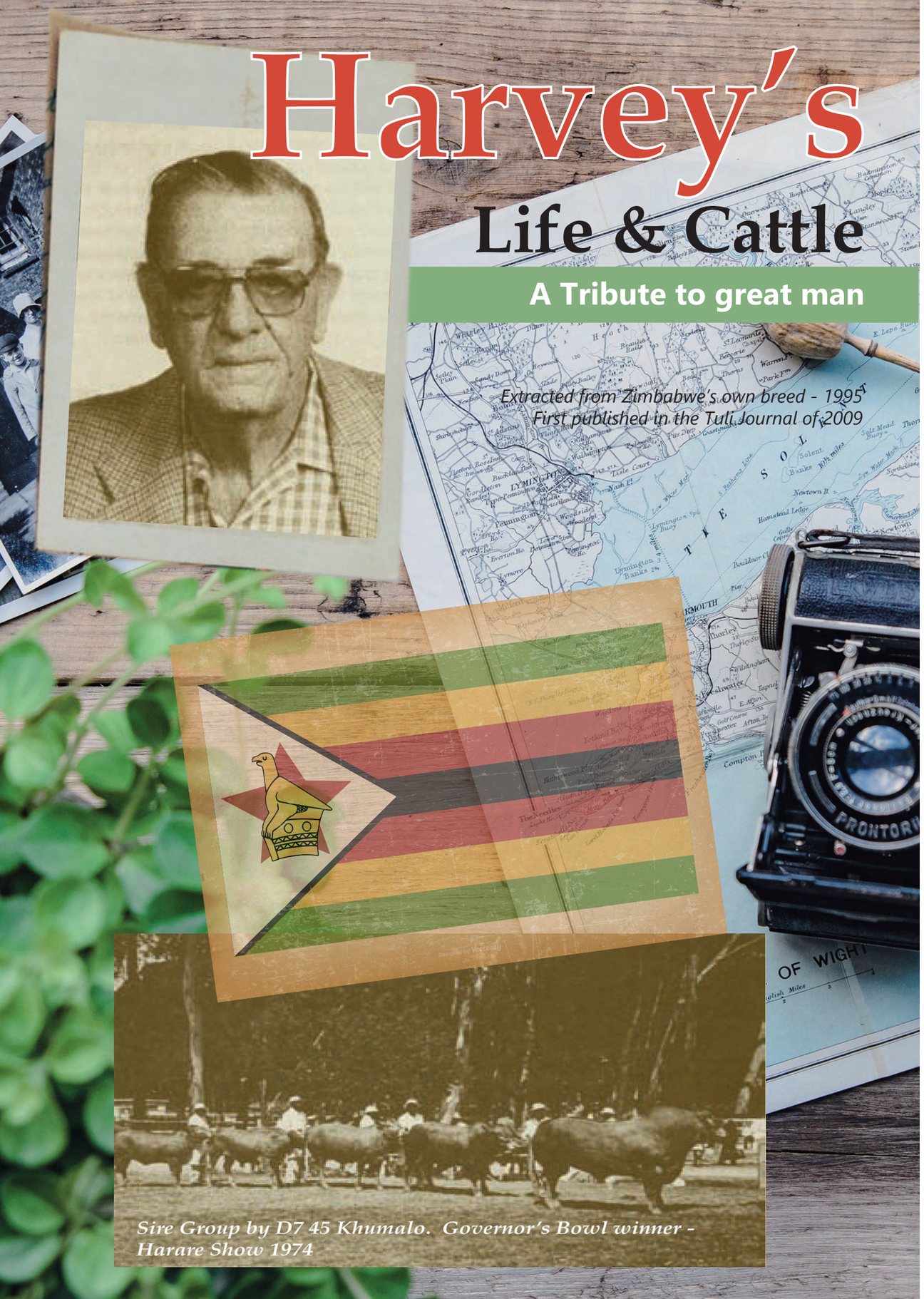
Harvey's Life & Cattle

A Tribute to great man

Extracted from Zimbabwe's own breed - 1995
First published in the Tuli Journal of 2009



Sire Group by D7 45 Khumalo. Governor's Bowl winner - Harare Show 1974

Len Harvey's lifelong interest in cattle and his personal commitment to improve their livestock was the driving force behind the development of the Tuli breed.

As a young man, employed in the Ministry of Internal Affairs, as a Land Development Officer, Harvey took particular notice of the different types of indigenous cattle presented for dipping in indigenous areas, and with the help of his legendary eye memory for cattle he noticed a particularly outstanding type which he believed, with careful selection and good husbandry, could be improved and could then be put back into indigenous areas and used to upgrade the quality of the livestock there.

Stock Improvement Programme

At the time when Len Harvey's idea of improving and multiplying superior indigenous cattle began to take to shape, there was a Stock Improvement Programme in existence run by the Department in which he worked. The Programme concentrated on making available bulls of various imported European breeds, bought from commercial farmers, to the indigenous herdsmen. Harvey was doubtful of the benefits of this scheme. The bulls being supplied were not, in his opinion, at all suitable for the extremely harsh environment into which they were being introduced. Also, as the bulls were shared between a number of farmers with no one person responsible for them, they were often neglected. Unable to stop growth under conditions of draught and stress, the Taurus breeds grew themselves to death.

As a viable alternative to the existing Stock Improvement Programme the idea of an improved indigenous breed seemed obvious to Mr. Harvey, and with this in mind he started taking note of particularly good herds and bloodlines among the indigenous cattle he saw, while forming ideas of which features were most important in the difficult environment of Southern Rhodesia. The golden yellow, beefy cattle which he felt would do well if selected, properly bred and looked after are the parents of the Tuli breed today.

Being in a relatively junior position in the Ministry it took four years for Harvey to get his idea through to those that allocated the already existent Stock Improvement Budget. Once they had accepted his idea and money was made available for the purchase of cattle the next step was to get some land. In 1945 the project was allocated a piece of crown land near Gwanda and the dream started to become reality: the project was finally underway.

Getting Started

Now Harvey could go out and buy the cattle he needed for the project, which he did by first finding the appropriate cattle, then talking to the owner and encouraging him to take the cattle to the open cattle sales where he would buy them.

The sales were organized by the indigenous department and the Cold Storage Commission were always there as the residual buyer, and here Harvey, over the months that followed, bought the cattle for this "Mother" herd.

Heat resistance, a good constitution and fertility were some of the things which Harvey looked for in the original parent cattle. He looked not only at the constitution of the cow but also the calf he looked at various conformation characteristics, particularly legs, feet and udders. Through careful selection for fertility initially and later through the culling of any cow that did not calve every year, Harvey managed to achieve a 96% calf drop each year for ten years once his herd was stablished.

Background

Len Harvey was born in 1916 on a farm near Bloemfontein in the Orange Free State, South Africa, and it was here his lifelong interest in cattle started. Although he had grown up on a dairy farm, the long hours and hardships associated with dairy at that time put him off dairy for life. While milking the cows by hand, loading milk cans on the cart and driving the milk into Bloemfontein, the young Mr. Harvey had plenty of time to decide that there must be an easier way to make a living!

In 1938, twenty two year old Len Harvey came to Rhodesia on a three month holiday. During that time he was offered employment in the Irrigation Department to work in the Lower-Gwelo area. He decided to take the job, and having reported to the immigrations department that he would be staying, he never again left the country. He brought his young fiancée, Beryl, up from South Africa and they were married soon afterwards.

Len Harvey's first job consisted of looking after conservation in the Indigenous areas around Gwelo, supervising the building of small dams and trying to build up the underground water reserves. For the first three years the newlyweds lived in tents, moving around where the work required: Bilingwe, Shabani, Gwanda pegging contours, supervising gangs, starting up contour ridging.

Len Harvey's ability to find water earned him the indigenous name "Nyati Ngurta" – the buffalo that goes ahead.

During this time three children were born, but the family's demands must have been small, as Harvey claims he saved up one hundred pounds during the first year, despite receiving a salary of only nineteen pounds a month. In 1942 Harvey was transferred to Salisbury on conservation work, and for the first time the growing family moved into a house.

After a year in the capital Harvey had had more than enough of city life and asked to be transferred to Gwanda to concentrate on the work that really interested him, his study of indigenous cattle. A house was built at Tuli and in 1949 the family moved out there. Here a third son was added to the two sons and a daughter and the family was complete.

Life on the Station

In around 1950 it was decided to develop the Tuli Breeding Station as a station to serve the whole Lowveld area and Mr. Harvey could devote all his time to his work here as he was promoted to Officer in Charge of the Indigenous Department of Agriculture at Gwanda. Until this time Harvey had run the Tuli cattle as a sideline to his work as a Land Development Officer.

