Tuli

Fertile, Profitable Veld Cattle
Vrugbare, Winsgewende Veldbees

Journal 2023

HBH
Tuli Stud

27th Annual Production Sale

Wednesday, 23 August 2023

Time: 12h00
On The Farm Denwood, Dordrecht
GPS: S31 28’ 22.53” E26 50’ 23.98”

Edward & Kim Clark
Cell: 082 573 0223
Home 087 550 1558
ed@hbhtuli.co.za

Russell & Ellen Clark
Cell: 082 925 5860
Home 087 550 1533
rtclark@adept.co.za

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Registered animals on offer at auction:

25 Bulls | **10** Open Heifers | **10** Pregnant Cows

By **Charl van Rooyen**

Technical Advisor, Tuli Cattle Breeders' Society of South Africa

A note from the *editor*

Ek dink die joernaal bly steeds 'n uitstekende manier om die Tuli-ras te bemark en bekend te stel aan 'n wyer gehoor.

Nie net word die joernaal gestuur aan al ons telers nie maar ook aan alle kommersiële boere op ons adreslys. Die joernaal is ook wyd beskikbaar by meeste uitstallings, Nampo, boeredae en koöperasies in dorpe waardeur beweeg word.

Die joernaal word geniet van die gewone boer tot kundiges in die bedryf.

Dankie aan al ons stoettelers en eksterne adverteerders, sonder julle advertensies is dit nie moontlik om elke jaar 'n joernaal te publiseer nie. Aan elke persoon wat n artikel geskryf het en bydraes gelewer het, baie dankie, ons waardeer dit.

After years of improving and investing in the Tuli breed, we are now reaping the rewards which are shown in the high demand for Tuli cattle at present.

I think the Tuli excelled as an ideal breed due to low input cost and its ability to thrive under extensive conditions in a variety of habitats.

Follow us on Facebook, visit our website or contact me for more information on Tuli cattle.

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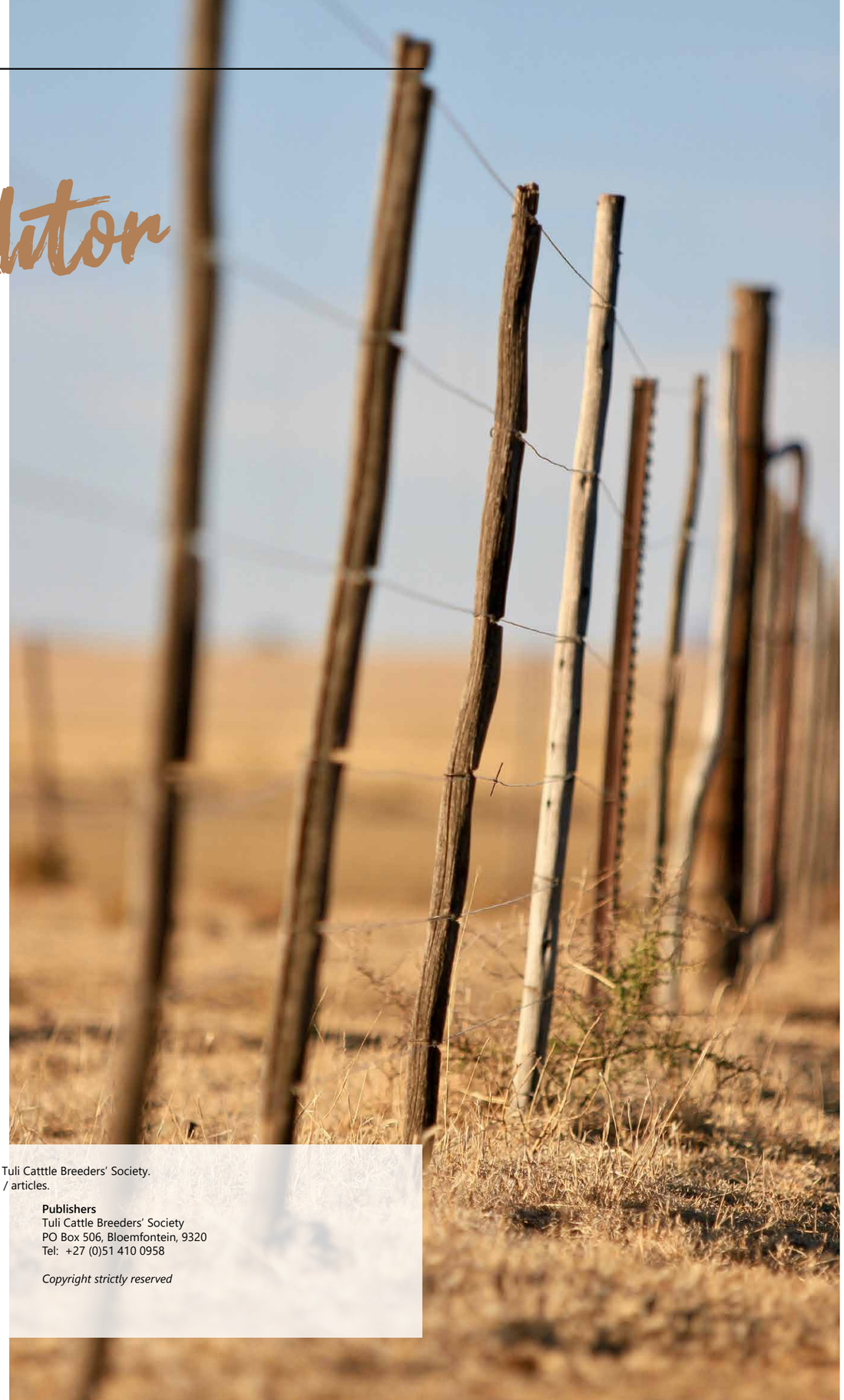
www.tulicattle.co.za

+27 82 575 6370

Lekker boer!



2023 Tuli Journal

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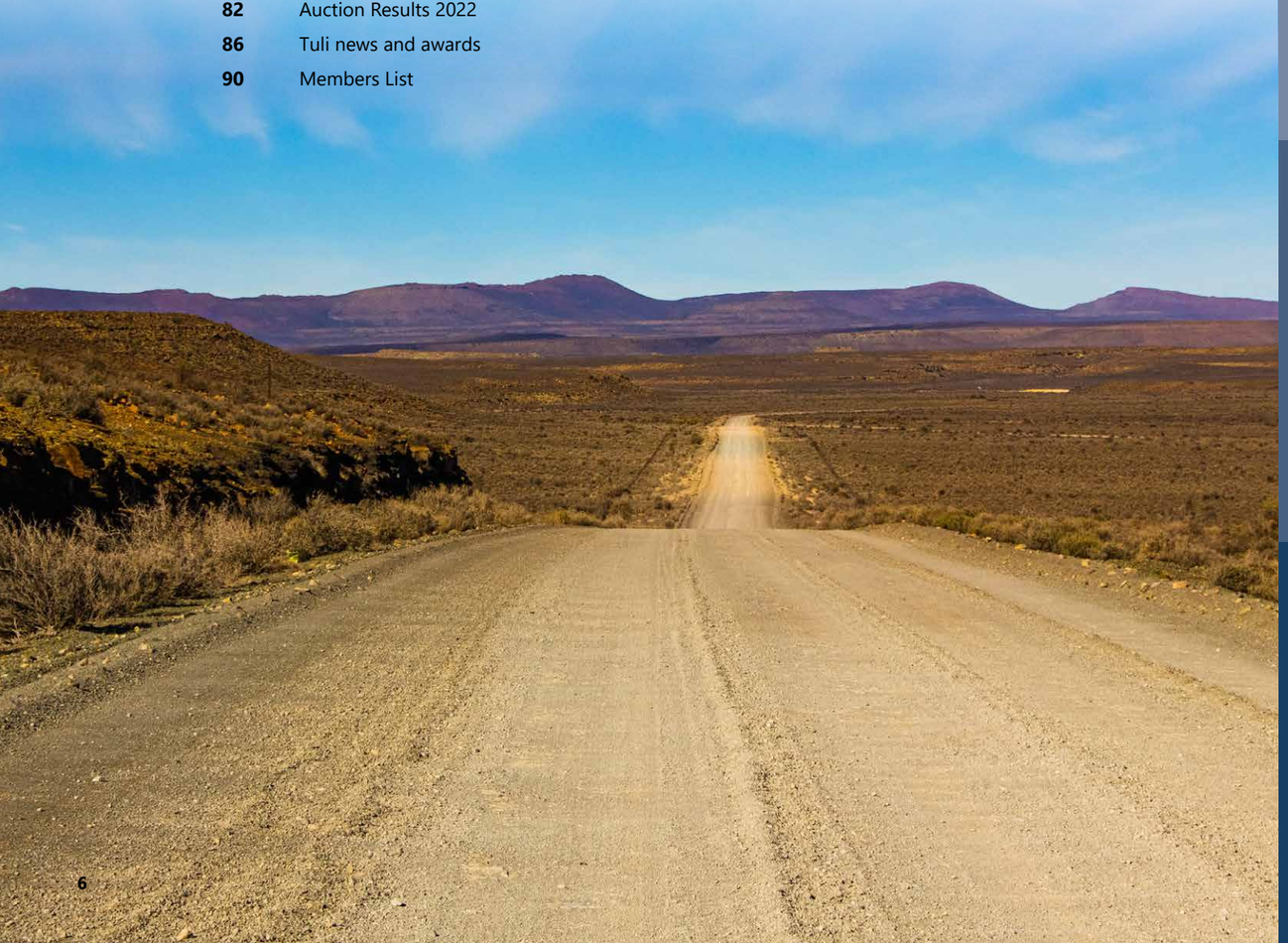
Contents



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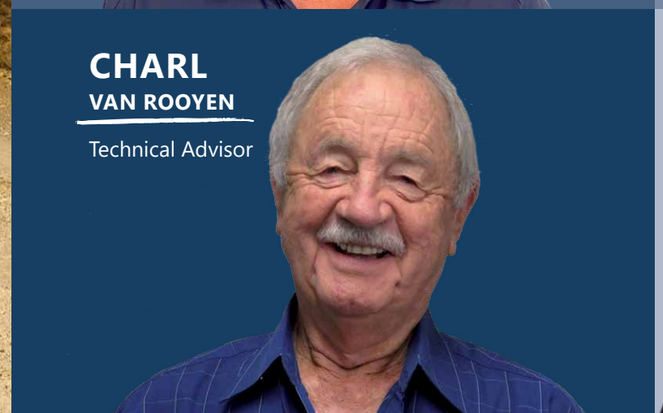


By **Ben Raath**

President, Tuli Cattle Breeders' Society of South Africa

Presidential report


Photo: Wayne Southwood / Amelia Tuli's

This is always a very exciting time of the year! Everyone is looking forward to our annual journal with great expectation, Nampo is around the corner, our breeders' production auctions are going to kick off soon, it's weaning time etc.

An even greater excitement for us as a Tuli Society and breed, is our very first National Tuli Heifer Auction that will be held on the 4th of May 2023, at Lettie Fouché School, Bloemfontein. This follows a day after our Annual Wine and Hunting Package Auction, which will be held on the 3rd of May 2023, also at Lettie Fouché School. We are very proud that 25% of our profits from the wine auction will be donated to Lettie Fouché, a school for intellectually impaired children. In this way, we as Tuli breeders, are making a difference in the lives of special needs children.

> ***"Only the best of the best, open and pregnant Tuli heifers, are going to go on sale at our National Auction, as the standards that animals must meet at the genotypic and phenotypic levels, have been set very high."***

This will not only give new breeders, but also existing breeders, the opportunity to obtain some of the best genetics.

Furthermore, the process with the establishment of the "Tuli Growth Initiative" with NERPO (The National Emergent Red Meat Producers' Organisation) is going very well. This is also a first for us as a Tuli Society and I believe also for the cattle industry overall in South Africa. Not only is the project going to stimulate our markets, but we as Tuli fellowships and breeders, will also make a huge impact in taking "new farmers" to a commercial level, with the help of mentors and technical advice!

Overall, our Tuli breed is doing exceptionally well! I have never heard of an unhappy or disgruntled Tuli farmer, whether stud or commercial! Please don't try to change our breed, pursue even higher production! Just keep a balance! Currently, there are 45 breeders, with two new applications. Economic factors, not only in South Africa but also globally, and at all Societies, have taken its toll. It is true that you always want more breeders. For us as the council, the most important thing however is, passionate breeders who are willing to work together, with the same vision and who favour the sun shining over fellow breeders. It is also logical that with so many individuals, differences can sometimes arise. However, the most important thing is the way it is dealt with.

