

# Tulli

JOERNAAL | JOURNAL  
2019





# 23<sup>rd</sup> ANNUAL PRODUCTION SALE

Wednesday, 21 August, 12h00

On the farm Denwood, Dordrecht  
GPS: S31 28' 22,53" E26 50' 23,98"

Buffel H5-89, AM13-121,  
HBH14-25, R93-25 and  
AM11-165 sons and daughters will  
be available on our production sale.



Ons strewe is om sorgvrye mediumraam beeste te teel wat aangepas is by hul ongewing.  
Om hierdie rede word insette beperk tot die minimum.

Streng seleksie vir reproduksie waar alle oop diere geprul word na 'n kort teelseisoen verseker  
ook dat ons diere se grootte optimaal is vir die moeilike omgewing waarin ons boer.  
Ons kudde het 'n gemiddelde TKP van 372 dae vir alle koeie in die kudde oor alle kalwings.

*Our sincere thanks goes to all our clients for their valued support during 2018*

At our annual bull sale held on 22 August 2018, 22 bulls sold for an average price of **R45 620**.

**HBH 16-108** sold for **R180 000** to Donkerhoek Tuli Stud,

**HBH 16-56** sold for **R115 000** to Magma Tuli Stud.

22 Open Heifers were sold for an average of **R18 650**.



Visit our website at

[www.hbhtuli.co.za](http://www.hbhtuli.co.za)

**Edward and Kim Clark**  
087 550 1558 or 082 573 0223  
Email [ed@hbhtuli.co.za](mailto:ed@hbhtuli.co.za)

**Russell and Ellen Clark**  
087 550 1533 or 082 925 5860  
Email [rtclark@adept.co.za](mailto:rtclark@adept.co.za)

Denwood - PO Box 145 - Dordrecht - 5435

**HBH**  
**TULI STUD**



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## VOORBLAD

Voorblad foto veskaf deur Kevin & Leslie Cook van Amelia Tuli's en is geneem deur Wayne Southwood.

### 2019 Tuli Joernaal

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#### Uitgewers

Tuli Beestelersgenootskap  
Posbus 506, Bloemfontein, 9320  
Tel: +27 (0)51 410 0958

#### Uitleg en ontwerp

Adria van Rooyen  
E-pos: hello@704.co.za  
Sel: +27 (0)83 463 5222

*Kopiereg streng voorbehou*

### 2019 Tuli Journal

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Tuli Cattle Breeders' Society  
PO Box 506, Bloemfontein, 9320  
Tel: +27 (0)51 410 0958

#### Layout and design

Adria van Rooyen  
E-mail: hello@704.co.za  
Cell: +27 (0)83 463 5222

[www.tulicattle.co.za](http://www.tulicattle.co.za)

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# Op die oomblik...

... hou u die 2019 Joernaal in u hande. Ek vertrou dat u die joernaal gaan geniet en dat daar ook interessante inligting vir u sal tevoorskyn kom.

Way back in 1959 Professor Ralph Bogart wrote in his book "Improvement of Livestock" the following:

The increase in population which is taking place, brings with it the problem of providing food. Meats and other animal products contribute to a better state of human health and are desired by most people. In order for the average person to have the meat he likes and needs, it becomes more important for the producer to improve the overall efficiency of his production. One area in which the producer may improve his production is through breeding. The improvement of livestock through breeding is mainly dependent on the application of genetic principles.

Ek dink bogenoemde stelling is nogsteeds vandag van toepassing.

## SOME CATTLE WISDOM

The better you understand cattle the easier it is to handle them: it follows therefore that every cattle man should be a student of animal psychology. If we are well acquainted with their behaviour we can predict their behaviour in a given set of circumstances with a small margin of error.

## CATTLE PSYCHOLOGY

Cattle are intelligent animals. They have very good memories and an ability to learn. I believe they are able to reason to some extent, although they are believed by some to act on instinct only. They are individuals with individual mental abilities but because they have primitive brains their reactions and behaviour are much more predictable than that of humans. This fact simplifies matters considerably for the cattlemen with a small margin of variation we know how they will react. To handle cattle correctly it is necessary to understand them and in order to understand them, every cattlemen should be a student of



cattle psychology. By being interested and observant we can learn a lot about cattle from our cattle.

