarse hair beneath, where a dense, downy, fur-like undercoat can be found.

The Ankole cattle are best adapted to semi-arid conditions. Information available on the website of the Pastoral Environmental Network in the horn of Africa, also maintains that the Ankole can endure seasonal movement and do not require expensive investments in water points, veterinary or extra supplementary care, making it the backbone of the pastoral economy. In a report it was noted that during the long drought spells some farmers who had kept their hardy Ankole breeds, survived as they were able to walk the long distances to water sources, whilst those who had traded the Ankole for imported breeds lost their entire herds.

Ankole have been reported to be able to go without water for 3 days and food for 5 days. The low water needs and feed survival abilities have allowed them, as a breed, to not only survive for centuries in Africa, but also become established in Australia, Europe, North America and South America. The Ankole breed easily surpasses other breeds in longevity and fertility into later years, with their average lifespan of over twenty years. It has been recorded that cows can live to thirty years and have over twenty five calves. With the treatment of

herbs by the Ugandan people, the Ankole are able to live long healthy lives. Their horns made them easily traced by Ugandan cattlemen in the thickets. Ankole has been known to have the intelligence and ability to hoard milk when milked by people, and only allow their calves to feed.

Their tolerance to extreme drought, heat, direct sunlight and disease makes them the uncontested, most hardy cattle on the planet. Long hollow honey combed horns are the enlargement of their nasal cavity. They are filled with blood vessels used during thermoregulation. The cows have a small, tight udder that would not be an easy target for predators or thorn bushes, yet they produce milk to nourish their young, which tests out extremely rich milk off-takes, which is much higher than any other indigenous breed in pastoral systems.

The calves are observed to be especially alert and are capable of running along their mothers and the herd within a short time after birth. These cattle are highly social, preferring to stay in a group for company and protection. At night they tend to form a circle with adults lying on the outside, horns out to protect the calves located in the inner circle. The calves will hang in nursery groups by day but always in close proximity to at least one adult and when frightened will instinctively run in front of the horns of a retreating mother or under her belly for protection.

One theory on their horn function is that animals in colder climates with higher latitudes and altitudes tend to be bigger in body size because overheating is less of a factor. Bergmann's rule states that in general a more massive animal has a lower surface area to volume ratio, a bigger animal radiates less body heat per unit of mass and therefore holds higher body temperatures and can therefore suffer from heat stress. This means Ankole cattle can comfortably handle their massive body sizes of over 900kg in bulls and over 600kgs in cows in 40 degree heat because of the thermoregulatory function of their horns.

The whole genome scan revealed the genetic signature of these Sanga longhorn Ankole cattle and their potential for higher quality beef. The study has reported that Ankole produce better quality beef with lower shear-force, larger soluble collagen, shorter myofibrillar fragment length, higher percent drip-loss and larger rib-fat thickness. Results from the genome scan showed several positively selected genes involved in different biological and cellular functions, including those