Len Harvey and his cattle stayed under the jurisdiction of the Indigenous Affairs Department after his department split from the Irrigation Department. For a short time they were transferred to the Department of Research and Specialist Services, both the bureaucracy, close supervision and competitiveness in a technical department did not suit Harvey's temperament at all and he took three days off to go and see his superiors in the capital and ask to be transferred back to the Department of Indigenous Affairs, which, much to his satisfaction, he soon was. Here he was left more or less to his own devices, with a minimum of supervision and interference, and he could concentrate on the task of improving his herd of Tuli cattle. There were occasional visits from Head Office, both those who Harvey found too interfering were soon sent packing and generally the interest shown was →

friendly interest from people who understood and appreciated the work being done. As the word spread about the developments at Tuli, visitors became more frequent, field days were held regularly and always well attended and many interested cattlemen, both locally and from abroad, popped in to see what the latest development were and how the Tulis were going from strength to strength.

The very strict selection for type and beef characteristics were coupled with what mounted to virtually hand breeding each of the three hundred cows and heifers to the sire Harvey thought most suitable and progress was rapid.

As one well-known and highly respected Zimbabwean cattleman, the late Ian de lae Rue, once wrote "Remarkably, within one decade of the development of the Tuli they were winning block tests at our major agricultural shows against all comers. "Good genetic material....Yes!" But rather a sad thought that after 300 years of intensive breeding practices with Bos Taurus, Sanga was able to catch them up in ten!

After a few years at the station Harvey started to put a few of his cattle on the Bulawayo Show, including three steers in the block test competition. This particular competition, the Tulis won nine years in a row. In 1976 he went to Salisbury Show where again he won the block test. During his years at Gwanda Len Harvey used the national show circuit as a way to compare the cattle he was developing with the other breeds in the country and spent two months of the year going from show to show, usually winning carcass competitions and block tests.

Though he had planned that the cattle be for communal farmers Harvey was delighted when commercial farmers started to show an interest, however when they wanted to call the breed Harvey's Cattle, the ever-modest Mr. Harvey said "no", they should be named after the Tuli River, as not only was this the area the herd has been established in, but they were the colours of the dust of that river.

One of those cattlemen who enthusiastically supported the developing breed was the man who became the first President of the Tuli Society, Broncho Greaves,. He was an Afikaner breeder who had heard about the work taking place at the Tuli Breeding Station and one day when passing decided to pay the station a visit. He was so taken with the cattle that he decided there and then to purchase two bulls which were subsequently sent up to his farm at Nyamandlovu. Two years later Len Harvey was invited to visit the ranch and was shown a crop of fity calves, progeny of the Tuli bulls, on the fifty best Afrikaner cows. All were yellow and ninety percent were polled. This dramatic result, completely changing the Afrikaner line he had worked so many years to perfect was enough to convince Broncho that Tuli was the breed for him.

Len Harvey left Gwanda, and the Tuli Breeding Station in 1978. He retired after forty years with the Indigenous Department but was kept on for two years in an advisory capacity by the Tribal Lands Development Corporation who had by that time taken over the running of the station. Not long after the Harvey's departure from Gwanda the unrest in that part of the country forced the movement of the Tuli herd from the Tuli Station to Matopos Research Station, near Bulawayo where the original herd still remains today.

After two years in the Bulawayo area Mr. Harvey and family moved to the Lalapanzi area where he started off by leasing a 3 000 acre farm which he later bought. The pension he was given on retirement was used to buy two of the best bulls on the Tuli Breeding Station's Annual Sale. He later bought another two, while he bought female stock from commercial breeders and soon started to build up his own herd. Len Harvey then continued to advise his youngest son Bryan, who later on ran the farm and the biggest Tuli herd in the country at that time, and who also became the Chairman of the Tuli Society. Δ

Stamboek gelukwensing

SA Stamboek is 'n vereniging van meer as sestig Telersgenootskappe en wat ook optree as Registrerende Owerheid volgens die Diereverbeteringswet.

Elke Telersgenootskap vervul 'n unieke rol om rigting te bepaal en om te sorg dat daar 'n volhoubare toekoms is vir sy unieke ras. Die totstandkoming van die Tuli Beestelersgenootskap 25 jaar gelede was 'n besondere mylpaal vir vleisbeesteling, veral vir hierdie kontinent. Afrika is geseënd met 'n wye verskeidenheid beesrasse wat deur jare se seleksie deur die natuur en die mense wat na hulle omgesien het gevorm is om die plaaslike omgewings- en produksie-omstandighede die beste te kan benut. Die Tuli ras is 'n baie goeie voorbeeld hiervan.

Die entoesiasme en toewyding waarmee Tuli telers, en die Raad in besonder sorg dat die wetenskaplike ontwikkelings deel vorm van seleksie- en telingsbesluite getuig ook van visie vir die toekoms van die ras. SA Stamboek is trots om geassosieer te wees met die Tuli ras en die Genootskap.

Baie geluk met die besondere mylpaal en vir die wonderlike ras waarmee die Tuli telers boer. Mag die volgende 25 jaar die sukses van die eerste kwart eeu oortref.

Japie van der Westhuizen:
Hoofbestuurder, SA Stamboek

Stalwarts

OF THE TULI CATTE BREED SOCIETY IN SA

Charl van Rooyen

Personally I think that second to Len Harvey, the two people who played a major role in the development of the Tuli in South Africa is without doubt, Stephan and Carmen Welz.

The first time I met Stephan (about 10 years ago) I was impressed by his personality, wisdom and general knowledge, not only art, but that of people in general.

I remember having lunch with the Welz family and proffessor Bill Holoway from Texas A&M in their Parktown home in Johannesburg. During the lunch (and some of Stephan's best wine) we could discuss various aspects around cattle breeding in Texas and South Africa and lastly the future of the Tuli.

Gedurende 2003 begin die LNR 'n navorsingsprojek met die naam "Beef Profit Partnership Project". In 'n brief aan die Tuli telers lewer Stephan 'n pleidooi aan lede om Tuli ossies of bulletjies te skenk vir die projek. Volgens my inligting was Stephan die enigste lid wat bulletjies geskenk het.

Maar in die hele ontwikkelingsproses van die Tuli was daar natuurlik 'n steunpilaar in die agtergrond by name Carmen Welz. Die rol wat Carmen gespeel het was beslis merkwaardig. Die verwysing wat ons dikwels hoor is "Agter elke suksesvolle man staan daar 'n dinamiese vrou". In my kort tydjie by die Tuli's was dit nog altyd my indrukke van Carmen Welz, die vrou van die wêreld bekende Stephan Welz.

Nadat ek jare gelede twee dae by hulle op die plaas tussen hulle Tuli stoet spandeer het, en onlangs byna 'n dag saam met Carmen in haar huis in Johannesburg waar ek deur bokse en bokse en 'n klomp lêers geblaai het. (Eintlik moes ek blaai en lees.) Deur al hierdie prosesse het ek Carmen Welz beter leer ken en haar geweldige passie vir die Tuli ras.

Baie van ons nuwe of jonger telers weet nie veel van haar nie of ken haar nie baie goed nie. Sake wat dringende aandag geverg het, wou sy so gou as moontlik afhandel.

Met die stigting van die Tuli Klub in Suid-Afrika gedurende 1993 het Carmen opgetree as die nie-amptelike sekretaris van die klub. Sy het nie net sekretariële werk gedoen nie maar was gedurig besig met "navorsing". As sy iets waargeneem het in die ras soos bv. 'n klou-probleem het sy onmiddelik begin om in Suid-Afrika maar ook oorsee by universiteite en navorsers meer inligting oor die probleem in te win.

As jy sou "probeer" om haar Tuli argief deur te werk (wat jou 'n paar maande sal neem) kom jy agter die groot hoeveelheid korrespondesie wat sy met verskeie instansies, lede en die Zimbabwe se telers meegevoer het.

Die werk wat sy en Stephan gedoen het om destyds in samewerking met die Zimbabwe se telers die eerste Nasionale veiling van Tuli's te reël, het enorme werk en voorbereiding geverg. Al die Tuli's van Zimbabwe moes verkoop word want hulle kon nie teruggaan oor die grens nie.

Weereens was Carmen en Stephan die groot rolspelers in hierdie massiewe reëlings en organisasie.

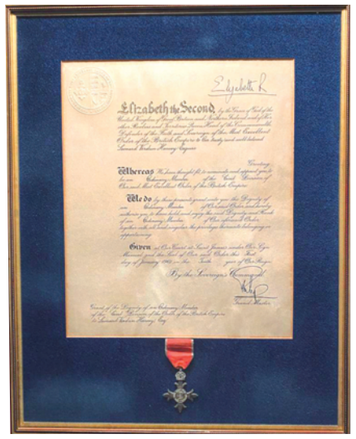
Die tyd en beperkte spasie laat my nie toe om meer oor Carmen se doen en late te skryf nie, maar ek hoop hierdie klein gedeelte oor haar werk en entoesiasme sal vir elkeen insiggewend wees. Δ

Celebrating 25 YEARS of Tuli Cattle in South Africa

Margi Harvey

At the heart of the story of Tuli cattle is the story of the Harvey family who are proud and entrepreneurial businesspeople and philanthropists. From the early 1940's when Len Harvey established a new breed of cattle that put Zimbabwe on the world map, generations of Harvey's have been inspired to go beyond the call of duty to build legacies.