## COMMUNICATION

How do cattle communicate with one another?

Whether they can talk to one another in an understandable language I do not know but I do know they can convey their wishes through "body language", through physical contact and they can recognise one another's voices.

*ABC of Beef Production : Schalk J. Viljoen*

## CHARL'S WISDOM

Look at your cattle. Spend time in the veld, find a comfortable rock, sit and talk with your cattle. Learn to listen to them and appreciate their likes and dislikes. They will show you whether they like to be on your farm; whether they enjoy your management.

I think there is a fascinating world of intrigue and romance out in the paddocks where the cattle are allowed to live their lives undisturbed.

If you allow yourself enough quality time with your cattle they will become intimate friends.

Enjoy your cattle. Geniet jou beesboerdery.

*Charl van Rooyen*

# MEESTER 20 – 'N MÓÉT VIR ELKE PLAAS MAAK WINSGEWENDE BOERDERY SO MAKLIK

## UITGROEI VAN KALWERS

Meester 20	kg	280
Sout	kg	50
Totaal	kg	330

Verskaf mengsel teen  
1,5 – 2,0 kg/vers/dag  
Meester 20 kan skoon teen  
1,5 – 2,0 kg/vers/dag  
gegee word

## HERKOUER WILDSLEK

Meester 20	kg	160
Molatek Bypass	kg	50
Mieliemeel	kg	50
Sout	kg	50
Totaal	kg	310

Kleinwild: 250 – 300 g/dag  
Grootwild: 500 – 600 g/dag

## PRODUKSIELEK VIR KOEIE, KALWERS EN VELDAFRONDING

Meester 20	kg	280
Mieliemeel	kg	280
Sout	kg	100
Totaal	kg	660

Verskaf mengsel teen  
1,5 – 2,0 kg/koei/dag

## SOMER FOSFAATLEK

Meester 20	kg	40
P12	kg	50
Sout	kg	50
Totaal	kg	140

Skape:  
22 – 25 g/ooi/dag  
Beeste:  
150 – 200 g/bees/dag

## OOIE LAATDRAGTIG EN VROEË LAKTASIE

Meester 20	kg	200
Mieliemeel	kg	150
Molatek Bypass	kg	100
Sout	kg	50
Totaal	kg	500

Verskaf mengsel teen  
350 en 450 g/ooi/dag  
1-ling en 2-ling ooie

## PRIKKELVOEDING VIR OOIE

Meester 20	kg	600
Mieliemeel	kg	300
Sout	kg	100
Totaal	kg	1000

Verskaf mengsel teen  
300 g/ooi/dag  
Verskaf Meester 20 skoon teen  
250 – 300 g/ooi/dag



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(Wet No. 36 van 1947), Namibië: N-FF 2425

**MOLATEK**

Samewerking lei tot prestasie

# 2018/

# 9

# 1

# PRESIDENTSREDE

## PRESIDENTIAL REPORT

BEN RAATH



Ek kan nie glo dis alweer tyd vir ons jaarlikse Joernaal nie.

I believe that the new edition of our journal is of a high standard as it is one of the most important showcases of our breed. I wish to thank Mr Charl van Rooyen (Technical Advisor) for his efforts to compile this journal. My sincere gratitude to Adria van Rooyen (Seventyfour Design) for an excellent job done.

**Landbou in Suid-Afrika het talle uitdagings. Benewens politieke uitdagings, is weerpatrone plaaslik en wêreldwyd heeltemal onvoorspelbaar. Droogtes is aan die orde van die dag en dit is hier waar die Tuli-ras besig is om baie veld te wen. Met die oog op aardverwarming raak hierdie "vrugbare, winsgewende, veldbees"**

**van ons 'n baie groot oorweging, met die keuse van 'n ras vir volhoubare beesboerdery in die toekoms. Die groot navraag na Tuli-beeste spreek vanself.**

Met die wen van die 2018 Vleissentraal- SA Stamboek Elite Bulgroeitoetsklas-kompetisie (tussen 17 vleisbeesrasse), het die Tuli-ras sy stempel behoorlik afgedruk en is die oë weer opnuut op ons ras gevestig.