We are very proud to congratulate Ed and Russell Clark from the HBH Tuli Stud with their bull HBH200091, who has been selected to receive the award, Elite Platinum Bull in SA Stud Book's annual national Elite awards. These bulls are selected under strict production and reproduction standards from the entire Logix beef cattle database and are therefore truly an outstanding achievement. This is the first Elite Tuli Bull in the history of our breed!

I also want to congratulate Casper Kriel from Casman Tuli Stud who's cow CHK100130, has been selected as one of SA Stud Book's Elite Platinum Cows, in their annual national Elite awards. One cow per breed has been selected according to exceptional production, reproduction and genetic merit standards from the Logix beef database. It is therefore a commendable achievement.

Another big achievement that I want to announce is the ARC National Best Elite Cow, sponsored by Farmer's Weekly. Participating cows should exhibit exceptional reproduction figures and other economically important traits such as maternal ability and pre-weaning growth rate (weaning weight). Only one cow per breed are annually crowned as the top female for the breed. Congratulations to Albie Rautenbach from Langlyf Tuli Stud, who's cow R11 0015 was selected as the winner.

Congratulations to Dave Mullins from Avondale Tuli Stud, who's bull ADM21011 was nominated to represent the Tuli breed, at the Vleissentraal/SA Stud Book's Farmgrowth Test Class Competition on the 1st of May 2023, at Bloem Show. One bull per breed was nominated, on behalf of their individual Farmgrowth test performances, genetic values, as well as functional efficiency, to compete with each other. All the best to you Dave!

Then I want to thank our Technical Adviser, Mr Charl van Rooyen, by helping us take our lovely Tuli breed to the next level. Without your contributions, this would not be possible! A big thanks also to you and your daughter, Adria (Seventyfour Design), for compiling this annual showcase. A big thanks to every advertiser, you make it possible for us to show the Tuli to the rest of the world.

On behalf of myself, as well as our breeders, I want to thank all council members, as well as our secretary Ms Anna-Marie Viljoen for all your hard work and support. Thank you to Claus Kempen of the Secretariat, as well as all personnel of SA Stud Book, for their excellent service.

To our breeders, thank you very much for your support and trust. Be assured that we as council put the interest of our breed first.

May God never remove His hand of blessings over us. ■


Photo: Wolhaarkop Tuli's

Deur **Brent Jammer**

Departement Landbou-Ekonomie, Universiteit van die Vrystaat

Bekyk volhoubaarheid deur 'n Finansiële lens

Dit is so duidelik soos daglig dat klimaatsverandering al hoe meer besig is om sy tol te eis op produsente regoor die wêreld. Dit word onder andere meegebring deur 'n noemenswaardige degradasie van die omgewing en 'n toename in die wêreldbevolking, wat dan 'n sneeubal effek het op voedselproduksie en uiteindelik voedselsekuriteit. Verbasend word dit beweer dat die aanvraag tot voedsel sal verdubbel teen 2050, en dit laat alarmklokke lui by boere oor die feit dat produksie moet verdubbel maar steeds bly die area van produksie dieselfde. Hierdie katastrofe forseer boere om vindingryke boerdery praktyke toe te pas wat in harmonie is met die natuur en wat steeds sy sak pas.

Maar die vraag bly egter, hoe boer ek meer winsgewend op dieselfde stuk grond? En die antwoord op hierdie vraag is herlewingslandbou.

Herlewingslandbou is huidiglik op alle boere se lippe en die betrokkenheid van buitelandse kennis speel 'n groot rol om ons boere te help om hierdie doelwit van omgewingslim boerdery te bereik. Veeboere word aangemoedig om die ondergrondse lewe van hul weiding te verbeter. Dit behels om weiding meer akkuraat te bestuur sodat grond vrugbaarheid en infiltrasie bevorder kan word. Sodoende word die waterhou vermoë van weiding verhoog wat dan gunstige grasvestigings omstandigheide skep sodat diere gras meer effektief benut, selfs onder ongunstige klimaatstoestande. Om konvensionele boerdery praktyke hok te slaan moet boere 'n totale paradigmaskuif begin maak in terme van hul produksie uitset. Dit behels 'n nuwe uitkyk waar algehele winsgewendheid bepaal word deur produksie per hektaar en hoe koste effektief diere elke hektaar van weiding suksesvol omskakel in vleis en of vesel. Produksie per hektaar is word beïnvloed deur: weidingkondisie, grondgehalte en veeladings. Veeladings word dan self deur die boer geallokeer volgens sy beskikbare weiding op sy plaas, en die ultrahoëdrukbeweidingstelstel is die soliede fondasie waarop herlewingslandbou gebou is. Die ultrahoëdrukbeweidingstelsel stel boere in staat om 'n groter trop beeste op dieselfde stuk weiding te laat wei, wat dan die oorspronklike drakrag oorskry, maar die wins per drakrag eenheid is dan aansienlik hoër. By dit gesê is daar nie net een vaste resep oor hoe hierdie stelsel op elke plaas toegepas kan word nie, en alles is gebaseer op boere se verstaan van hul weidings.

Elke plaas beskik tot sy unieke veld- en weidingstipes waar beeste voorkeur gee vir die meer smaaklike grassoorte. 'n Ultrahoëdrukbeweidingstelsel bied dan dat gras beter benut word omdat meer beeste op 'n kleiner area gehuisves word en dit forseer hulle om nie selektief te wei nie. Die groot trop diere vreet alle beskikbare weiding op wat toelaat dat smaaklike sowel as onsmaaklike veldtipes weer kans kry om goed op te kom en te vestig nadat diere geskuif is na 'n ander kamp. Met meer beeste op dieselfde stuk weiding word meer mis en urine per hektaar vrygestel wat grondgesondheid en nitruentsamesteling verbeter. Verbeterde grondgesondheid maak dit makliker vir weiding om te vestig en groei wat dan meer kos vir beeste verseker om sodoende veld doeltreffend in vleis om te sit. Wat ook 'n belangrike rol speel by so stelsel is die trap en tyd periode wat diere op kampe spandeer. Genoegsame rus periodes van weiding bring mee dat grassoorte optimaal terug groei sodat dit herbenut kan word wanneer diere terug roteer.

Minder tyd op die weiveld lei tot minder gekompakteerde grond, maar baie hoewe op eenslag belug die grond en maak dit poreus wat gras geleentheid gee om vinniger te herstel. Dit beteken dat boere wat weidings tyd akkuraat bestuur meer weiding beskikbaar sal hê om hul produksie per hektaar te laat styg en wins te maksimaliseer. In die geval van gemengde boerderye waar dek gewasse aangeplant word kan herlewingslandbou baie goed aangewend word deur groter bees troppe aan te hou om natuurlike bemesting van grond te kry. Mis en urine vrystellings in grond kan aansienlik insetkoste tot 'n mate verlaag wanneer kontantgewasse weer aangeplant word. Herlewingslandbou bied finansiële voordele vir die bees waardeketting in geheel, waar voerkrale wat veldvoorbereiding (backgrounding) gebruik om kalwers reg te kry vir die voerkraal. Kalwers kan op 'n ligter gewig aangekoop word en dan op 'n hoëdrukbeweidingstelsel uitgegroei word wat herlewingslandbou toe pas en terselfde tyd verbeterde inkomste kry as gevolg van die kalf se aankoop gewig. Die goeie Gemiddelde Daaglikse Toename (GDT) en Voeromset Verhouding (VOV) van ligter kalwers is 'n groot finansiële voordeel vir voerkrale. Veeboere kan dan ultra-hoëdrukbeweidingselsel toepas op plaasvlak deur waarde toe te voeg tot hul eie speen kalwers deur hulle af te rond teen verlaagde voerkostes. Dit dien as 'n moontlike kostebesparingsmetode veral in tye waar mielieprys te hoog is. Boere moet noukeurig kyk na die produksie uitset wat verkry word van speenkalwers.

Die seleksie van teeltroppe is 'n belangrike faktor in die winsgewendheid van 'n ultrahoëdrukbeweidingselsel. Dit is hoogs afhanklik van die aanpasbaarheid, gehardheid en vrugbaarheid van manlike en vroulike diere in kuddes. In ongunstige klimaatstoestande floreer die inheemse Afrika rasse waar kuddes bogemiddelde groei bereik deurdat hulle swakker weiding beter kan omsit in vleis met minimale byvoeding om koste te bespaar. Met 'n minimale onderhoudsbehoefte is daar meer energie beskikbaar om ook melk te produseer vir kalwers. By so 'n sisteem waar alle verse dieselfde voeding kry, sal die goeie verse bo die ander uitstaan wat nie goed groei en aangepas is tot die sisteem nie. Die aanpasbaarheid van verse kan toekomstige seleksie verbeter wat tot voordeel sal hê dat goed aangepaste verse tot beter liggaamskonformasie en reproduksie sal beskik wat inkomste per vers vermeerder. Om dit meer in perspektief te sit, kom ons kyk na 'n sensitiviteitsanalise van koei inkomste in hierdie sisteem:

Tabel 1 en 2 is 'n sensitiviteitsanalise van bruto inkomste (in **Rand**) verkry van konvensionele boerdery teenoor 'n ultrahoëdrukbeweidingstelsel.

Hierdie tabelle is gebaseer op die aanname dat die drakrag van 'n plaas 200 koeie kan dra. Hiermee word die moontlike bruto inkomste bereken wanneer die boer slegs 200 koeie huisves of moontlik oorskakel na ultrahoëdrukbeweidingstelsel met 'n verdubbeling in koei getalle op dieselfde stuk grond. Daar word 'n onderskeidelike vergelyking getref ten opsigte van speen persentasie en gewig vir beide stelsels wat dan 'n kenmerkende verskil in bruto inkomste toon. Bruto inkomste is bereken as volg:

BI
=
(totale hoeveelheid kalwers x speen %)
x
speen gewig
x
kalf prys per kg

In hierdie analise is die allokeerbare koste (uitgawe betrokke om 'n uitset te produseer) nie in berekening gebring nie. Onder andere is kostes soos kapitale ontwikkelingsuitgawes, arbeid, medikasie en bemarking uit gesluit.

Tabel 1 en 2: Sensitiviteitsanalise van bruto inkomste verkry van konvensionele boerdery teenoor 'n ultrahoëdrukbeweidingstelsel.

200 KOEIE KONVENSIONEEL			
Speen gewig (kg)	Speen %		
	70%	80%	85%
230	1191400	1361600	**1446700**
220	1139600	1302400	1383800
210	1087800	1243200	1320900
200	1036000	1184000	1258000

400 KOEIE HOËDRUKBEWEIDING			
Speen gewig (kg)	Speen %		
	60%	70%	80%
200	1776000	2072000	2368000
190	1687200	1968400	2249600
180	1598400	**1864800**	2131200
170	1509600	1761200	2012800

In 'n ultrahoëdrukbeweidingstelsel gaan jy as boer 'n waarskynlik 'n laer speen gewig en persentasie verkry omdat daar meer kompetisie vir kos is, gevolglik kan groei en konsepsie laer wees. Maar inteendeel maak 'n boer meer bruto inkomste alhoewel hy 'n laer speen persentasie het asook 'n ligter kalf lewer. Gebaseer op hierdie aanname, verkry 'n boer 'n hoër bruto inkomste op ultrahoëdrukbeweidingstelsel met 'n 70% speen persentasie en 'n 180 kg lig gewig kalf, teenoor 'n 85% speen persentasie met 'n swaarder 230 kg kalf in 'n konvensionele boerdery weidingstelsel. Dit is dan duidelik dat die bruto inkomste per hektaar ook aansienlik hoër sal wees wat tel in die guns van die boer. Weereens is dit belangrik om goeie kennis op te bou oor die sisteem in geheel voor dit oorgeskakel word na hoëdruk stelsels. En soos almal in die lewe is daar geraamtes in die kas wat aandui dat niemand volmaak is nie.

Een van die eerste kopkrappers wat sy verskyning maak in hierdie sisteem is waterbeperkings. Wetende die feit dat meer beeste op dieselfde weiding aangehou word sal dit beteken dat die boer moontlik kostes sal moet aangaan om meer water beskikbaar te hê. Veelvuldige waterpunte sal dan vereis word omdat daar skielik meer kampies is waarna beeste geskuif word. Boere sal moet deeglike ondersoek instel om volhoubaarheid van waterhoeveelhede op die plaas te bepaal. Boere wat ultrahoëdrukbeweidingstelsels benut, maak gebruik van geëlektrifiseerde drade (poli en braided wire) wat elektrisiteit gelei om troppe in te kamp. Die insteekpenne en draad is maklik verskuifbaar maar dit bly steeds 'n koste wat boere in ag moet neem. Gepaard met dit is die arbeidskostes van kampverskuiwings, en huidige minimum loon speel 'n kritieke rol omdat kamprotasies soms op vakansie dae en naweke sal plaasvind. Verseker sal biosekuriteit baie noukeurig in die stelsel toegepas moet word. Op weidings waar dubbel die hoeveelheid beeste aangehou word, verhoog die moontlikheid van siektes wat mag voorkom. Wanneer boere gepaste siektebeheerprogramme toe pas om verliese te vermy, sal dit 'n waardige ekonomiese impak op die algehele boerdery hê. Daarom is dit van kardinale belang dat arbeiders goed aangepas is tot die sisteem om deurlopend dieregesondheid te monitor om dit werklik winsgewend te maak
.