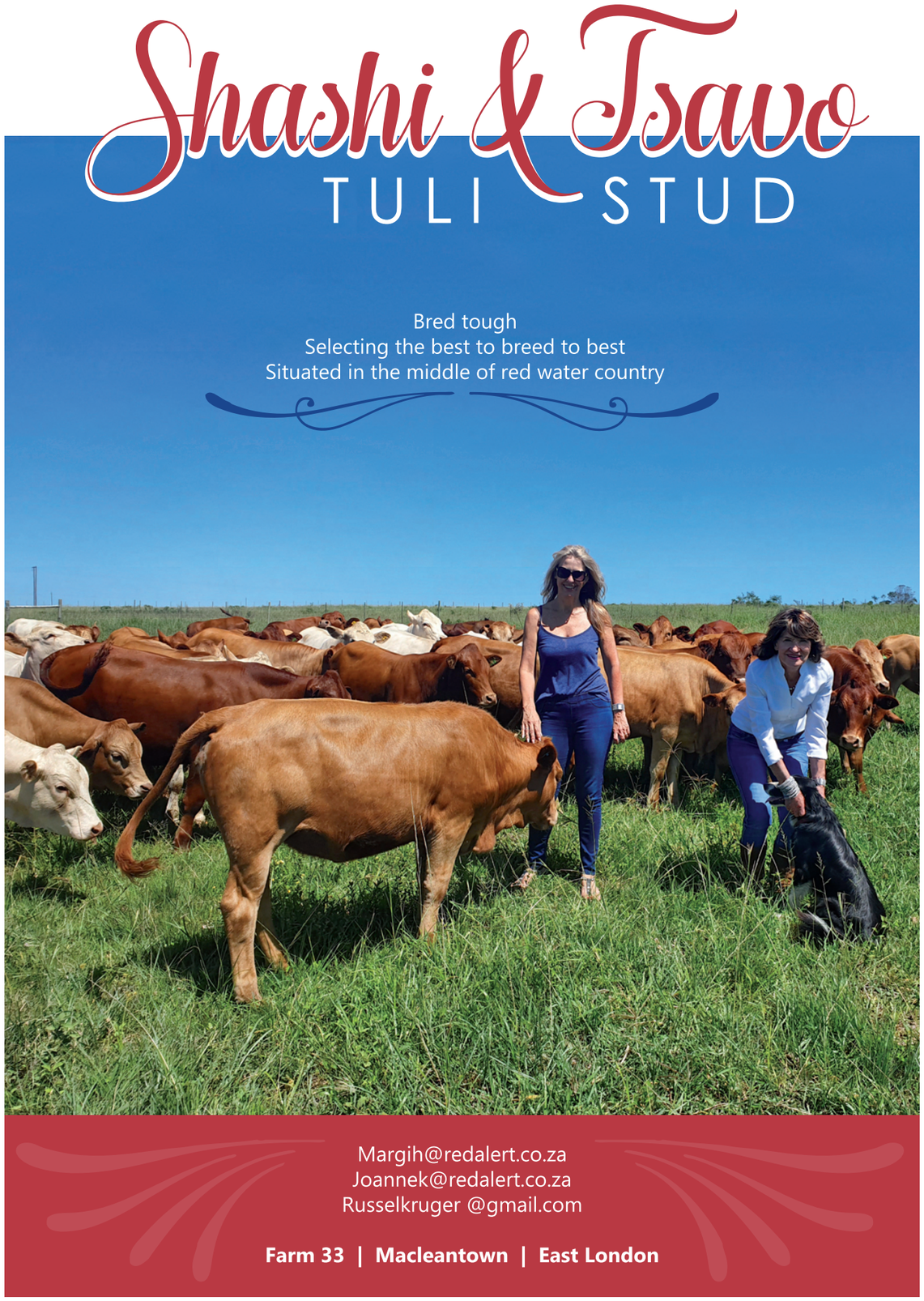
When Len Harvey convinced the Rhodesian government to invest in a breeding program that would improve the indigenous cattle through a process of selection, history was being made and the famous Tuli breed came into being and was registered in 1955. In 1962, Harvey's important contribution to agriculture in Zimbabwe was acknowledged with a Master of the British Empire (M.B.E) awarded to him by the Queen. In 1969, the Tuli breed were granted Freedom of the City of Bulawayo when six grand bulls led the parade through the centre of town, preceded by pipers!



Len Harvey - Order of the British Empire

Today, the Harvey family, specifically Mrs. Margi Harvey, Chairperson of Red Alert Service Solutions and proud Tuli cattle farmer, pay tribute to their rich heritage with their own Tuli farm in the Eastern Cape. Her daughter, Joanne is also passionate about the cattle and together they are expanding the herd with pride.

The Harvey family takes great pride in their legacy that is so intertwined with the breed and are delighted to celebrate the occasion of the 25th anniversary of the Tuli Cattle Breeders Association in South Africa. Δ



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LANGTERMYN
KLIMAATSVOORUITSIGTE

Johan van den Berg Santam Landbou

Droogtes en vloede (of baie nat toestande) is deel van die klimaatsgeskiedenis van Suid-Afrika. Daar bestaan eintlik nie so iets soos 'n gemiddelde of "normale" jaar nie en is dit slegs teoreties deur die gemiddelde te bereken tussen die uiterstes van óf baie nat óf baie min reën wat voorkom. Klimaatsverandering is 'n gegewe en dit beïnvloed die normale klimaatspatrone maar in terme van die bydrae tot die variasie in die klimaat wat die boer ervaar, is die normale wisselvalligheid wat inherent van die omgewing is steeds die oorheersende faktor. Om te verduidelik: Droogtes is inherent deel van die klimaatsgeskiedenis van Suid-Afrika. Klimaatsverandering kan 'n addisionele effek uitoefen op die intensiteit van droogtes. Die grootste bron van hoe mense droogte ervaar is dikwels meer 'n faktor van die mens self met sy gedrag, persepsies en verwagtings. Droogte is meer "normaal" as reën in baie gebiede van Suid-Afrika.

Alhoewel daar baie duidelike tekens van klimaatsverandering is in terme van temperatuur, is die verband met reënval nog baie onduidelik. Teoreties moet dit meer reën as gevolg van meer energie en dit lyk oor tyd asof dit globaal wel gebeur. Dit is egter die karakter van die reënvalneerslae wat meer bepalend is soos byvoorbeeld watter tyd van die seisoen dit reën (verskuiwing in reënvalpatrone), effektiwiteit van reënval wat saamgaan met die intensiteit van reënval en hoeveelheid reën per reënvalgebeurtenis, hoe gereeld opvolgreën voorkom asook lengte van periodes van min of geen reën tussen reënvalgebeurtenisse, wat nog nie uitgeklaar is nie.

WAAR STAAN ONS TANS?

Groot gedeeltes van Suider-Afrika ervaar al sedert ongeveer 2012 'n uitdrogingsiklus met ondergemiddelde reënval maar ook swak verspreide reënval binne die seisoene. Met gemiddelde tot bo-gemiddelde reënvaltotale en 'n goeie verspreiding oor tyd vandat dit begin reën het in Desember 2019, is die weerkundige droogte oor veral die sentrale tot oostelike gedeeltes van die land gebreek (genoeg reën) maar die landboukundige droogte vir weidingstoestande en die finansiële stand van boere kan dalk nog tyd vat om te breek. Met landboukundige weidingsdroogte word bedoel die produksietoestande waar die kumulatiewe effek van droogte oor 'n aantal jare veldagteruitgang veroorsaak het. Dit is veral die geval in die westelike en suidwestelike dele van die land asook aangrensende gedeeltes van Namibië. Opvolgreën, tyd asook goeie bestuur van veld en weidings sal krities wees om te sorg dat veldherstel plaasvind.

As daar na die langertermynvooruitsigte, dit wil sê vir die volgende paar jaar gekyk word, lyk dit asof die einde van die huidige uitdrogingsiklus bereik is oor groot gedeeltes van die land. Die klimaatsgeskiedenis wys dat agtereenvolgende jare van ondergemiddelde reënval meer die reël as die uitsondering is. Voorbeelde van agtereenvolgende seisoene met hoofsaaklik ondergemiddelde reënval oor die sentrale dele van die land (Vrystaat en Noordwes) is vanaf 1924/25 tot ongeveer 1938/39, 1963/64 tot 1969/70, 1978/79 tot 1986/87, 1989/90 tot 1994/95 asook 2011/12 tot 2018/19. So was daar egter ook agtereenvolgende seisoene met bogemiddelde reënval soos byvoorbeeld 1973/74 tot 1977/78, 1987/88 tot 1990/91 asook 2007/08 tot 2010/11.

'n Ander karaktertrek van die klimaat is dat die periodes van natter toestande korter is as die periodes van ondergemiddelde reënval maar dat die intensiteit van die natter seisoene meer intens is. As daar na die 5 natste seisoene vir byvoorbeeld die Noordwes Provinsie gekyk word in die afgelope ongeveer 60 jaar, was die natste seisoen 1975/76 met ongeveer 69% bogemiddelde reënval gevolg deur 1966/67 met 58% bogemiddeld, 1973/74 met 57% bogemiddeld, 1987/88 met 50% bogemiddeld en 2010/11 met 37% bogemiddeld. Daarenteen was 1991/92 die droogste met 44% ondergemiddelde reënval gevolg deur 1978/79 met 36% ondergemiddeld, 2006/07 met 33% ondergemiddeld, 1984/85 met 31% ondergemiddeld en 1969/70 met 29% ondergemiddelde reënval. Alhoewel die droogtes se afwykings kleiner is as die baie nat jare, is die kumulatiewe effek van agtereenvolgende droogtejare die groot probleem.

Die probleem uit 'n beplanningsoogpunt is dus hoe om die nat jare te benut om die droër jare te kan oorleef (en om steeds volhoubaar te boer en geld te maak). In Suid-Afrika se ekstensiewe boerderygebiede moet die kopskuif gemaak word dat droogte "normaal" is en bogemiddelde reënval die uitsondering. Dikwels word die fout gemaak dat indien beter produksietoestande voorkom, dit as die nuwe normaal beskou word en daarvolgens beplan word. Beter produksietoestande moet egter gebruik word om veldherstel te laat plaasvind en "foute" reg te maak. Daar moet gekyk word na faktore soos die tipe van boerdery, die regte tipe ras of selfs na die genetika binne 'n ras wat aangepas is vir beide goeie en swakker toestande en om voorsiening te maak vir die opbou van 'n voerbank asook kuddebou en veldbestuur so te beplan dat die regte hoeveelheid en kwaliteit diere beskikbaar is vir die volgende periodes van ondergemiddelde en bogemiddelde produksietoestande.

VERWAGTING VIR DIE VOLGENDE KLOMPIE JARE

Alle aanduidings is dat die Somerreënvalgebied van Suider Afrika in 'n natter siklus gaan inbeweeg tot ongeveer 2025 voordat die volgende periode van ondergemiddelde reënval kan voorkom. Kuddebou gaan nou begin plaasvind en teen ongeveer 2025 gaan daar weer groter kuddes wees voordat die volgende droër periode kan voorkom. Daar moet dus 'n fyn balans gehandhaaf word tussen kuddebou en hoeveelheid diere (beskikbaarheid van voer). Uit 'n telersoogpunt word die beste pryse behaal wanneer die kuddebouproses plaasvind en die aanvraag groot is (periode wat volg na 'n droogte) maar 'n laagtepunt wanneer die droogte se effek die beskikbaarheid van weiding en voer beperk en almal met te veel diere sit.

Dit is dus belangrik om in die baie onsekere klimaatsomgewing die regte langtermynbeplanning te doen. Dit lyk asof daar 'n draaipunt bereik is met beter produksietoestande en meer reën wat verwag word in die volgende paar jaar en dit moet die periode wees om voor te berei vir die langtermyn wanneer swakker toestande weer gaan voorkom. Δ

FOUR COWS

An explanation why beef cows may differ in production efficiency.

Japie van der Westhuizen
Hoofbestuurder, SA Stamboek

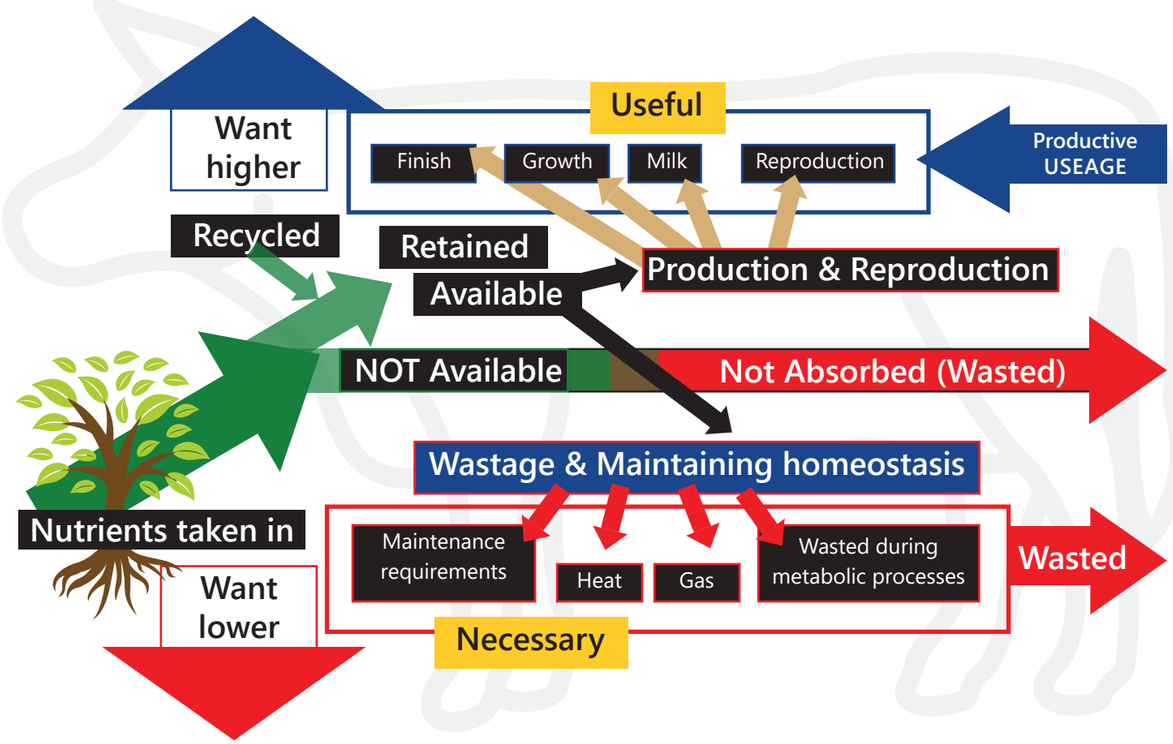
Beyond the joy that your favourite cattle breed brings, any sustainable livestock enterprise must rely on the productivity of the breeding cows. No two animals are the same, they all differ, even full sibs. There are many ways to judge which ones are there to carry the burden and which are only in it for the ride. One can even go so far as to simply divide them in different groups, according to their characteristics and how they respond on the physical and production environment they must reproduce and produce in. Irrespective of any decision in defining and describing typical differences, one should be aware that there are fine anatomical and physiological balances at play. A simplified division or grouping is therefore the result of complex sets of genetic differences that govern the anatomy and, more especially, the physiological processes leading to differences in response and even behaviour among animals on the same farm.

In the first place, cows differ in their ability to take in feed above own maintenance requirements. This can simply be due to an unknown inability, limited rumen capacity or because of being unable to properly adapt to environmental constraints, such as walking ability or ill adaptation to weather conditions. Limited intake means limitations in the available energy for productive processes as the major channelling of available nutrients will be for homeostasis (maintaining body functions).

Animals also differ in their ability to absorb roughage at macro level (in the rumen and rest of the digestive tract). It is known that grasses in the tropical and sub-tropical areas, for example, are less palatable and cause higher heat increments when digested. This, in turn causes slower passage through the digestive tract and more heat, raising body temperature in an already hot (and mostly humid) environment. This "negative spiral" causes ill adapted animals to lower their roughage intake even further with less nutrients (especially energy) available for production and reproduction. Ill adapted animals will even waste the available energy with behavioural patterns such as panting and therefore causing the downward spiral to accelerate (this also happens in extreme cold conditions to animals not adapted to those extremes). Well adapted animals will also have the anatomical (and possibly physiological) mechanisms to rid themselves more easily from an excessive heat increment and also not to be subjected to an additional heat load from the environment. These mechanisms are known to observers, namely, effective sweating (effective sweat glands per surface area, short and smooth hair causing sweat to evaporate directly from the skin, relatively big skin surface ratio to body area), adaptive behavioural patterns (like night time grazing), shiny skin or coat (smooth hair coat, well pigmented skin and sebum secretion), effective respiration (in relation to the heat caused by digestion or the metabolic processes) and even things like selective grazing.