Ten slotte

Die gewilligheid om volhoubaar te boer moet deel wees van elke boerdery se gereedskapkissie om te verseker dat ons omgewing altyd vir die mensdom kan voorsien. Die voorsiening van voedsel is 'n lang marathon wat vereis dat boere geduld moet toepas, en regdeur die wedloop aanpassings moet maak om die wenpaal te bereik met goeie herlewing en 'n penny in sy sak.

Vir meer inligting oor die artikel kontak gerus:
JammerBD@ufs.ac.za ■

By **Prof Carina Visser**

Department of Animal Science, University of Pretoria

Breeding for *adaptability*

Adaptation is defined as an animal's ability to survive, grow and reproduce in a specific environment amid the stressors present.

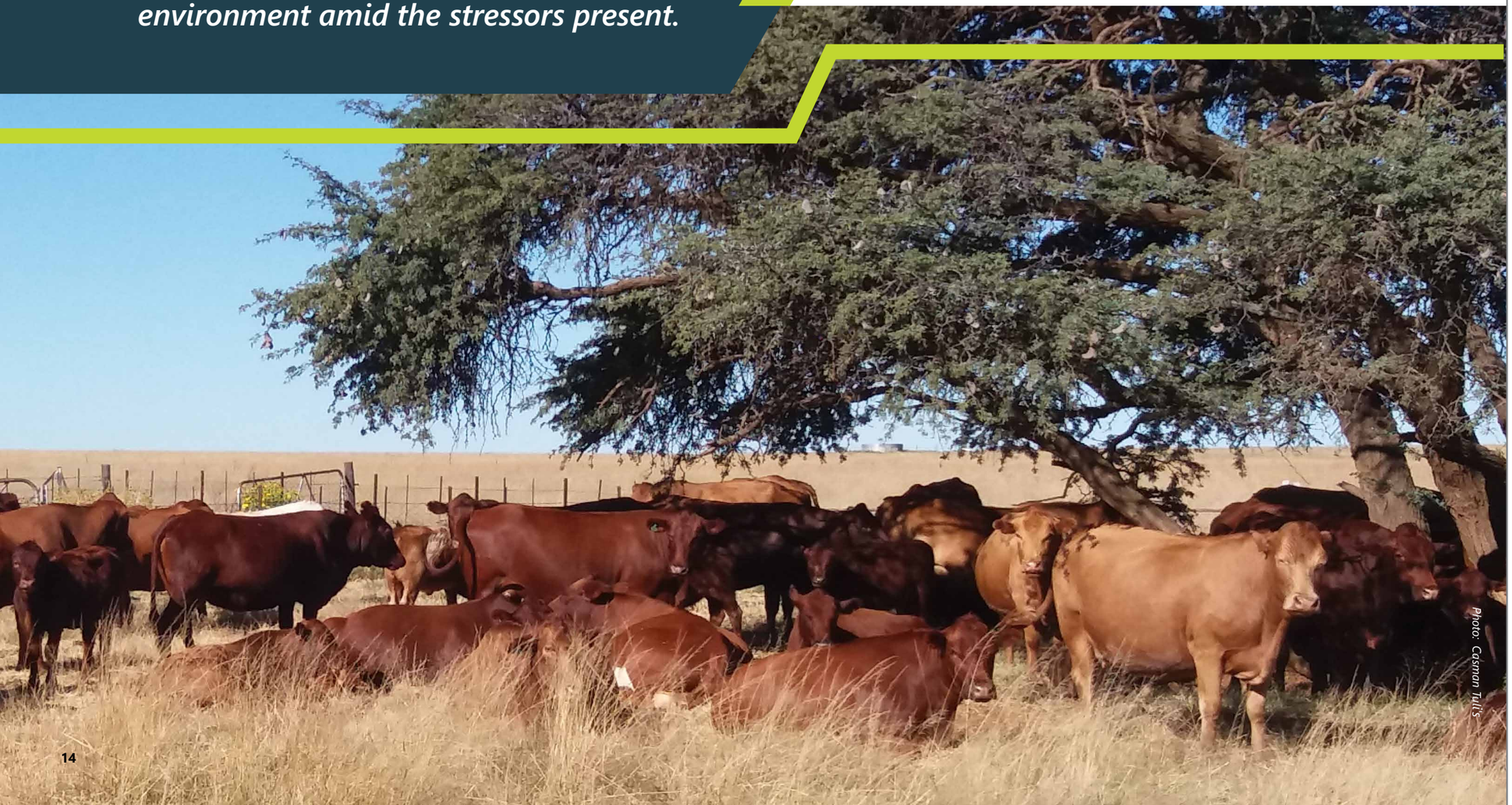


Photo: Cosman Tuli's

In a harsh South African environment, these stressors include high temperatures, ectoparasites and diseases, and seasonal fluctuations in nutrition. For breeds such as the Tuli, which are indigenous to southern Africa, their superior adaptability is one of their most prized attributes as it allows for competitive production (e.g. growth, and carcass quality) as well as reproduction (e.g. both male and female fertility, and mothering ability). Adaptability of beef cattle thus refers to a wide range of traits, from heat resistance to tolerance or resistance to parasites.

Selection for increased resistance to heat stress

Heat stress results in lower feed intake, decreased production and lower reproductive efficiency in cattle. There exists significant variation with regards to heat resistance both between breeds, but also within a breed, based on the individual's inherent heat resistance and its coat type and coat colour. Rectal temperature has traditionally been regarded as a good indicator of an animal's ability to withstand heat stress.

This trait has favourable genetic correlations with improved weight gain, pregnancy rates and days to calving. The trait has a heritability of about 0.2; which is relatively low and indicate that genetic progress might take long to achieve. Additionally, this trait is difficult to record, especially in extensive systems.

Fortunately, the selection of some easier to measure traits, such as coat scores (woolly vs. sleek) and coat colour (light vs. dark) would result in improved heat tolerance, and would also have a favorable impact on lifetime female reproduction. Coat score can be used as a genetic indicator for pregnancy and weaning rates, days to calving, and lifetime calving rate. Coat traits have heritability values exceeding 0.5, and thus fast genetic progress can be expected.

The favourable correlations between growth traits and all the above-mentioned heat tolerance traits indicate that when the ability of an animal to handle heat stress improves, it also increases its genetic ability to grow. Animals with high heat tolerance also generally have desirable temperaments.

Selection for increased parasite resistance

The counting of ticks on the body of an animal is an accurate indication of parasite infestation, but can be difficult under extensive farming conditions. The number of ticks will also be dependent on the level of infestation and the time of year. Additionally, certain environmental factors might affect the parasite load on animals, for example large-bodied animals are typically more heavily infested and pregnant cows are more susceptible to external parasites. Conversely, calves, heifers and cows are generally more resistant to ticks than male animals.

Coat traits are also used for selection for increased resistance to external parasites, and could thus result in the breeding of more robust animals that would be able to perform optimally under climate change conditions. These traits are easily measured, and are not dependent on the presence and level of the stressor (as is tick counts), and thus easier to select for.

Conclusion

The most efficient way to reduce the impact of environmental stressors, is to breed animals with superior genetic ability to cope with them – thus minimizing the need for management interventions. It is important to remember that selection to improve resistance to one stressor will improve resistance to other stressors. This is specifically true for resistance to ticks and heat stress, with the traits having consistently moderate positive genetic correlations. This indicates that breeding for a general robustness in terms of adaptation to harsh environments, is an attainable ideal for beef cattle breeders. ■

Deur **Dr Faffa Malan**

Bestuurder van die Herkouer Veterinêre Vereniging van Suid-Afrika (RuVASA)

Is jy in beheer van *dieregesondheid* op jou plaas?

Elke maand rapporteer ongeveer 130 veeartspraktyke oor verskeie dieresiektes en ander toestande soos byvoorbeeld parasietbesmettings, vergiftigings en mineraaltekorte, wat die gesondheidstatus van diere in hulle praktykarea aantas. Die rapportering het in 2012 begin en die inligting is ook vir jou beskikbaar op die Herkouer Veterinêre Vereniging van Suid-Afrika (RuVASA) se webblad (www.ruvasa.co.za, klik op Disease Reporting). 'n Verkorte weergawe van die rapport word ook maandeliks op die Nasionale Dieregesondheidsforum se webblad (www.nahf.co.za) geplaas.

Maandelikse kaarte van die belangrikste aansteeklike siektes word ook beskikbaar gestel sodat vinnig gesien kan word of daar enige bedreiging van 'n dieresiekte naby jou plaas voorkom. V-data het hulle toepassing (APP) aan ons beskikbaar gestel sodat inligting deur veeartse soos dit gebeur aan RuVASA beskikbaar gestel kan word. Weens wetgewing word slegs die area aangedui waar die siektes deur veeartse vasgestel is. Jaarlikse siektetendense, opgestel deur V-data, kan dan ook deur jou veearts aan jou verskaf word. Saam kan die boer en veearts dan besluit wat voorkomend gedoen moet word om hierdie siektes en ander toestande betyds te voorkom.

Die 3 H's naamlik Hekke, Heinings en Harsings sal jou help hoe om BIOSEKURITEIT op jou plaas op te skerp!

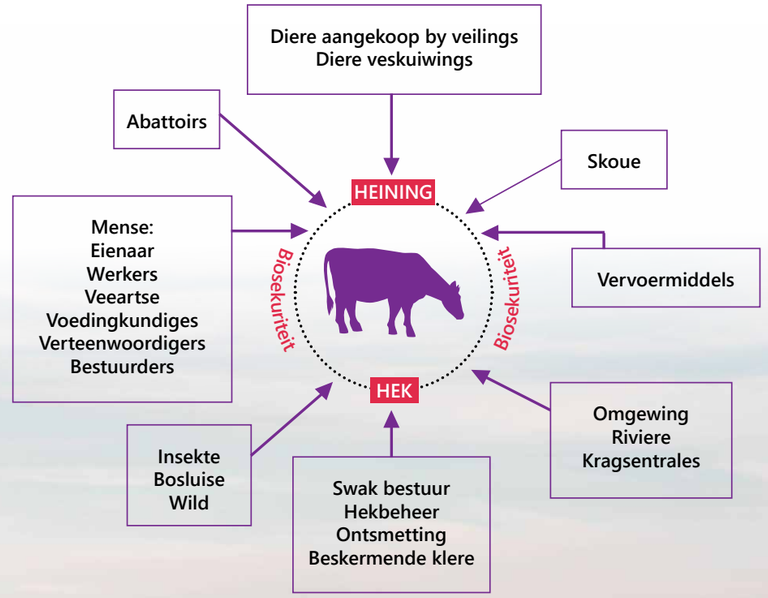
Hekke

Is daar toegangsbeheer? Is hekke gesluit? Die meeste ernstige siektes wat jou diere aantas, het deur die toegangshek op die plaas ingekom! Beeste, wat siektes soos Bek-en-klouseer, Bees Brusellose, Trigomonose, Vibriose en Knopvelsiekte onderlede kan hê, word aangekoop. Bosluise wat Asiatiese rooiwater, Hartwater en Asiatiese rooiwater dra, asook middelweerstandige bloubosluise kan ingekoop word. Maak seker dat die diere wat aangekoop word uit 'n kudde kom wat vry is van Brusellose en dat 'n sertifikaat verskaf word wat dit bevestig.

Die bak van die voertuig wat diere vervoer word nie ontsmet nie en die bestuurder mag besmette materiaal aan sy/haar skoene en klere dra. Wie kan nog siektes deur die hek binne bring? Mense wat kom kuier, verteenwoordigers, veeartse en werkers. Tref die nodige voorsorgmaatreëls deur 'n aangewese parkeerarea te voorsien, verskaf waterskoene en beskermende klere indien beeste besoek gaan word. Word diere in 'n kwarantynkamp afgelaai en weer getoets, voordat hulle na 28 dae op die plaas geskuif word? Neem kennis dat verse eers na 5 maande van dragtigheid positief vir brusellose kan toets. Hou hulle in 'n aparte kamp tot na kalwing en toets hulle weer.

Besef ook dat bosluise, wat die parasiete van Asiatiese rooiwater, Hartwater en Anaplasmose dra, op diere ingekoop kan word!→

'n Skematiese voorstelling help om jou holisties te laat dink hoe siektes beheer kan word.



Die 3 H's naamlik* Hekke, Heinings *en* Harsings *sal jou help hoe om BIOSEKURITEIT op jou plaas op te skerp!