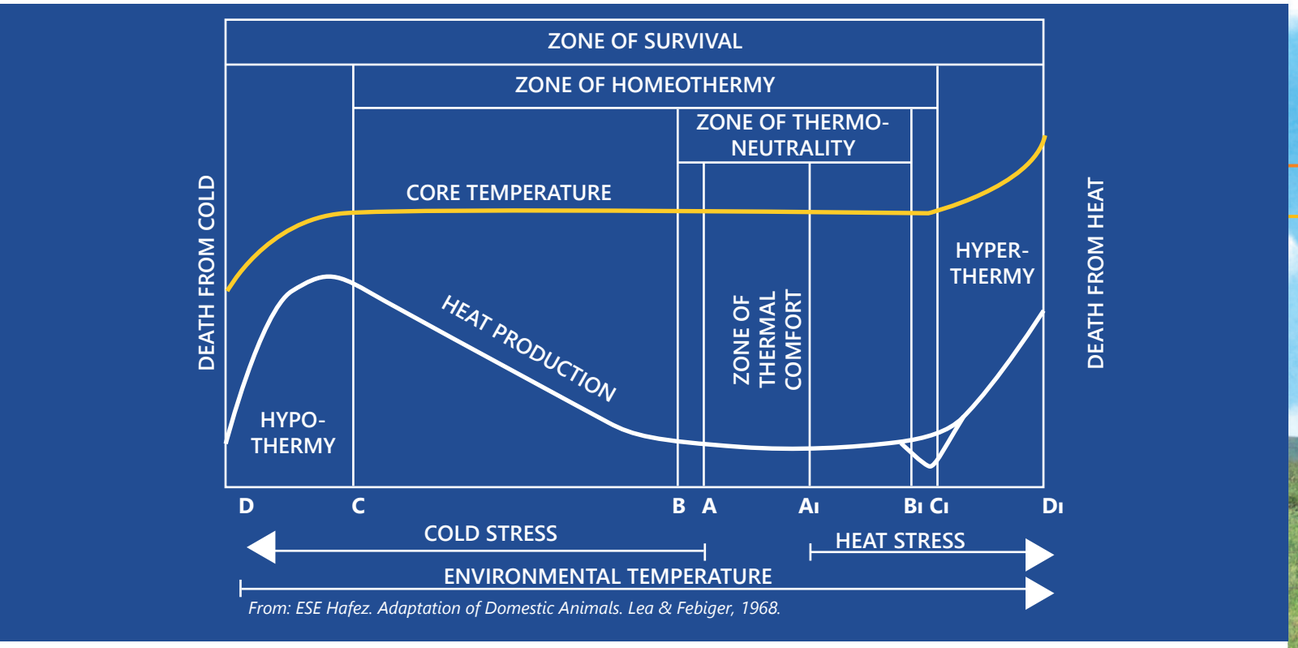
It can therefore be concluded that those animals not thriving under a certain set of environmental constraints will look different and also behave differently to the ones that do. These are the types of observations from pioneers like the late Professor Jan Bonsma that made the headlines and book chapters 40 to 60 years ago. The well-known diagrams of →

The following figure serves as a simplified illustration of the utilisation and channelling of nutrients (especially energy) in a productive beef cow.



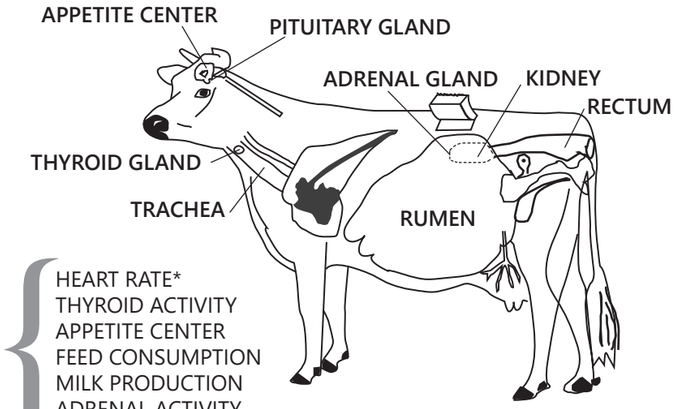
Professor Bonsma are still used by scholars and serious breeders and it is also amusing that this pioneering work is re-discovered from time to time by some. The following figures reflect the thought processes by these pioneers.

Simplified schematic representation of critical environmental temperatures and the zones embraced by them.



From: ESE Hafez. Adaptation of Domestic Animals. Lea & Febiger, 1968.

Main sources of heat production and avenues of heat dissipation in cattle.



HEAT PRODUCTION

1. RUMEN FERMENTATION
2. CELL METABOLISM
3. ASSOCIATED FUNCTIONS
   - HEART RATE*
   - THYROID ACTIVITY
   - APPETITE CENTER
   - FEED CONSUMPTION
   - MILK PRODUCTION
   - ADRENAL ACTIVITY

HEAT DISSIPATION

1. EVAPORATIVE COOLING
   - SURFACE
   - RESPIRATORY
   - ASSOCIATED FUNCTIONS
     - WATER CONSUMPTION
     - URINE AND FECES MOISTURE LOSS
     - METABOLIC WEIGHT LOSS*
2. NON-EVAPORATIVE COOLING†
   - CONDUCTION
   - CONVECTION
   - RADIATION
     - VASODILATION OR VASOCONSTRICTION
     - HAIR INSULATION*
     - RELATIVE SURFACCE AREA: *
     - EARS, APPENDAGES, ETC

* *ALSO INVOLVED IN OTHER FUNCTIONS*
† *ESTIMATED BY ANIMAL-AIR TEMPERATURE GRADIENT*

From: ESE Hafez. Adaptation of Domestic Animals. Lea & Febiger, 1968.

→

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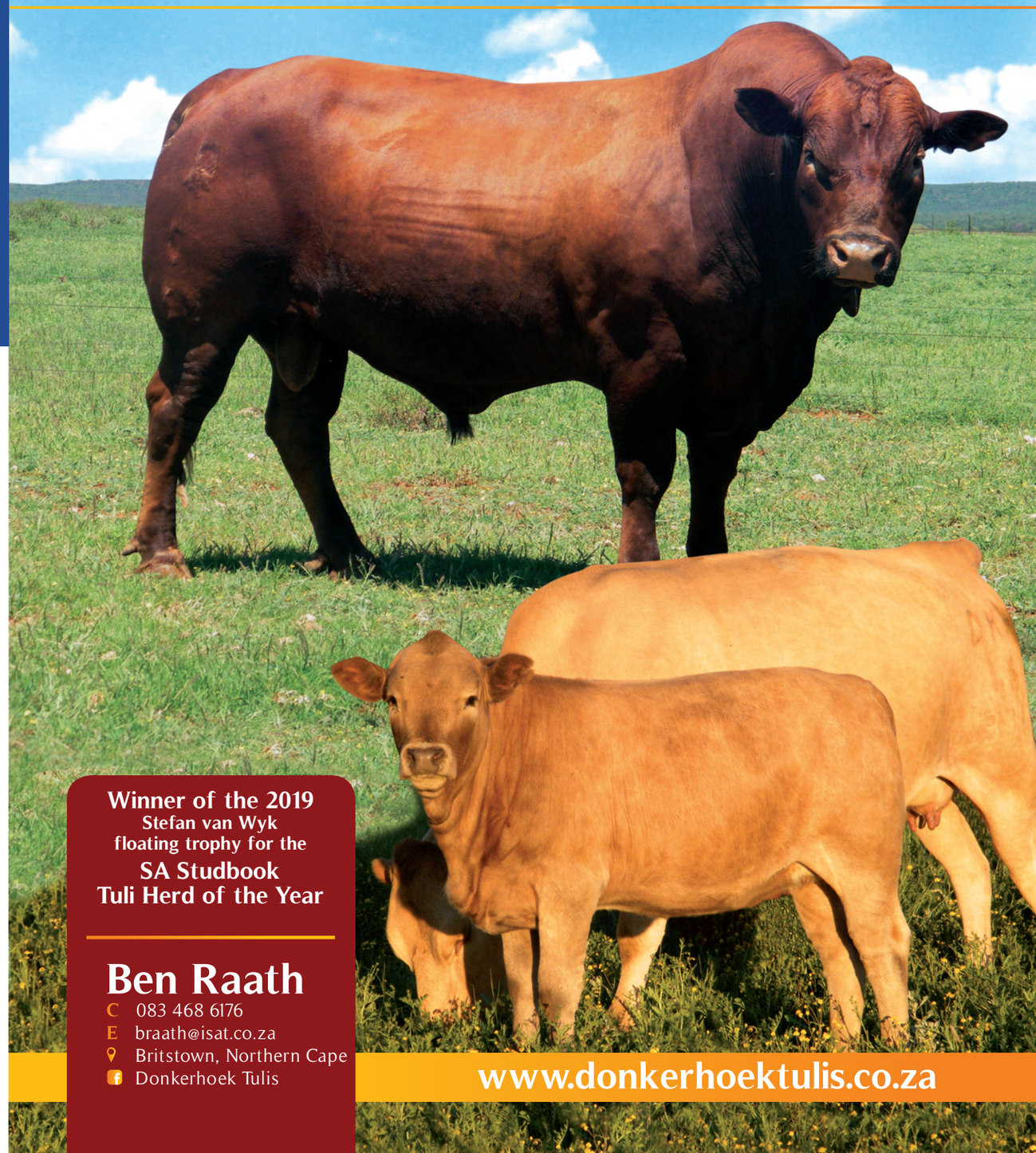

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GWK Veilingskompleks: **053 832 5227**
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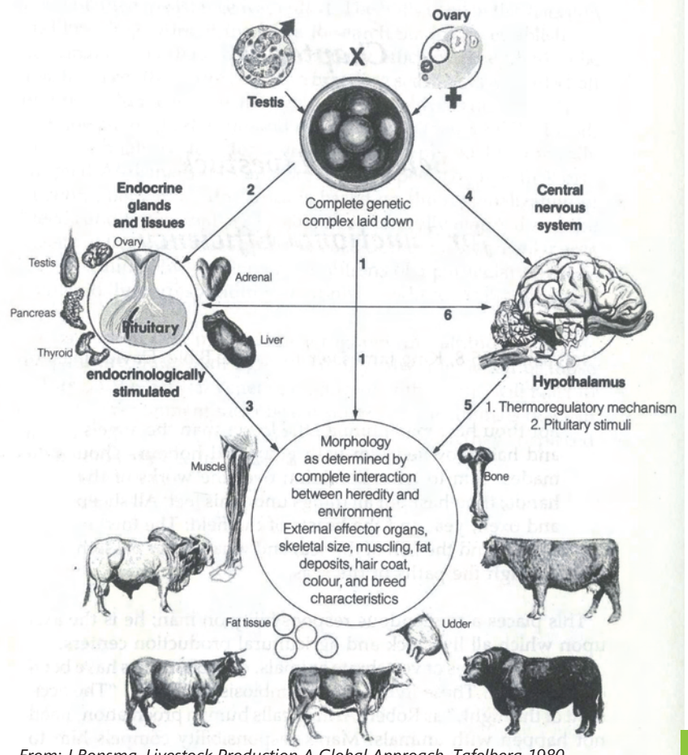
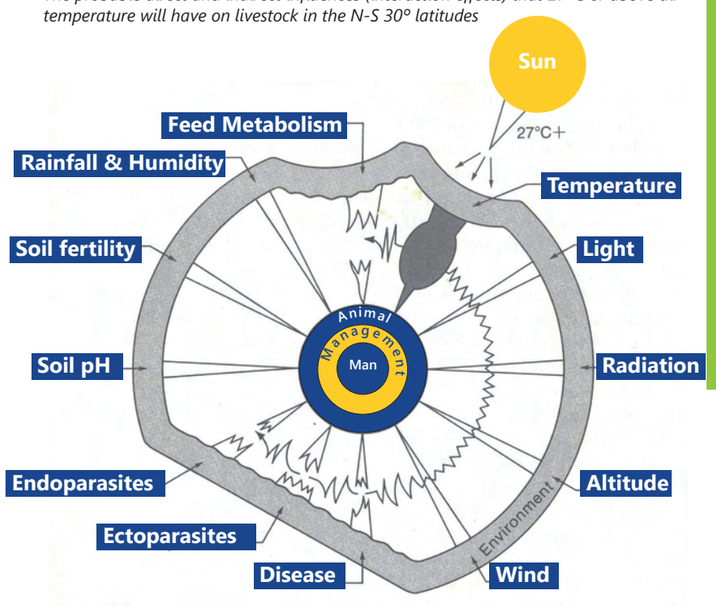
The interaction between genes and the phenotype. At the moment of conception the complete genetic potential of the animal is laid down. This determines irrevocably the potential boundaries within which the individual can function, perform or produce during its entire lifetime



From: J Bonsma. Livestock Production A Global Approach. Tafelberg 1980.

The probable direct and indirect influences (interaction effects) that 27°C or above air temperature will have on livestock in the N-S 30° latitudes



From: RE McDowel. Improvement of Livestock production in warm climates. WH Freemen and Company, 1972.

The conclusion is therefore that there is a genetic base causing animals to differ in terms of how they make use and respond on environmental factors and the available (feed) resources.

The next important genetic difference among cows is to be found in how they effectively make use of the available nutrients retained for production, reproduction and maintenance of body condition. As in the case of genetic differences in the percentage availability of these nutrient, the channelling of nutrients to these functions differ. These, sometimes unfavourable relationships are well described by the genetic correlations among traits associated with the utilisation of these nutrients (examples of genetic correlations among reproduction, milk/maternal ability, growth rate, maturity age/weight).

Simple solutions, such as selection for cow condition therefore negates all the known facts related to the availability of nutrients on the macro scale and genetic differences in channelling these nutrients for different functions.

On a more practical level ....

I was taught by one of the star students of the late Professor Bonsma, Dr Herman Venter. He concluded that good observers will recognise four types of cows in herds, irrespective of the production system or other constraints. Obviously, nothing in biology (nature) can be put in boxes or can by separated in very distinct classes as there will be a continuous or gradual change from one class to the next.

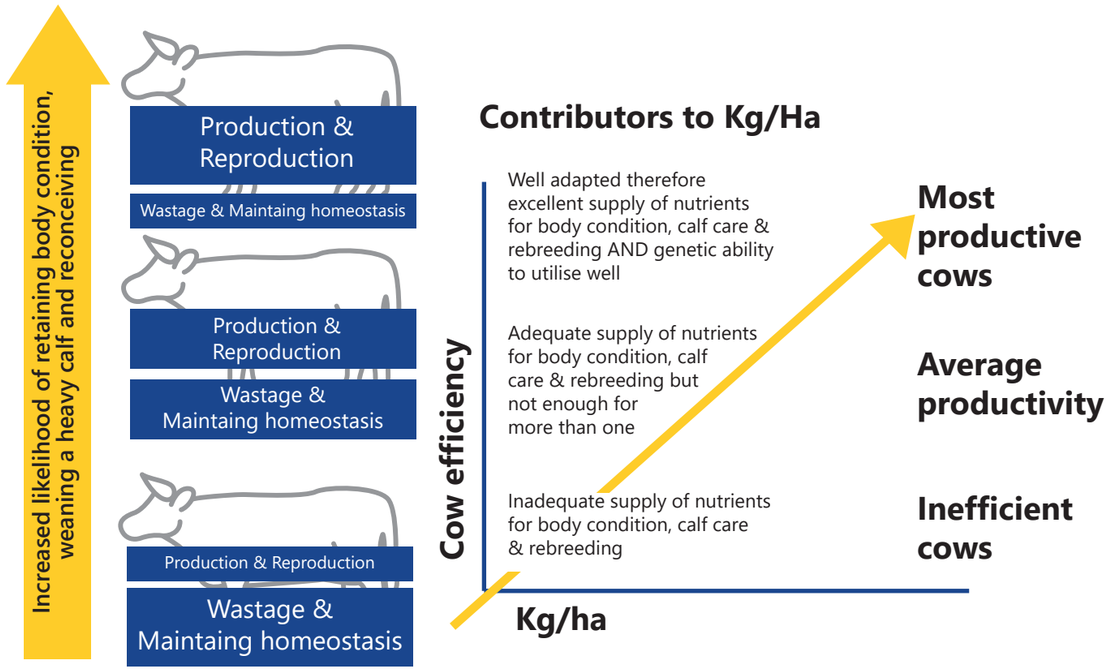
Nevertheless, the division can broadly be as follows:

1. Cow maintaining (or gaining) her body weight and/or condition and weaning a heavy calf.
2. Cow maintaining (or gaining) her body weight and/or condition and weaning a light calf.
3. Cow losing her body weight and/or condition and weaning a heavy calf.
4. Cow losing her body weight and/or condition and weaning a light calf.

Since female reproduction traits can be seen as the prime means of ascertaining suitability and adaptation to the specific set of environmental and management constraints (hence the terms "Natural selection" or even "Survival of the Fittest") and the dependence on body condition for rebreeding, cows in groups 1 and 2 are more likely to be in calf in the next cycle.

Selection for body condition alone will, however favour both these groups of cows, without any distinction. ⟶

These differences are illustrated in the next figure:



The bottom line is therefore to be wise and vigilant enough to observe the anatomical differences amongst the breeding cows and to use common sense to only select those or from those that are more likely to produce offspring that will thrive under the climatic conditions and production system favoured. It is also furthermore wise to record the traits that will contribute directly to profit, such as female fertility, mothering ability, pre-weaning growth rate and mature (maintenance) weight. The premise is furthermore that the very first traits that will point out ill adapted females, will be reconception. Selection should therefore concentrate on that. This will advertently lead to selection of well adapted progeny. By adding mothering ability ("milk") and pre-weaning growth rate, breeders and other beef producers are assured that breeding cows are more efficient in utilising the available nutrients effectively. Where there is fear that maintenance requirements might increase to levels that might lead to lower productivity or loss of adaptability, selection against high cow weight can be included the objectives.

Perspective

Based on the background, it can be concluded that any breeder and/or beef producer has two important tools in his or her arsenal to ensure that the brooding cows in the herd are more efficient, and more importantly more efficient cows will be bred. The first important tool is visual assessment, based on knowledge linked to functional efficiency. The second tool is to record traits of economic importance and to use methodologies that clearly point out the genetic differences among the selection candidates. It is known that phenotypes alone only account for a (sometimes small) part of these genetic differences that will be transferrable and therefore distinguishable in performance among progeny. BLUP breeding values is therefore a better tool to point out these genetic differences and should be used wisely as part of a selection objective, together with visual appraisal.