Heinings

Wat help dit as die hek beman word, maar die grensdrade is in 'n swak toestand! Kontak met buurvee en nabye blouwildebeeste kan ook tot groot skade lei. Die ideaal is dat bure ook dieselfde biosekuriteitstandaarde as jou eie handhaaf. Spruite en riviere kan ook besmetlike materiaal inspoel na jou plaas. Nageboortes wat met brusellose besmet is en kriptosporidiose is voorbeelde hiervan.

Ongelukkig spring bulle oor drade of breek deur na bure en dit lei dikwels tot deksiektes en brusellose!

Harsings

Dit is baie belangrik om 'n bestuursprogram saam te stel met kundiges in jou area. Veeartse, Vee-, Voedings-, en Weidingskundiges, maar ook maatskappye wat jou bemarking doen, moet saam vergadering hou sodat almal op dieselfde vlak van siektebeheer kan kom. Ongelukkig is daar altyd mense wat hulle nie steur aan siektebeheermaatreëls nie (bewegingsbeheer) en dit het tot die onlangse bek-en-klouseer uitbreke gelei.

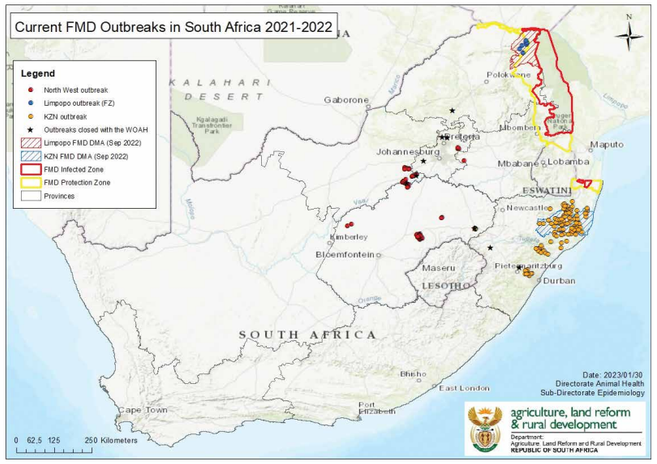
> ***"Die belangrikste aspek van dieregesondheid is om die risiko's te bepaal en dan 'n inentingsprogram saam met jou veearts uit te werk."***

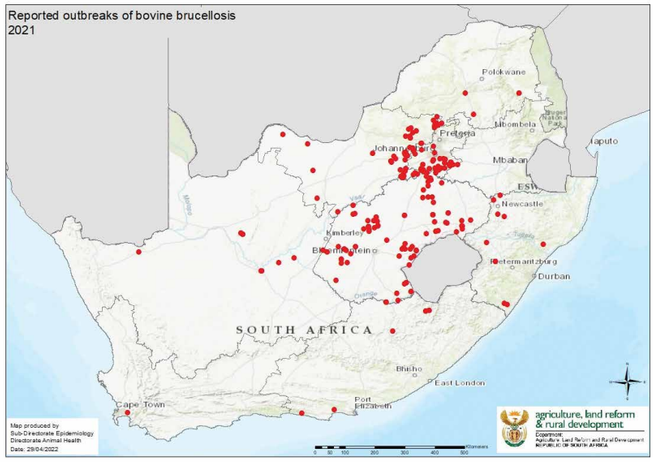
So 'n program is plaasspesifiek en entstowwe moet vroegtydig bestel word om te verseker dat voorraad verkry word. Die koueketting moet te alle tye gehandhaaf word. Hierdie kan 'n groot probleem word weens die kragonderbrekings wat ondervind word.

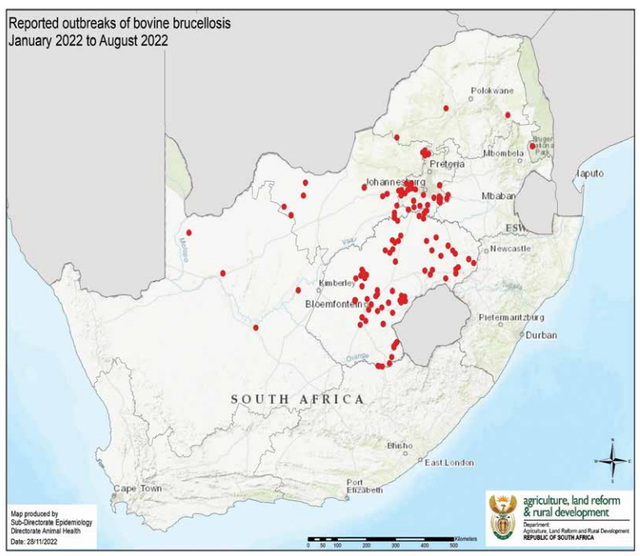
Opsommend

Suid-Afrika het sy siektevrye status by die OIE (Wêreld Organisasie vir Dieregesondheid) verloor weens uitbreke van bek-en-klouseer in die oop gebied. My pleidooi is dat boere siektevrye areas (kompartemente) sal vorm en alles in hulle vermoë sal doen om dit uit te brei ter wille van hulle eie boerdery.

Besoek ook die webblad van die Nasionale Dieregesondheidsforum (www.nahf.co.za). ■







Cattle year planner

The following planner is a guideline to use for cattle in general. Our advice is to formulate a program specific to your needs in conjuction with your own veterinarian. Tuli's are known for their tick resistance which will result in less vaccinations. Thank you to Dr Danie Odendaal for making this handy calendar available to us.

Months	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	Dry	Dry	Dry	Calf	Calf	Calf	Breed	Breed	Breed			Wean
Bulls	Complex A&E Vaccinate: BEF TECT (TDS) Lumpy Skin Disease	Vaccinate: Clostrivax B Anthrax Body Condition Score	Weigh Vaccinate: Vibrio	Pre-breeding examinations Semen testing Sheath wash BCS Selection of bulls for heifer and cow breeding groups		Manage: Breeding of heifers	Start and manage: Breeding season – cows. Continuation and end of Breeding season – V2 heifers Body Condition Score:	Manage: Breeding season - cows	Manage: Breeding season - cows Body Condition Score:	Inspection of bulls after the breeding season	Body Condition Score	Brucella testing
Cows	Inject: Complex A&E Teeth monitoring	Vaccinate: Clostrivax B Anthrax Body Condition Score Market non-pregnant cows	Prepare for calving management Training of herdsmen	Manage: Calving process Teeth monitoring	Manage Calving process	Manage: Calving process Complex A&E Inspection and rejection before the start of breeding, BCS and teeth monitoring	Start and manage: Breeding season – cows. Continuation and end of the Breeding season Body Condition Score	Continuation and management of the Breeding season	Continuation, management and end of the Breeding season Body Condition Score	Teeth monitoring	Examination: Pregnancy examination: Differentiate between early and late pregnant Body Condition Score Culling non-pregnant cows	Brucella testing
Calves	**Weaning and selling of last calves**		Prepare for new-born calf management	Manage: New-born calves	Manage: New-born calves	Manage: New-born calves	Tattoo, dehorn touch up	Vaccinate: Clostrivax B Deworm: Eradiworm Brucella S19 – heifer calves only Tattoo, dehorn touch up	Vaccinate: Clostrivax B Anthrax HipraBovis 4 Weigh: 100day weight Tattoo, dehorn touch up	Deworm: Eradiworm **Weaning selling of calves**	**Weaning, selling of calves** Selection and consignment heifers to Highveld	Weaning, selling of calves Selection and consignment heifers to Highveld
							3	4	5	6	7	8
Months	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
V1	**Select and move last replacement heifers to Highveld** Inject: Complex A&E	Weigh	Vaccinate: LSD RVF	Weigh Vaccinate: TDS Second selection	Vaccinate: TDS	Weigh		**Weigh**		Weigh Vaccinate: Brucella -RB51 Pre-inspection - internal	Brand Stud Inspection	Vaccinate: Hipra Bovis 4 Clostrivax B Anthrax
	9	10	11	12	13	14	15	16	17	18	19	20
V2	Inject: Complex A&E	Weigh Branding (brand mark)	Vaccinate: LSD RVF TDS	Weigh Do RTS Vaccinate: RB51 on its own and Vibrio 2 weeks later.	Weigh Start of breeding Stud heifers wil be bred in the Highveld	Recording of heat/ mating observations	Recording of heat/ mating observations	Weigh		Pregnancy examination		Weigh Vaccinate: Hipra Bovis 4 Clostrivax B Anthrax
	21	22	23	24	25	26	27	28	29	30	31	32
V3	Move pregnant heifers to Mookitsi Inject: Complex A&E Vaccinate: LSD & TDS	Training of Herdsmen before the calving season	Start of First Calving Season		Weigh BCS Complex A&E	Brucella RB51 Inspection and rejection before the start of breeding	Weigh BCS Second breeding season		Weigh BCS		Pregnancy examination BCS Brucella testing	Move pregnant V3 to cow herds. Cull non-pregnant animals
	33	34	35	36	37	38	39	40	41	42	43	45
Calves			Birth	Birth		Deworm: Eradiworm	Vaccinate: Clostrivax B Deworm: Eradiworm	Vaccinate Brucella S19 - heifers calves only	Vaccinate: Clostrivax B Anthrax HipraBovis 4		Wean	
			0	1	2	3	4	5	6	7	8	
Months	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
B1	Move to Kareebos Inject: Complex A&E Phase D testing starts	Weigh	Weigh Vaccinate: LSD RVF	Weigh Vaccinate: TDS	Weigh Vaccinate: TDS Phase-D Closure	First breeding season for selected bulls.	Weigh Selection	Weigh	Weigh	Weigh	Weigh	Weigh Vaccinate: Hipra Bovis 4 Clostrivax B & Anthrax
	9	10	11	12	13	14	15	16	17	18	19	20
B2	Weigh Inject: Complex A&E		Vaccinate: LSD, RVF, TDS	Weigh Pre-breeding examines DNA Profiling						Pre-inspection – internal inspection.	Brand Inspection	
	21	22	23	24	25	26	27	28	29	30	31	32
Lick	Protein lick	Protein lick	Protein lick	**Change over to Phosphate lick**	Phosphate lick	Phosphate lick	Phosphate lick	Phosphate lick	Phosphate lick	**Change over to Protein lick**	Protein lick	Protein lick
Grazing	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map	**6-Monthly grazing planning for the wet season**	**6-Monthly grazing planning for the dry season**	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map	Update grazing plan on farm map

Advertorial

A dozen things you must know about Bovine Brucellosis

Brucellosis is not a simple disease and can destroy the productivity of your herd

1. Brucellosis is a Controlled Animal Disease in terms of the Animal Diseases Act, 1984 (Act No. 35 of 1984) and there is no treatment to cure it in cattle.

2. It is a herd disease. Thus, if one animal in the herd is infected the whole herd must be considered as potentially infected.

3. It is compulsory by law to vaccinate all heifers against brucellosis with a registered vaccine (see table 2 of the Animal Diseases Regulations). The available vaccines are Bru-Tect S19 from Design Biologix (Reg. Nr. G4496-Act 36/1947) or Brucella S19 from OBP (Reg. Nr. G101–Act 36/1947) or RB-51 from MSD (Reg. Nr. G3056-Act 36/1947). Vaccination helps protect your herd from disease, reduces the spread of the disease and decreases the number of abortions.

4. The S19 vaccine may only be administered once in heifer calves between 4 and 8 months of age. If S19 is used at an older age the animal may persistently test positive on blood tests, causing confusion about the animal's disease status. The RB51 vaccine may be administered to non-pregnant heifers and cows at any age as it will not cause positive blood test results. Do not vaccinate bulls with S19 or RB51 as they may become sterile.

5. Pregnant heifers and cows infected with brucellosis may abort, resulting in reduced production in terms of number of calves weaned, total milk yield and prolonged calving intervals.

6. Cows and heifers infected with brucellosis often look healthy, which is misleading! If these animals remain in the herd, they continue to silently spread the infection which will cause severe economic and production losses.

7. The most important mode of transmission is when an infected animal calves normally or has an abortion, as this process releases millions of bacteria into the environment that can easily infect other animals.