In selecting productive animals:

Visual appearance should count 100%

Genetic merit for traits contributing to productivity and efficiency should count 100%

AND

Measurement tools should not be confused with selection objectives. ▵

SEISOENSEFFEK OP ROOIVLEISMARKTE

Dawie Maree
Hoof: Inligting en Bemarking, FNB Landbou

Dit is alombekend dat Jan Publiek graag in die somer maande braai en dan spesifiek 'n tjop of steak eerder as 'n stukkie hoender, of daardie lekker skaapboud verkies vir die Kerstafel eerder as 'n gestopte kalkoen. Dit is dan juis hierdie voorkeur van die verbruiker, gekoppel aan die groei in besteebare inkomste, oor die laaste dekade of twee wat gelei het tot die groei in die rooivleisbedryf. Ongelukkig het die swakker ekonomiese omstandighede die laaste paar jaar daardie groei bietjie gedemp, maar die verbruiker se rooivleistande is nog nie heeltemal stomp nie.

Oor die algemeen is die speenkalfprys 'n goeie aanduiding van marktendense vir beesvleispryse in Suid-Afrika.
Figuur 1 gee die prys van speenkalwers, Klas A en C sedert April 2019 tot en met begin Maart 2020, sowel as 'n vooruitskatting vir April 2020. In normale jare is daar gewoonlik 'n styging in pryse in die somermaande en veral in aanloop na Desember. 2019 was egter die jaar van bek-en-klouseer, met die gepaardgaande verbod op veilings. Dit het geweldige druk op pryse geplaas, wat wel herstel het na die verbod weer gelig is.

Figuur 1: Beesvleisprys neigings

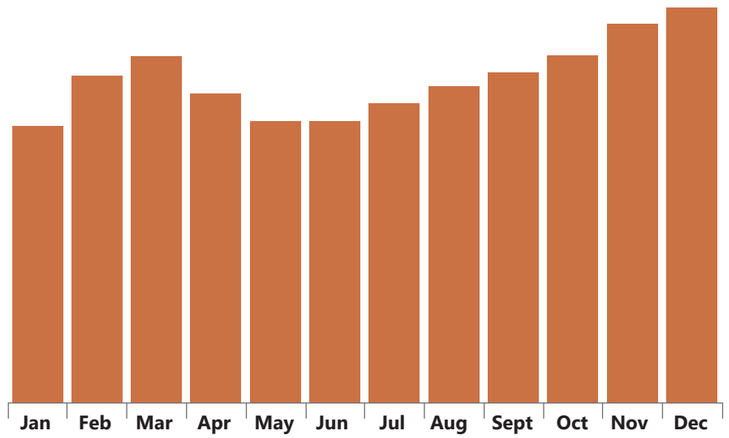
Onder normale omstandighede, wat insluit 'n normale produskie seisoen in terme van reënval en 'n groeiende ekonomie met 'n verbruiker wat sy dieetpatroon daarvolgens aanpas, behoort die vraag na rooivleis (en die prys daarvan) ongeveer soos in Figuur 2 te verloop. Die verbruik in Januarie behoort op sy laagste te wees aangesien die vraag laag is na afloop van die Kerstyd. Verbruikers sukkel gewoonlik die meeste in hierdie tyd en pas dan spandering daarvolgens aan. Februarie en Maart is weer in aanloop tot die Paasseisoen, wanneer verbruik van rooivleis weer effens toeneem.
In die wintermaande is vraag en prys tradisioneel op sy laagste, veral vir die tipiese hoër waarde braaisnitte. Verbruik neem dan weer geleidelik toe soos die seisoen verander en bereik 'n hoogtepunt in Desember – Suid-Afrika se braaimaand.

Uit die aard van die saak is die rooivleisbedryf, soos enige ander landboubedryf, uitgelewer aan die natuur en veroorsaak droogtes en ander rampe soos siektes, dat alles nie normal verloop nie. Soos reeds genoem het die uitbraak van bek-en-klouseer twee maal in 2019 'n geweldige impak op die vleisbedryf in Suid-Afrika gehad Die verwagting is dat pryse redelik gestabiliseer het, en waarskynlik weer 'n seisoenale tendens sal volg. Produsente is steeds besig om hulle kuddes op te bou en dus is die aanbod minder as normaalweg. Daar is egter produsente wat genoop sal wees om wel verkope te doen om finansiële verpligtinge na te kom. Op 'n sekere prysvlak vind daar ook 'n mate van verbruikersweerstand plaas en sal laasgenoemde eerder oorskakel na ander vleisprodukte, soos hoender en vark, of na goedkoper snitte. Speenkalfpryse sal dus nie ad infinitum kan styg nie en markkragte sal bepaal waar die nuwe ewewigsprys sal wees.

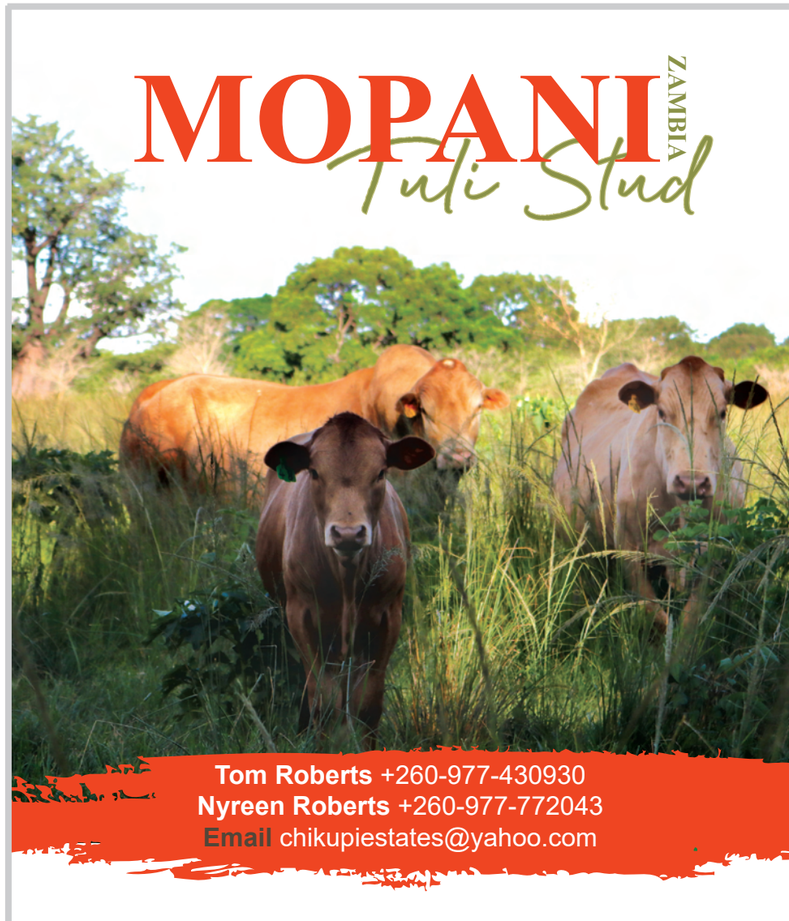
Dit is nou alles goed en wel, maar wat maak mens nou met hierdie inligting? Eerstens as produsent is dit belangrik om ag te slaan op hierdie seisoenale tendense. Dit is nie altyd moontlik om jou produksie stelsel summier aan te pas nie, maar indien dit wel moontlik is, kan munt geslaan word uit hoër pryse in die toepaslike maande. Produsente moet egter ook begin om weer 'n groter aandeel in die verbruikersrand te kry om seker te maak hulle kry die volle voordeel van die prysbeweging. Dit opsigself is natuurlik ook makliker gesê as gedoen, maar daar bestaan heelparty suksesverhale wat produsente kan ondersoek en navolg om te verseker hulle bly nie prysnemers nie. Die verbruiker aan die ander kant is natuurlik weer uitgelewer aan die kleinhandel en het self bitter min wat hy kan doen, maar slim aankope in hoë prys seisoene kan die verbruiker goed te pas kom. Vergelyk eers pryse voor jy sommer net koop, maar maak seker jy koop kwaliteitvleis, want niks is minder aangenaam as 'n slegte braai-ervaring nie.

2020 gaan 'n uitdagende jaar vir die rooivleisbedryf wees. Die verbruiker is onder geweldige druk met 'n baie lae ekonomiese groei wat baie maklik in 'n uitgebreide resessie kan omswaai as gevolg van die internasionale pandemie wat deur Covid-19 veroorsaak is. Suid-Afrika gaan nie die gevolge daarvan vryspring nie. Produksie omstandighede is baie egter meer gunstig as 'n jaar of wat gelede.

Dit is nou belangrik om slim te produseer, ekonomies volhoubaar te wees en nie onnodige finansiële risikos te neem nie. Δ



Figuur 2: Tipiese verspreiding



BEESBOERDERY: *Wat is die antwoord?*

Charl van Rooyen

Boerdery in Suid-Afrika is onder groot druk en boere vind dit moeilik om winsgewend te boer met beeste.