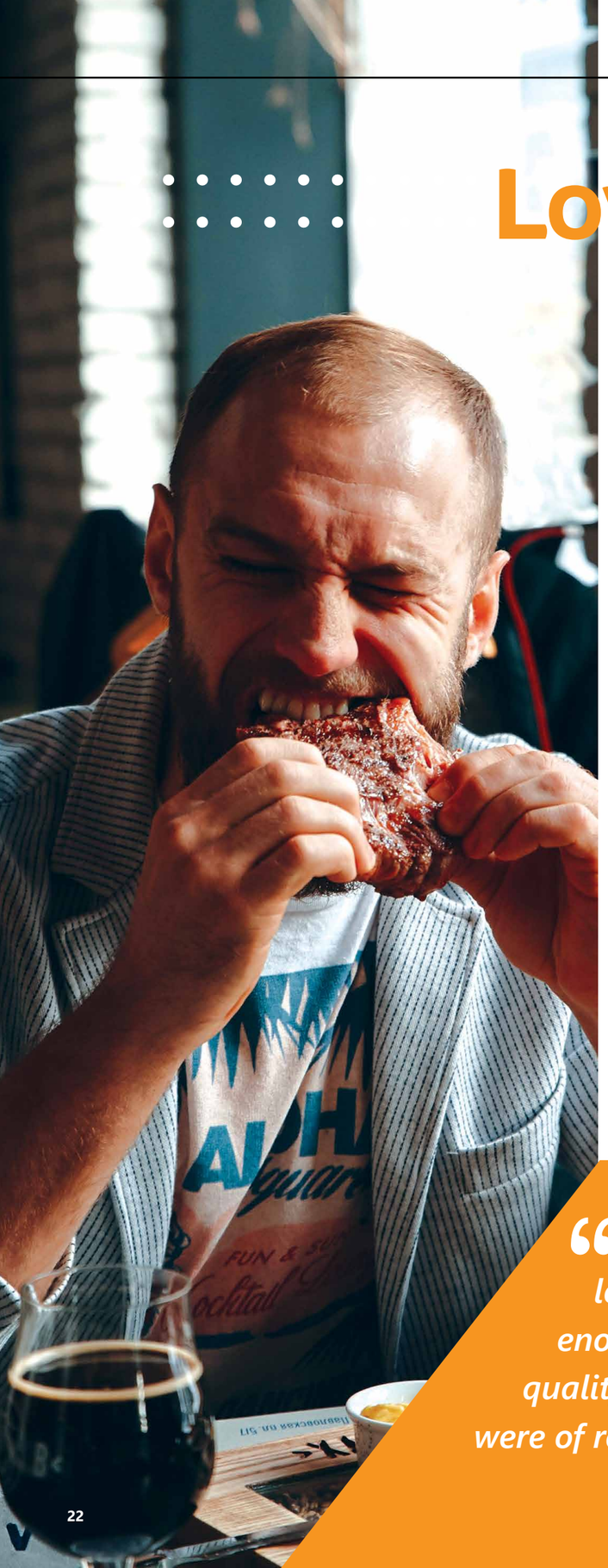
8. Heifers that were born from infected cows often test negative before they have calved and only test positive after their first calf is born. Newly bought-in heifers pose a high risk and should ideally be kept separate from the rest of the herd until they have calved and have tested negative for brucellosis.

9. People can become infected with brucellosis by drinking unpasteurised milk, slaughtering an infected cow and handling infected birth material and aborted foetuses (calves). Human symptoms are flu-like with fever, headache and body aches. If a diagnosis is not made and appropriate treatment taken, it can become a chronic illness that continuously relapses. Meat from infected animals that are identified as positive and are slaughtered at certified abattoirs is safe for human consumption.

10. Brucella bacteria can also be spread through run-off water from infected neighbouring farms. Predators such as roaming dogs, jackals and crows may carry infected material (aborted foetus and afterbirths) between farms. Flies that feed on infected material may spread the bacteria mechanically when sitting on the mucous membranes of animals.

11. Owners are responsible for the health of their animals and may be prosecuted under the Animal Diseases Act, 1984 (Act No. 35 of 1984) and the Consumer Protection Act, 2008 (Act No. 68 of 2008) if they propagate the spreading of brucellosis.

12. The only person who can protect your cattle herd against brucellosis is YOU! When you are buying cattle, insist on vaccination records and recent negative herd tests of the farm of origin. The seller must be able to declare that the cattle are vaccinated and the herd of origin tested negative for brucellosis. The seller should be able to provide proof of regular negative herd tests results. It is always advisable to isolate any cattle bought into the herd for biosecurity reasons; to test for different diseases, to get vaccinations up to date and to treat against internal and external parasites.



By **Dave Chambers**

Journalist, Business Insider

Love meat tender?

That's tough luck, because most SA beef is chewy, scientists find.

South Africa's first steak audit has found 60% of loin cuts sold by butchers and supermarkets fail the retail tenderness test.

Toughness varies widely in the same product bought at different times, and meat scientists say inconsistency is the biggest problem.

Paying more doesn't mean better eating, and the scientists' top tip is to choose a product that professes to be well aged.

Finding a consistent supply of tender steak in South Africa is tough, but your best bet is to choose a product with a label that claims it is well aged.

That's one of the key findings from the first audit of steak bought in supermarkets and butcheries, which comes with a health warning for the beef industry: inconsistent quality will reduce consumption.

A paper reporting the survey's results says: "Variation and lack of consistency in tenderness for most of the products suggests that critical control points for good eating quality are poorly understood, ignored or half-heartedly applied by the various roleplayers in the industry."

> *"Only about **40%** of beef loin cuts tested were tender enough to meet the retail quality standard, and only **20%** were of restaurant quality."*

Only about 40% of beef loin cuts tested were tender enough to meet the retail quality standard, and only 20% were of restaurant quality, experts from the universities of the Free State and Stellenbosch report in the journal Meat Science.

Higher price is no guarantee of greater tenderness, they say, and in general steak from supermarkets tends to outperform butcheries.

The scientists, whose work was supported by the industry-funded organisation Red Meat Research and Development South Africa, bought 420 beef loin samples of 21 products. They shopped 20 times over 10 months at nine butcheries and four supermarkets in Pretoria.

The products were labelled porterhouse steak, sirloin and scotch fillet, and in some outlets they were club steaks or T-bone steaks with the bone still present. All the tests were performed on the longissimus lumborum muscle only.

Half the samples were categorised as fresh, which meant they were butchered on demand, pre-packed in styrofoam trays wrapped in cling film or displayed uncovered in trays behind a counter. The rest were vacuum-packed.

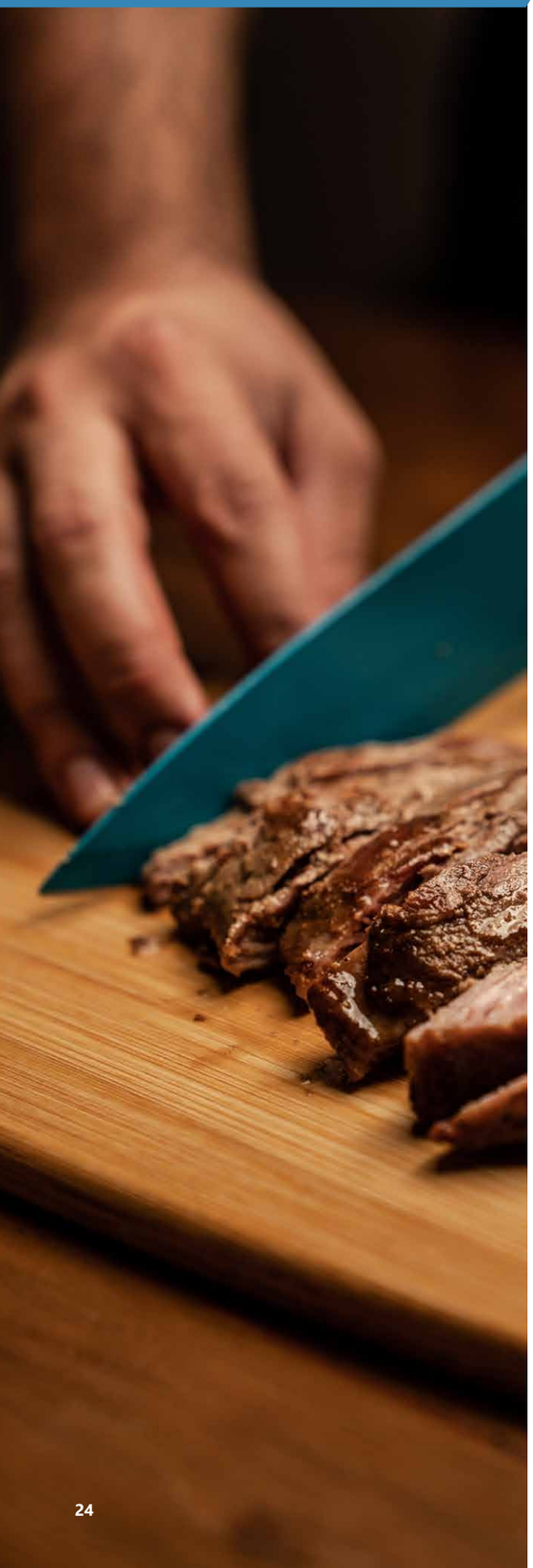
Only one passed all the retail tests

Cattle that supplied the meat were young – probably less than 18 months – and grain-fed. The exception was the single free-range product, where the cattle were between one and three years old, and not grain-fed. This product was the only one to pass the retail-quality tenderness test every time, and it missed the restaurant-quality benchmark only once.

The scientists subjected the steak to a battery of tests which also covered physical composition, colour of the raw meat and fat, amount of ageing and fat percentage.

Tests for tenderness and cooking loss were performed after the meat was broiled at 260°C until the internal temperature reached 70°C, then allowed to cool to 18°C.

In their paper, lecturer Lize van Wyngaard and Prof Arno Hugo from the department of animal science at UFS and Prof Phillip Strydom from the department of animal sciences at Stellenbosch, say the average amount of fat that could be cut off the meat ranged between 18% and 29%. "The variation was not only a function of the thickness of the subcutaneous fat layer, but also of the way the porterhouse cut was processed and trimmed," they say.→



> *More than **70%** of South Africans prioritise appearance, colour and freshness when buying beef.*

More than 70% of South Africans prioritise appearance, colour and freshness when buying beef, according to a 2015 study, and the new survey found that 20 of the 21 samples could "probably be considered as acceptable in colour".

The exception was the single frozen product, which had a reduced capacity to regain its bright, natural colour – or "bloom" – when exposed to oxygen.

The fresh and vacuum-packed samples lost between 25% and 28% of their weight during cooking, and the frozen product lost 30%. "It is interesting to note that purchasing cuts over the counter coincided with lower cooking loss," says the paper. The free-range steak was the only vacuum-packed sample to record a lower cooking loss.

Tenderness is tested by a device that measures the Newtons – or units of force – required to cut through the meat, and the lowest score – indicating the tenderest meat - was recorded for the free-range meat.

Same product, different tenderness

"Only five products were on average suitable for 'food service' (restaurants)," says the paper, and another five had an excellent chance of being suitable for retail, or at least "slightly tender". All 20 samples bought at one butcher were tough.

"Another disturbing observation is the large differences [in tenderness] between two consecutive product purchases, which imply that a consumer may have a very good and very bad eating experience when buying the same product in a short period of time," says the paper.

In one case, a vacuum-packed product bought at a supermarket was the second tenderest in one set of tests but near the top of the toughness scale in the next. "Inconsistency is a huge problem in the South African retail market."

Although tender products tended to cost more, this was not always true and "results on tenderness and price show that when buyers base their choice on price, they should experience good eating quality in some but not all cases".

Duration of ageing is probably the most important factor for final tenderness, say the scientists, and any perception that vacuum-packing implies better eating quality does not seem to be true. "Eight out of 13 vacuum-packed products recorded [tenderness] values above the 'food service' threshold and four were above the 'retail service' threshold."

However, "considering tenderness as the quality indicator, supermarkets tend to perform better than butcheries, in particular when products were labelled with quality claims". ■

By **Dr Helena Theron**

Senior Geneticist, South African Stud Book and Animal Improvement Association

The Principles of *crossbreeding*

The term crossbreeding refers to the mating of animals from different breeds and has always been common practice in beef cattle production. There are two aspects that needs to be considered to get the best advantage from crossbreeding, namely hybrid vigour (heterosis) and breed complementarity.

Breed Complementarity

Although all breeds are superior for some of the economically important traits, no breed is excellent in all traits. Crossbreeding takes advantage of breed complementarity, where the strengths of one breed complement or mask the weaknesses of another breed. In a Terminal Crossbreeding system for example, a bull from a breed with superior growth are used on small framed, low maintenance cows with good mothering ability and adequate milk (Table 1). Calves then have both the advantage of the mother's milk and the sire's growth.

Table 1: Breed Role in a Terminal Crossbreeding System (Adapted from www.omafra.gov.on.ca)

	Milk Production	Mature Size	Ability to Store Energy[1]	Adaptability to Stress[2]	Calving Ease	Retail Yield
Dam breed	Medium to High	Low to Medium	Medium to High	Medium to High	High	Low to Medium
Sire breed	None	High	Low	Medium to High	Medium	High

[1] Ability to store fat and regulate energy requirements with changing (seasonal) availability of feed.

[2] Physiologic tolerances to heat, cold, internal and external parasites, disease, etc.

The choice of both the sire and dam breed is therefore important, and the more different the parental breeds are, the more heterosis would be expected from the mating. All Sanga breeds, like the Tuli, perform well in crossbreeding systems as a mother line.→

Photo: HBH Tuli

Hybrid vigour (heterosis)

Hybrid vigour, also known as heterosis, is the tendency of crossbred individuals to show qualities superior to the average of their parents. Heterosis is not the same for all traits, and generates the largest improvement in lowly heritable traits, such as reproduction and longevity (Table 2).

Table 2: Heritability and heterosis for important traits.

Level of Heterosis	Heritability	Trait
High (10 to 30%)	Low	Maternal Ability, Conception, Reproduction, Health, Calf survival, Cow longevity, Overall cow productivity
Medium (5 to 10%)	Medium	Growth rate, Birth weight, Weaning weight, Yearling weight, Milk production
Low (0 to 5%)	High	Mature weight, Skeletal measurements, Carcass weight

There are two types of heterosis, namely individual and maternal heterosis.
Individual heterosis refers to the growth seen in the first-generation (F1) crossbred calf.
Maternal heterosis refers to the improved production of a F1 cross-bred cow. They often have increased calving percentages, wean heavier calves and have greater longevity.
Crossbreeding systems can benefit from both types of heterosis.

Hybrid vigour yields its greatest advantages in first-generation crosses (F1) because hybrid vigour is not transmitted from generation to generation without continued crossbreeding. Hybrid vigour results when alleles (genes) from two different breeds are paired in offspring. If a Tuli cow is for example mated to an Angus bull, the resultant F1 Tuli-Angus calf will have one set of chromosomes from the Tuli cow and one set from the Angus bull, so at every location in the genome where Tuli alleles are present, Angus alleles are also present.

Hybrid vigour is lost

If two F1s are mated, the favourable combinations deteriorate due to recombination. Some areas in the genome will have Angus alleles with Angus alleles and some areas will have Tuli alleles with Tuli alleles. These animals will be somewhere between Tuli and Angus, depending on the random alleles it received from its parents. The heterosis effect is lost and is never as high as it was in the F1 cross. However, the mating of crossbred animals does result in the retention of some hybrid vigour.

The term 'terminal' is often used in crossbreeding systems, implying that all progeny is slaughtered, as they have maximum heterosis and therefore maximum production, but they will not transmit their superior production to their progeny, as the favourable gene combinations will be lost.

Crossbreeding systems

In a two-breed terminal crossbreeding system, only individual heterosis is utilized. In terms of hybrid vigour, the ultimate female is the first-generation cow (F1) from the mating of two purebreds from different breeds. The ultimate crossbreeding system, however, which utilizes both maternal and individual heterosis, is the three-breed terminal crossbreeding system. This system results in maximum (100%) heterosis.

Two-breed Terminal Crossbreeding System

This is a simple, basic crossbreeding system, where purebred Tuli cows are bred to a complementary breed bull, e.g. Angus, Sussex or Charolais. Calves have 100% individual heterosis but no maternal heterosis. The downside of this system is that it is not sustainable, as purebred Tuli replacement heifers either must be purchased, or homebred. All F1 progeny are marketed, or the F1 heifers can be used or sold as replacement heifers for a 3-breed Terminal Cross, depending on the sire breed used.

Three-breed Terminal Crossbreeding System

The most hybrid vigour of any crossbreeding scheme will be obtained from mating for example crossbred F1 Tuli cows to a terminal sire from another breed. The calf benefits from 100% individual as well as 100% maternal heterosis. However, all F1 progeny are marketed, as the heterosis effect that they have, will not be transmitted to their progeny. All F1 replacement heifers should therefore be purchased or home bred and be environmentally adapted with the necessary maternal capacities. For maximum production in the progeny, the terminal sires are selected only on growth and carcass with no attention to maternal traits.

The challenge, therefore, to maintain a 100% heterosis advantage is to maintain a continuous supply of F1 crossbred heifers as a purebred parent population would need to be maintained or replacements would need to be purchased elsewhere, which most producers are reluctant to do. This problem is overcome by various crossbreeding systems which have some degree of heterosis but sometimes can become very complicated.

Conclusion

A crossbreeding system should take advantage of breed complementarity and hybrid vigour. Although the individual change in some traits is small, it has been found that lifetime production can increase by more than 20% in programmes designed to capture both individual heterosis in crossbred calves and maternal heterosis in crossbred cows. It is also important to select all bulls on breeding values for the desired traits – starting out correctly will also increase gains. ■

References:
Crossbreeding for the Commercial Producer (University of California)
Crossbreeding Systems for Beef Cattle (Mississippi State University Extension Service)
Breeding for Profit (The State of Queensland)
Crossbreeding Systems for Beef Production (Ontario Ministry of Agriculture)
Texas Adapted Genetic Strategies for Beef Cattle

By **Ms P Madende*, Dr JIF Henning and Prof H Jordaan**

Department of Agricultural Economics, University of the Free State

Functional development strategies to promote *youth engagement* in agricultural activities

Youth participation in agricultural activities, such as livestock production, has been considered vital to replacing the ageing farming community and addressing the persisting problem of youth unemployment.

In South Africa, the active engagement of youth in agricultural activities has been limited by constrained access to productive resources such as land, capital, physical assets, skills, and knowledge, among others. Lack of interest and aspirations to participate in agricultural activities as a livelihood choice have also been highlighted among factors limiting youth engagement. Support initiatives such as government programmes, policies and strategies have been developed and implemented to promote youth engagement in the agricultural sector. However, these efforts have yet to achieve the expected results. Research has determined several reasons for the lack of success, which include that youth is regarded as a homogenous group, leading to the development and implementation of one-size-fits-all solutions. Consequently, youth participation in the agricultural sector remains constrained and low.

To effectively support youth, the starting point must be to acknowledge that youth are heterogenous with diverse social and economic support needs. The diversity roots in their differences in internal and external factors such as access to resources, aspirations, interests, gender, religion, skills, and experience, among others. These shape their career and livelihood choices. While some youth need support to access land, capital and social networks, others need support to boost their confidence to participate in agricultural activities. Failing to acknowledge the heterogeneity of youth means blanket strategies that misrepresent the support needs of youth are implemented. However, it is impossible to develop strategies to assist youth individually due to the associated high transaction costs of implementing support on an individual level.

Researchers have suggested using typologies to group youth into smaller groups, acknowledging that, as much as they are heterogenous, youth have some similarities in their resource endowment. Grouping youth according to resource endowment can assist in developing specific strategies for the smaller groups, minimising the transaction costs of support initiatives. We have, through a research project, extracted→

typologies of youth residing in Thaba Nchu and QwaQwa, demonstrating that there are indeed similarities in resource endowment. Seven typologies were extracted, namely, (1) training beneficiaries with access to extension, (2) job-secure, (3) gender-sensitive with negative psychological capital, (4) social grant-reliant households, (5) opportunist and determined livestock farmers, (6) resource-poor traditional livestock farmers, and (7) non-farming income with access to credit. The typologies indicated that youth is indeed a heterogeneous group. However, discussions with youth in the study areas to validate the typologies revealed that youth could only relate to some, but not all, characteristics within a specific typology. This showed that support strategies would need to be developed to address the needs of youth within a defined strategy and allow youth to move from one strategy to another. Development pathways are thus suggested based on the resource endowment of youth within an identified typology. However, the avenues to key intervention areas (represented by LS1 to LS4 in Figure 1) within the pathways are dynamic in nature as they are also represented in other pathways, allowing youth to move from one to another if and when required as guided by their needs.

and are interested in diversifying their income through participation in agricultural businesses or expanding their current ventures and creating employment for other youth through their agricultural business initiatives. The gender-oriented development pathway targets enhancing youth involvement by specifically considering access to resources based on gender differences in agricultural activities, taking into cognisance specific challenges such as negative psychological capital and access to land, which have been highlighted to hinder the engagement of females in the sector especially. For youth characterised by social grants as their primary source of income, the occupation-oriented pathway presents avenues for occupation opportunities in agricultural activities both in primary and value chain activities either through own business ventures, family businesses or employment.

The livestock farming-oriented pathway below (Figure 1) targets youth interested in participating in agriculture and related activities through livestock farming but needs more resources. The foundation of this pathway is that youth own or have access to livestock.

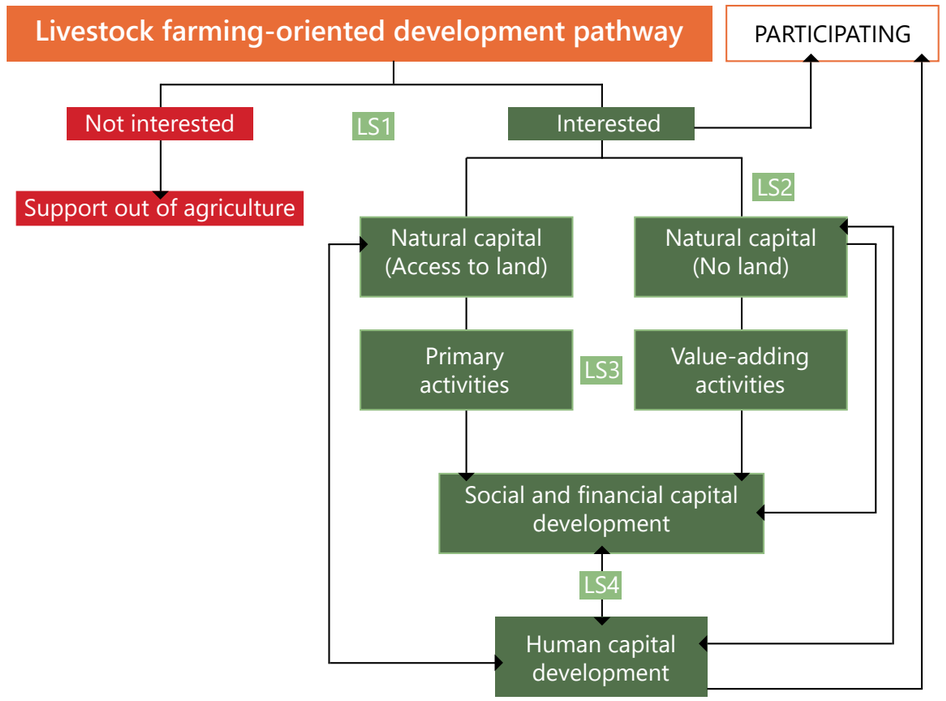


Figure 1: Livestock farming-oriented development pathway.

Thus, development pathways were tailored for selected typologies to address the specific needs of youth represented within each typology. Four development pathways were developed, (1) business-oriented, (2) gender-oriented, (3) occupation-oriented, and (4) livestock farming-oriented. The following discussion provides a short overview of the foundations for each pathway for the first three pathways. This is followed by a brief illustration of guiding youth through the livestock farming-orientated pathway.

The business-oriented pathway aims to develop youth with a secure source of income (mainly from non-farming activities)

Efforts to develop these youth start by determining their interest in participating in livestock farming as indicated in stage LS1 of the pathway. For those interested, access to sufficient land (LS2) will contribute towards successful engagement in livestock farming. The size of land accessed or owned determines if youth can engage in extensive farming activities with cattle and sheep or intensive livestock systems. Youth with problems accessing enough or no access to land can be guided towards the next step. Youth with limited or no access to land activities related to value-added livestock products can be suggested while proceeding towards the next step. →

"The suggested integrated and dynamic development pathways acknowledge that youth have different starting points in the development process and allow them to move between development pathways at various stages of development."

The third step (LS3) aims to assist youth by considering their social resources. This include determining whether youth can access land and other resources through their social capital (social networks, social media, government support programmes) and financial capital (credit, savings). This is shown in step LS3 from Figure 1. Collective action through, for example, cooperatives, can enhance access to productive resources such as inputs, feed, infrastructure and credit. Participating in cooperatives can also improve market access, skills development and mentoring.

Lastly, youth can participate in training and mentorship programmes to develop their human capital (LS4). The training and participation would enhance their knowledge and skills required to be involved in the agricultural sector. The training can also be specifically targeted towards an identified skills shortage, which the youth have identified. This illustrates the importance of the ability of the youth to take the initiative and develop themselves. Training can be accessed through external support initiatives offered by universities and private and public organisations, which are already available. Youth can also attend events such as Nampo to acquire and enhance knowledge of vital livestock farming information such as cattle breeds, feeding management and vaccination. Such exposure can also influence positive perceptions and mindsets about a livelihood in agriculture through livestock farming. Skills development, including soft skills such as entrepreneurship, can result in youth accessing land, credit, markets and building social networks. Thus, these pathways are suggested to be dynamic in that one can start at LS4 and work toward participation in the agricultural sector when interested.