Daar is verskeie tye in mens se lewe waar jy bereid moet wees om aanpassings te maak en doelpale te verskuif en soveel te meer in die boerderybedryf.

Wanneer ons bymekaar kom rondom braaivleisvure gaan die mees algemene gesprekke oor droogte, aardverwarming en klimaatsverandering. Tot onlangs nog is daar gedink en geredeneer dat klimaatsveranderinge maar deur 'n paar navorsers uitgedink is, en dat dit mos nie regtig gaan gebeur nie. Op die oomblik weet ons miskien nog nie genoeg van klimaatsveranderinge en wat die uitwerking daarvaan gaan wees nie maar wat ons wel weet is dat dit beter beplanning van ons kant sal verg. Dus raak raskeuse al hoe belangriker vir die beesboer. Hitte stres en insetkoste gaan 'n groot verandering teweegbring ten opsigte van raamgrootte van beeste, produksiestelsels en die klem sal moet val op die mees winsgewende bees.

Ons sal verseker deeglike beplanning moet doen ten opsigte van die volgende:

Hulpbronne

Ons sal beter kennis moet hê van ons plaas se hulpbronne soos:

- Watervoorsiening en die toenemende inname van water deur beeste as gevolg van droogte
- Weiding (Die kruks waaroor beesboerdery gaan)
  Ken ek die grasse op my plaas en wat is hulle potensiaal?
- Weidingstelsel (Hopelik is daar een of ander stelsel waarvolgens u boer). Ons sal ook moet kyk na meer intensiewe beweidingstelsel.

Insetkoste

Insetkoste is die "killer" van boerdery vandag.
Dit is 'n maak of breek situasie.

Die vraag is hoe beperk ek insetkoste in beesboerdery?
As jy insetkoste nie kan kontroleer nie kan jy nie 'n bestaan maak nie.

Die vraag is seker waar begin jy, hoe maak jy 'n verandering?
Daar is seker baie maniere om te spaar, maar hoe groot impak gaan dit uitoefen op die winsgewendheid van jou beesboerdery?

Die Fabriek (Die Koeie)

Hoe identifiseer jy die doeltreffendste koeie in jou kudde?
Om mee te begin kan jy seker wees dat die mees winsgewende koeie gewoonlik die ouer koeie in jou kudde sal wees.

- Dit is koeie wat vir 12 jaar of meer elke jaar elke vereiste reg gedoen het.
- Koeie wat dwarsdeur die jaar met die minimum hulp (lekke en hooi) 'n sterk gesonde kalf sal speen.
- Doeltreffende koeie is daardie koeie wat jou omgewing en bestuur pas.
- Klimaatsveranderings verskuif jou dektyd. Meeste van die beesboere dek nou koeie vanaf 'n maand tot 6 weke later as in die verlede.
- Medium tot kleiner raam koeie is gewoonlik meer doeltreffend as grootraam koeie.

So die vraag wat ek afvra is, wat gaan ons doen om in besigheid te bly, want ons is tog daar om uiteindelik geld te maak. Daar is seker baie antwoorde en/of menings oor hierdie onderwerp.

As 'n praktiese veekundige en ook 'n boer wat die hele land deur reis lyk dit vir my asof daar dalk 'n paar antwoorde op die vraag kan wees.

Ultra Drukbeweiding

Hierdie stelsel is iets waarna 'n mens beslis kan kyk.
My mening is dat die stelsel veral in jou hoër reënval dele of jou meer semi intensiewe dele van die land beslis 'n rol kan speel of dalk 'n baie groter rol het om te speel.

Raskeuse

Hier raak ek baie delikate punte aan. Dit is amper dieselfde soos in die geval van watter rugbyspan jy ondersteun.
Ons moet aanvaar ten opsigte van raskeuse is daar baie sentiment betrokke en ooglopende probleme wat nie aangespreek word nie, Ek sal probeer om nugter na die hele aangeleentheid te kyk, maar ook wat ek ervaar van die Bosveld in Limpopo tot die Sandduine van Suid- en Wes-Kaap en die droë dele van die land. Daar is nogal 'n sterk oreenkoms tussen bakkies en beesrasse. Almal is deesdae redelik goed en die keuse moeilik.

Tuli

Ek wil 'n bietjie stilstaan by die Tuli ras.
Die leuse van die Tuli is "Die winsgewende veldbees" .
Wat winsgewendheid betref is speengewig nie die belangrikste faktor nie. Ander faktore wat 'n groter rol speel is die koei/kalf verhouding in jou kudde, vrugbaarheid (elke jaar n kalf) en die gemak van kalwing.

Tydens die afgelope droogte, met gebrek aan weiding, was dit vir my ooglopend om met my landswye besoeke aan beesboere te sien hoe die Tuli sy kondisie behou. Dit spreek van ongelooflike aanpasbaarheid, weerstand teen hoë temperature en raamgrootte van die Tuli.

Statistieke van die Tuli

Om die werklike veelsydigheid van die Tuli te bepaal ten opsigte van vrugbaarheid, vleiskwaliteit en veral marmering van vleis het ek gaan kyk na die SA Stamboek se Jaarverslag van 2019. Die twee tabelle aan die oorkant toon duidelik dat ten opsigte van bogenoemde die Tuli nie agteruit hoef te staan vir baie van die ander rasse nie. (Sien ook die tabel op bladsy 7 van die Presidentsrede.)

OPSOMMING

Die Tuli ras kan opgesom word volgens die volgende feite:

- Goed aangepaste ras.
- Lae koste bees: winsgewende veldbees.
- Doen goed in voerkrale. G.D.T. van 1,75 tot 2,5 kg word dikwels behaal.
- Poenskop eienskap
- Kalfgemak.
- Ideale raamgrootte
- Goeie vleiskwaliteit (Rib Fat Thick. Rump Fat, Eye Muscle).
- Uitstekende marmering. Marmering persentasie van 2.86 is Tuli die voorloper van die meeste beesrasse in Suid-Afrika.

On-farm testing results of bulls participating in Logix Beef Growth Tests between 01/01/2018 and 01/01/2019

Traits										
Breed - SA	Test end weight (kg) [Percentile]	ADG (g) [Percentile]	Height (mm) [Percentile]	Length (mm) [Percentile]	Skin thick (mm) [Percentile]	Scrotal Circ (mm) [Percentile]	Rib fat Thick (mm) [Percentile]	Rump fat Thick (mm) [Percentile]	EMA (mm^2) [Percentile]	Marbling % [Percentile]
Tuli	**383 [81%]**	**950 [87%]**	**1179 [54%**	**1375 [73%]**	**15 [60%]**	**308 [93%]**	**3.19 [58%]**	**2.35 [66%]**	**59.03 [66%]**	**2.56 [50%]**
A	595	907	1282	1597	12.3	330				
B	563	1726		1502	15.7	326				
C	427	1250	1205	1461	15.1	338				
D	476	1328		1458	15.7	341	5.23	3.04	74.7	3.04
E	421	965	1192	1432	12.6	368	2.54	2.2	59.67	2.31
F	440	1293	1215	1428	13.5	364	2.79	2.36	65.75	3.1
G	451	1177	1188	1426	15.7	346	8.03	4.06	77.23	2.85
H	410	1101	1174	1417	15.1	338	3.23	2.42	68.3	2.26
I	455	1280		1416	12.5	346	4.2	3.1	65.09	3.94
J	422	1438	1169	1406	15.7	348	5.46	3.17	72.02	2.67
K	389	925	1185	1383	14.3	334	4.22	2.78	64.9	2.72
L	410	1491		1367	14.4	343	4.08	2.96	61.09	3.02
M	370	1582	1130	1328	17.9	319	3.51	1.83	55.62	1.65
N	357	788	1162	1318	15.6	332	3.55	2.78	57.11	2.48
O	354	841	1169	1306	14.2	302	1.72	1.32	51.8	1.8
P	341	1538								

Comparing growth test an RTU measurements of the different breed types participating in Logix Beef.

Comparing Breed Types										
Beef Breeds	Test end weight (kg)	ADG (g)	Feed conversion Ratio (kg/kg)	Height (mm)	Length (mm)	Skin Thick (mm)	Rib fat Thick (mm)	Rump fat Thick (mm)	EMA (mm^2)	Marbling %
Tuli	**382**	**977**	**6.22**	**1179**	**1372**	**15.2**	**2.64**	**3.73**	**60.03**	**2.86**
All Beef Types	420	1375	5.96	1171	1405	15.6	3.1	5.24	69.47	2.67
Sanga Types	389	1032	5.63	1179	1379	14.7	2.79	4.24	63.51	2.65
Taurus Types	448	1364	5.51	1192	1429	14.7	2.93	4.23	65.12	2.72
Indicus Types	355	824	5.72	1171	1315	15.7	2.73	3.62	56.55	2.4
Composite Types	422	1414	6.04	1170	1406	15.7	3.18	5.53	71.09	2.67

Wat meer wil die beesboer nou hê in sy kudde? ▵