The suggested integrated and dynamic development pathways acknowledge that youth have different starting points in the development process and allow them to move between development pathways at various stages of development. Though support initiatives cannot be developed for each small-scale farmer, the suggested pathways provide a development process oriented on an individual's characteristics. The focus is also on the youth to identify their shortcomings and seek solutions. Government and private-specific support initiatives, including financial support, cooperatives, training, mentorship, internships and youth policies that enhance access to resources such as land, are also considered key in the pathways to complement self-help strategies. It is key for youth to take up some responsibility in their development process suggested and ensure that the support required is timeously accessed. This might not be the case when they only rely on being approached by external parties, resulting in assistance not matching their needs or not being provided on time.

Acknowledgement:
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The Tuli revolution

An Australian perspective

By **Dean Roberts**
Commercial Tuli farmer from Australia

Fertility, early sexual maturity, sexual dimorphism, excellent bone to muscle ratio, good eyes, polled, excellent mothering, no bottle teat risk, easy calving, easy marketability in conventional markets, longevity, moderate frame, resilient to ticks and fly, quiet nature and very smart. What more could low-cost beef producers want in a cattle breed?

We did our homework! We knew what we wanted and started looking for that unicorn that could give us what we needed to make a profitable beef business. Our previous experience and failures had taught us some very painful, yet valuable lessons, that we would not necessarily be paid for following a high input model that focused on measuring criteria that did not first address the basics of beef production.

A very simple fact is that one could select for as much eye muscle and marbling as you like but if the cow producing can't produce a viable calf with no vet bills every year, then you will not get paid. Our input costs increased exponentially to help increase our conception rates, every year pink eye would rise from the previous years ashes and launch an assault on our beloved cows. Our big framed cows would collapse in a heap as soon as feed availability was restricted, they would stand at the gate and wait to be fed instead of making use of the available forage trees on the property which included Wilga[1], Kurrajong[2] and prickly pear. We found that Brahman infused cattle would forage but their conception rates fell precipitously in dry times. From our current understanding we only had two options, British that were arguably highly fertile but couldn't handle droughts or Brahman x that could and wouldn't produce a calf at the slightest notion of impending drought. Enter the Sanga!

But before we discovered how profoundly easy care and productive these Tulis are, we had to do some business schooling. In 2014 things started to change, we attended *Grazing for Profit* with Resource Consulting Services, a course aimed to increase your profit, improve the health of your land, improve the relationships in your business and increase the resillience of your business. Shortly after we did courses on holistic and marketing management through KLR Marketing, where we learned simple, powerful and proven livestock sell/buy strategies that have been developed to maximise our cash flow while minimising the market risk. Our minds exploded as we were gently guided towards a more sustainable, low stress and profitable future.

When Tuli's were first introduced to the Australian beef industry the initial excitement was around the increase in reconception rates on first calf heifers. Due to environmental, topographical and management challenges, lactational anoestrous was costing the industry hundreds of millions of dollars and the Tuli and Boran consortium of the early 1990s was going to remedy that problem. However, the resulting heifers from upbreeding to F1 and F2 were never measured against their Brahman x sisters for reconception rates on second joining. The result was that the Australian Charbray was considered the same if not superior to the Tuli because of frame size and muscling . How a serious beef business could overlook the superior inherent fertility of the Tuli is beyond comprehension. Needless to say its illogical and mans ego will forever be his downfall and undoubtedly keep easy money from his pockets.

We were dabbling with some new grazing strategies and found the cattle were not handling the social pressures of being so close when grazing. After reading *Man, Cattle and Veld* by Johann Zietsman we realised we needed some Sanga infusion and made inquiries.

Fortuitously we came upon Carl Letzner of Riverview Tuli's who had been the past president of the Australian Tuli Association for over 25 years and possessed the largest pure/full blood Tuli herd in Australia. We were in the right place at the right time since Carl had decided to sell the whole stud. After stewarding the breed in Australia for many years Carl Letzner and his wife Diana Simms had the most outstanding Tuli's. We bought the whole herd totalling 120 animals, the vast majority of which were pure bred and full blood, as well as thousands of straws→

from numerous original imported embryo bulls. Securing such a broad genetic base was a windfall we never expected.

I'm originally from Pietermaritzburg, KwaZulu-Natal and was raised on a beef and sugar farm. I moved to Australia in 2001 after meeting my lovely Australian wife Katherine and with our two daughters, we farm beef,sheep and goats. We have 1 000 acres winter forage cropping on 27 000 acres near Texas, Southeast Queensland. We have one permanent staff member and one casual worker twice a week. We were pleased to find the Tuli to be extremely aggressive towards working dogs as we do have wild dog predation in our area.

Our business is producing commercial beef at the lowest cost and we have found the Tuli to suit our environment extremely well. We run 1 800 cows year round and wean onto oats at approximately 7 months of age. We don't dip for ticks. Buffalo fly is a nuisance in February and March but no treatments are offered so we are selecting for cows that are resistant. We find Tuli infused heifers to be outstanding in resistance to fly. Our bull selection is focused on deeper thicker bulls that can maintain condition without help through to September which can be a real test in our environment. We experience below below zero temperatures for 3 months and -7°C is not uncommon. We offer high sulphur and phosphorous licks all year as well as red salt.

Currently our heifers are joined at 14 months and empties are sold to make room for more productive cows, we find Tuli to have a significantly higher conception rate at 14 months and any underlying udder issues are corrected in first cross.
Our vision is to keep growing the business towards high Tuli content commercial breeders as well as retaining and expanding the very best Tuli genetic in Australia. We feel that using our genetics in real world commercial testing gives us an advantage in being able to select for the most functional and profitable cattle. ■

[1] *Geijera parviflora, commonly known as wilga, is a species of shrub or small tree that is endemic to inland parts of eastern Australia. Other vernaculur names include Australian willow, native willow, sheepbush and dogwood. Wilga is a useful shade and fodder tree in agricultural areas.*

[2] *Brachychiton populneus, commonly known as kurrajong, is a small to medium-sized tree found naturally in Australia. The extended trunk is a water storage device for survival in a warm, dry climate. The leaves are also used as emergency fodder for drought -affected animal stock.*

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By **Claude Cloete**

Column writer and Merino farmer from Dordrecht

Economics of Stud Breeding

> ***The challenge for stud breeders is to provide animals that will survive and reproduce under "commercial" farming conditions.***

If cattle are bred in a stable environment, that is, we do not have a continuous increase in off farm inputs to boost animal performance then the resultant progeny will survive in a natural environment. Stud breeders have an uncanny knack of changing the environment, rather than changing the animal. It is more difficult to change the animal but much more profitable in the long run.

A stud breeder wants to have "better" bulls than the other breeders, the easiest way to do this is feed more. This extra food filters through to the female side of the stud because you use bulls that have performed better in this fed environment. It is a process that happens so slowly that you only notice it when it is too late.

Fifty years ago breeding cows were 400kg now most breeding cows are over 500kg. There is no way the 500kg cow will survive and reproduce with the feed eaten by the smaller cow of the past.

More emphasis needs to be placed on efficiency. This is measured in kg beef/ha and ultimately profit/ha. Too much emphasis is placed on production/animal. Everyone knows what their weaners weigh, what their cow's conception is. Very few farmers work out kg/ha and the profit/ha. The ultimate factor which decides whether you continue farming is: what did it cost to get this weight and conception rate? Stocking rate determines a farms profitability not weaning weight or size of breeding cows.

Cattle farming has the added complication of breeding weaners that the feedlot "wants". Most weaners are bought by the feedlot unseen. The feedlot pays per kg and might add a slight premium for different breeds. With this scenario all the commercial farmer needs to do is produce as many calves as possible from the available hectares. Remember they are bought unseen if they have better hindquarters and their sires had good feed conversion rates, you will not be paid a premium for that.

Cattle that perform in the feedlot do not necessarily perform well on the veld. We want cows that can do their thing on the veld, but the ox calves must perform in the feedlot. That is like trying to push a rope. Good luck.

There are exceptions, animals that can do both on the veld and in the feedlot. These animals can make up 20% of a herd. The mistake we make is that we select and work with these exceptions and 20 years down the line they still make up 20% of the herd. For twenty years you have been going around in circles and still have a herd with animals that perform on the veld and those that will do in the feedlot. Or even worse you end up with an animal that does neither on the veld or the feedlot.

The challenge is to increase profit/ha. We are price takers and increasing production without controlling the costs will not increase profit. Farmers believe you can select for increased production and your income will grow faster than the costs. From a low base yes, but if the farm is at a reasonable level of management the law of diminishing returns makes increasing profit a more complex process.

As the financial pressure on farmers increases, they will need to focus on increasing animals per ha (stocking rate). This requires an animal that is better adapted to the veld. Usain Bolt, the Jamaican runner, focused on the 100m and 200m. There is no way he could compete in the 400m and 800m. Animals are the same, they either perform on grass or in the feedlot. Yet we select for "all-rounders" and very often end up with nothing. ■

> ***A farmer only farms for 40 years, he cannot afford to go around in circles for 20 years and then spend the next 20 years fixing the mess.***

Deur **Johan Norval**

Joernalis, Media 24 Landbouweekblad

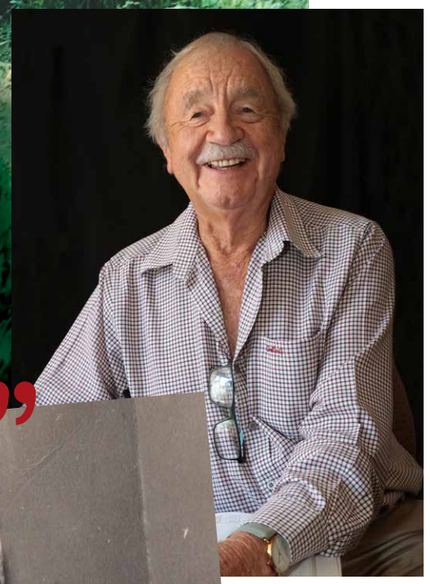
Praktiese veekundige lê tuig neer

Ná 'n noue verbintenis met die veebedryf die afgelope meer as ses dekades, begin 'n oud-stryder stadigaan afskaal om rustiger tuis te bly. Mnr. Charl van Rooyen, 'n bekende naam in veekringe, praat van "afskaal" en beskou homself as geseënd om nog sy bydrae te kan lewer, al vier hy sy 86ste verjaardag op 9 Junie vanjaar.

Hy het sy veekundige studie in 1960 onder die leiding van die befaamde prof. Jan Bonsma aan die Universiteit van Pretoria voltooi.

"Ek wil myself as 'n praktiese veekundige beskou, wat na aan die natuur die bedryf wou dien," sê hy. "Ek het nie 'n klomp fieterjasies en dinge nie. Ek was in my dienstyd by Vleissentraal bevoorreg om wyd te beweeg, wat verskeie besoeke aan buitelandse stoettelers vir die aankoop van beeste vir ons kliënte oor die jare ingesluit het.

"Ek voel baie geseënd dat ek oor 60 jaar in die veebedryf 'n beskeie rol kon speel in die uitbouing en verbeterig van ons veestapel."



Loopbaan

"In my laaste jaar as landboustudent het prof. Jan Bonsma ons Randse Paasskou toe gestuur om inligting van al die koeiwenners van goue bekers (Gold Cup) deur die jare te versamel. Daarna het ons hulle rekords by Stamboek getrek," sê hy. "Julle kan seker raai wat ons gevind het?"

Die skokkende bevindings dat van die skouwenners as volwasse koeie net een kalf in haar leeftyd gespeen het wat van uiteraard van swak reproduksiesyfers getuig.

As ek terug kyk, dan dink ek dit was die begin van die verandering om met 'n ander oog na stoetboerdery te kyk. Wat was die waarde van skou? Insetkoste was in daardie tyd baie laag en gevolglik het funksioneel doeltreffendheid bykans geen rol gespeel nie.
"Tot vandag verstaan ek nog steeds nie dat daar enige waarde in skoue is. Ek wil nie eens dink wat die koste van deelname aan skoue vandag is nie."

Oom Charl sê hy het op sy reise onder meer baie van die Amerikaanse veebedryf geleer.
Praktiese ondervinding oor die aanbied van Brahman- en Santa Gertrudisveilings wat hy tydens 'n besoek van twee weke aan Texas in 1975 opgedoen het, kon hy plaaslik toepas.

Blootstelling aan die stoetbedryf

Hy is in 1976 tot bestuurder van Vleissentraal se stoetvee-afdeling bevorder wat toe waarskynlik die grootste stoetvee-aandeel bedryf het. "In daardie tyd het ek baie van dié bedryf geleer."

Die stoetbeeste was toe meestal grootraam-diere, aangesien baie telers se siening was: Hoe groter, hoe mooier en beter.
As deel van sy werk het hy die land deurkruis en byna elke stoetras én hulle telers in Suid-Afrika leer ken.

In 'n poging om 'n beter diens aan telers te lewer, het verskeie beoordelaarskursusse gevolg. "Die twee grootste skoue waar ek as beoordelaar kon optree, was die Randse en die Royal-skou in Pietermaritzburg en ook in Lusaka (Zambië) en in Namibië. "In die kleinveebedryf was ek so geseënd om agt keer op die nasionale Dormerkampioenskappe kon beoordeel. "

Invoere

Gedurende die jare sewentig het invoere 'n al groter rol begin speel. "Lande wat wat ek besoek het om beeste vir kliënte in te voer, was Amerika (drie keer) Duitsland, Oostenryk en Engeland. Kennis oor die oorsese stoetbedryf kon ek plaaslik terugploeg." Hy sê veral in Amerika was die grootraamrasse Brahman en Santa Gertrudis wat min aandag ten opsigte van funksionele doeltreffendheid gekry het.

"Skoue was ook aan die orde van die dag. 'n Groot belewenis was om te kon sien hoe die "cowboys" hulle beeste voorberei en in die ring hanteer - iets ongelooflik. Texas was natuurlik die toonaangewende staat wat beesboere asook skoue betref."
In 1976 het hy die Brahman-wêreldkongres in Tampa (Florida) Brahman-wêreldkongres bygewoon.

Prestasiemeting

Prestasietoetsing het in die jare sestig 'n baie groot rol gespeel onder die leiding van mnr. Danie Bosman, beter bekend as Bossie, wat dié ontwikkeling deur die Departement van Landbou van die grond af gekry het. Veekundiges van Vleissentraal was ook betrokke.

"Ek glo my betrokkenheid as veekundige in die Oos-Vrystaat het bygedra tot die sukses en uitbouing van dié hulpmiddel vir stoetboere en ook kennis te maak met verskillende rasse.

"Met die koms van prestasiemeting het daar skielik 'n ommeswaai gekom en almal het besef dat deur te meet en te weeg, daar meer doeltreffende diere geteel kan word."

Stoetbedryf oor ses dekades

Aanvanklik het die bekende rasse soos Hereford, Sussex, Afrikaner, South Devon die grootste rol in die stoetbedryf gespeel. Die Afrikaner en die South Devon was die talrykste vleisbeesrasse tydens die landbousensus van 1930 met onderskeidelik bykans 31 000 en 44 000 diere. Altesaam 24 000 stoet-Afrikaners is toe aangeteken, maar die South Devon se kommersiële kudde was die meeste (tabel 1).

Vleisrasse	Stoet	Kommersieël
Korthoring	7 100	11 000
Afrikaner	24 000	6 900
Suid-Devon	2 553	41 301
Angus	1 629	12 015
Hereford	1 056	7 809

Tabel 1: Vleisbeesrasse (Landbousensus, 1930)

Oom Charl wys daarop dat die meeste beesboere in daardie tydperk hoofsaaklik grasboere was wat nog jare daarna 'n ekstensiewe weidingstelsel gevolg het. Gevolglik was aanpasbaarheid toe veronderstel om saam met vrugbaarheid die belangrikste seleksienorm te wees.

Insetkoste was ook baie laag en gevolglik was streng seleksie nie hoog op telers se voorkeurlys nie. "Gevolglik het die seleksieklem in rasse soos die Afrikaner, waarvan die vrugbaarheid nie die beste was nie, op kop en horings geval.
Vleisbouvorm het agterweë gebly. Die Afrikaner se grootste bate was sy gehardheid en aanpasbaarheid. Die Europese rasse se grootse tekortkominge was was hulle weerstand teen hitte, bosluissiektes en gevolglik aanpasbaarheid.

Later jare is besef dat aanpasbaarheid ononderhandelbaar vir winsgewende beesboerdery was. Gevolglik het die getalle van die meeste van die genoemde rasse sterk afgeneem. Sommige van dié rasse kom vandag in betreklik klein getalle voor. →

Verandering in die bedryf

Teenoor die suiwer rasse wat aanvanklik die grootste rol gespeel het, het sintetiese (? Komposiete) rasse begin posvat. Onder meer rasse soos Bonsmara, Simbra, Brangus, Beefmaster en Braford het feitlik oornag die bedryf begin oorheers. Vandag is Bonsmara en Beefmaster van die grootste stoetveerasse in Suid-Afrika.

Embrio's

Embriospoelings en -oorplasing het 'n al hoe groter rol in die stoetbedryf begin speel. "In my tyd kon ek meer as 2 000 Bonsmara-embrio's deur Kanada na Amarillo, Texas uitvoer. Heelwat embrio's, van veral Bonsmara, is in groot getalle na Australië, Amerika (Texas) en Suid-Amerika uitgevoer. Buitelandse genetika is ook verbeter deur die uitvoer van kleinveerasse soos Dorpers en Boerbokke wat na Texas en Australië uitgevoer is.

'n Nuwe benadering

Elke veekundige of teler het 'n eie mening oor die aspekte soos aanpasbaarheid, verhoogde produksie en vrugbaarheid. Soos al die landboubedrywe het die veeboerdery te kampe met droogtes, klimaatsverandering en natuurlik buitensporige stygings in insetkoste (voer, brandstof, elektrisiteit, arbeid).
"Om dié tendense te oorbrug, sal 'n totaal nuwe benadering ten opsigte van raskeuse gevolg moet word," sê oom Charl. "Veldaangepaste rasse moet meer ekonomies aangehou kan word. 'n Verdere verskuiwing van raamgrootte het geleidelik by rasse plaasgevind. Funksioneel doeltreffender beeste het begin op die voorgrond tree en met prestasiemeting kon telers deur deur die meting en weeg van hulle beeste beter bestuur toepas. "Na my mening Daarom het groot verskuiwings ten opsigte van raskeuse die afgelope drie jaar reeds plaasgevind wat na verwagting sal voortduur. Stoet- en kommersiële telers sal weer grasboere moet word. Indien dit nie gebeur nie, gaan insetkoste jou dood wurg."

Is daar lig in die tonnel?

Daar is beslis 'n oplossing vir veeboere as die regte keuse gemaak word. "Sekere inheemse rasse het die afgelope paar jaar 'n groter rol begin speel. Die Afrika-rasse het in die proses 'n stewiger vastrapplek in die stoetveebedryf begin kry.

"Hierdie tendens gaan myns insiens 'n groter momentum kry in die soektog na laer onderhoudskoste-rasse. Dit sluit faktore in soos gemaklike kalwing, poenskop-eienskappe, hitteweerstand, beeste met 'n medium of kleiner raam, bestandheid teen bosluisgedraagde siektes, meer doeltreffende koei/kalf-verhoudings, winsgewende veldbeeste en vleisgehalte.

"As ek na dié gewenste eienskappe kyk en veral van die Afrika-rasse, wil ek sonder om bevooroordeeld te wees, tog die stelling maak dat die Tuli die antwoord kan wees. Ek dink die Tuli ras het hom in die verband die laaste paar jaar bewys.

"Gevolglik is die vraag na die Tuli so groot dat daar moeilik in die vraag voorsien kan word, veral in die ekstensiewe weivelddele van die land." ■

By **Christo van der Rheede**

Chief Executive Officer, Agri SA

Food *security* is crucial for South Africa...

and so is support by government!

In his State of the Nation address, President Ramaphosa recognised that the country finds itself in a time of severe crisis. In many ways he had no alternative – there is no ignoring the perilous state of the country and the impact loadshedding, rising crime and declining infrastructure are having on the economy and society more broadly. The agricultural sector has been particularly hard hit, which if undealt with, will have serious short, medium, and long term implications.

In the context of crippling electricity blackouts, it was at encouraging to hear the President announcing some steps to address the situation. However, the true value of the planned interventions will only be seen in the budget. Urgent and direct relief to the agricultural sector needs to be addressed in the budget if our government is to protect the country's food security.

Loadshedding is currently crippling not only irrigation, but also slaughter operations, processing, packing and cold storage of food products. In trying to mitigate impact of loadshedding, farmers are expending significant resources on additional fuel as well as rising labour costs due to wasted production time and irregular working hours planned around loadshedding. This is an unbearable burden on a sector with high levels of debt, exacerbated by rising interest rates and inflationary pressure on input costs such as fertiliser and agro-chemicals. The effects are becoming visible on the shelves of our local stores, but the real impact is yet to come.

> ***"There is a real and imminent risk to the certainty of food supply – shelves will be bare of products unless struggling farmers are afforded relief."***

Prior to his address, Agri SA called on the President to declare the agricultural sector an essential service and partially exempt it from loadshedding, specifically above stage 4. This would allow for sufficient continuous hours of electricity to power irrigation systems. While the President noted that the State of Disaster would enable government to exempt critical infrastructure from loadshedding, he said nothing of extending this exemption to the sector, even after acknowledging its particular vulnerability to the energy crisis. This was a wasted opportunity to give concrete relief to a vital sector.→

Nor was there any clarity on the role of the yet-to-be-appointed Minister of Electricity. With the departments of Mineral Resources and Energy and Public Enterprises remaining involved in the crisis, this new ministry risks miring the urgency envisioned by the State of Disaster in a web of bureaucracy.

Important though are the policy levers that Minister Gondongwana pulls along with the fiscal ones. Given the cost-burden placed on farmers by the energy crisis, it would be unconscionable to see increases, for example, in excises taxes and the Health Promotion Levy. Any such moves risk decimating the sugar, tobacco, beer and wine industries long before the energy interventions can provide meaningful relief to our grape wine farmers, canegrowers, tobacco farmers and other affected producers. However, the Minister saw it fit to propose an increase in the excise duties on alcohol and tobacco of 4.9 per cent, in line with expected inflation. Not to mention the reprieve that was extended to the Sugar industry in terms of leaving the health promotion levy unchanged for the following two fiscal years. It could've been worse.

The minister also announced measures to ease the financial burden of loadshedding on the agricultural sector. Agri SA in its submissions to government, called for special incentives for embedded generation in the sector, and further rebates for fuel costs and other energy alternatives to mitigate the crisis.

As a result, the following incentives were announced:

Incentives

- From 1 March 2023, businesses will be able to reduce their taxable income by 125 per cent of the cost of an investment in renewables.
- There will be no thresholds on the size of the projects that qualify, and the incentive will be available for two years to stimulate investment in the short term.
- A new tax incentive for individuals was introduced to install rooftop solar panels to reduce pressure on the grid and help ease loadshedding.
- Individuals who install rooftop solar panels from 1 March 2023 will be able to claim a rebate of 25 per cent of the cost of the panels, up to a maximum of R15 000.
- This can be used to reduce their tax liability in the 2023/24 tax year. This incentive will be available for one year.
- Changes to the Bounce Back Loan Guarantee Scheme were also proposed to incentivize renewable energy, rooftop solar, and address energy-related constraints experienced by small and medium enterprises.
- Government will guarantee solar-related loans for small and medium enterprises on a 20 per cent first-loss basis.
- To promote investments in renewable energy, the general fuel levy and the Road Accident Fund levy will not be increased this year.

Of great significance though, to ease the impact of the electricity crisis on food prices, the refund on the Road Accident Fund levy for diesel used in the manufacturing process, such as for generators, will be extended to manufacturers of foodstuffs.

We need to come to grips with where we are as a country. Record levels of load shedding were experienced in 2022 - 207 days of load shedding compared to 75 days in 2021. South African is on the edge of a precipice. If, over and above loadshedding and declining service delivery, we start to see steeply increasing food prices, food shortages, and the labour-intensive agricultural sector shedding jobs, social unrest is likely to follow. The national economy and balance of trade would also be significantly undermined if South Africa shed its food self-sufficiency, relying more and more on food imports.

Of even bigger concern is the fact that municipalities owe Eskom R56.3 billion and the debt is rising. Add to it the culture of non-payment, not only by municipalities but by all organs of state and individual household customers, we're heading towards a perfect storm.

However we have the diagnosis of the situation from the President. And Minister Gondongwana administered the right medicine. It is essential that we get back to basics, and there is little more basic than the need for food. No doubt the budget has prioritised the loadshedding crisis – millions of South African jobs depend on its resolution. In this regard the Minister did not let us down.

He announced the following to assist Eskom:

- Bring additional capacity onto the grid.
- R337 billion of Eskom's debt is already government guaranteed.
- Eskom to prioritise capital expenditure in transmission and distribution with this government bailout.
- In addition, Eskom must focus on maintenance of the existing generation fleet to improve availability of electricity.

But policy interventions for the agricultural sector will have to come a close second in the priority matrix for the sake of the agricultural sector's workers, yes, but also every resident of this country who relies on our food value chain for sustenance on a daily basis. Without food, imagine what will happen! ■