Die uitbraak van bek-en-klouseer het 'n negatiewe impak op speenkalfpryse gehad, maar daar word voorsien dat dit net van korte duur behoort te wees.

Veilings wat onder Beskerming van die Genootskap aangebied is, het uitstekende

pryse behaal en dit was weereens 'n bewys dat goeie kwaliteit diere, in goeie kondisie, goeie pryse behaal.

Let daarop dat die veilingsreëls, tesame met alle ander reëls, streng toegepas sal word. U sal met my saamstem, dat ons die vrugte daarvan pluk! Baie geluk en baie dankie aan u as telers wat die Tuli vlag hoog waai!

From the table on the right it is clear that we are moving in the right direction!

**We must however recruit more members. By doing this we can increase our animal numbers which will have a positive impact on our finances. This will enable us to do more and better marketing. Our view however still is that a smaller number of members with vision and passion**



For genetic improvement, breeding standards has been "adjusted". See the results below:

	March 2019	March 2018	2017
Average Birth Weight (Male)	32kg	32.26kg	32.7kg
Average Birth Weight (Female)	30kg	30.76kg	30.8kg
Average Weaning Weight (Male) - 205 Days	206kg	205.53kg	189.7kg
Average Weaning Weight (Female) - 205 Days	194kg	189.97kg	176.6kg
Avg Icp	398 days	407 days	423 days
Dslc	266 days	329 days	439 days
Members	52	45	59
Total Animals	8064	8541	9346

**to improve our breed, is better than chasing numbers! Our numbers will in any case grow when this is in place, and is already starting to happen.**

**Commercial farmers put the emphasis on good fertility and good weaning with low input costs. This is exactly what the Tuli breed offers!**

**The biggest challenge for us is to keep our average ICP below 400 days!**

Dit was met groot leedwese dat ons verneem het van die afsterwe van Stefan

van Wyk wat 'n baie groot leemte in ons bedryf laat. Ons is egter dankbaar om te noem dat ons tegniese adviseur, Mnr Charl van Rooyen, en ons senior keurders oor die nodige kundigheid beskik om ons ras tot die volgende vlak te neem.

I wish to congratulate Mr Uys Willemse of the Trumps Tuli Stud with his achievement of winning the 2019 Platinum Elite Cow Award. We are proud to share this achievement with you!

I wish to thank the Council Members, and in particular our secretary Liezel Grobler,

for their co-operation, dedication, support and hard work during the past year. Also thank you to Mr Chris Els of the Secretariat, as well as SA Stud Book for their friendly and excellent service. Many thanks to our breeders from Zambia, Zimbabwe, Namibia and Botswana for your support and participation.

God bless you all!

*Ben Raath*

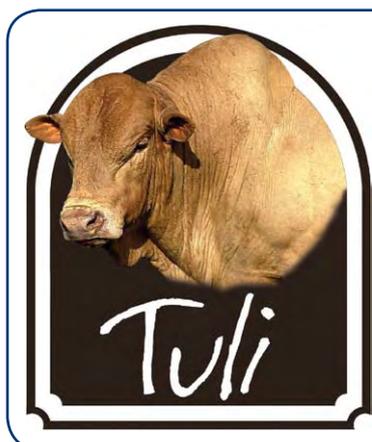
**"Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals and happiness." - Thomas Jefferson**



# 2019 Tuli Council



Left Front: Lielzel Grobler (Secretary), Ben Raath (President), Johan van Rijswijk (Vice President)  
Left Back: Albie Rautenbach, Giel van Niekerk, Charl van Rooyen (Technical Advisor),  
Christo Rothmann, Jim Bredenkamp and Ed Clark



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**Tuli Cattle Breeders' Society of SA**

# Die beste diere verdien die beste veilings.

GWK Veilings



Vir alle stoetvee- en kommersiële dienste.

**2de Sentrale Tuli-groepveiling | 27 Maart 2019**

**Go West Tuli-veiling | 17 Oktober 2019**

**GWK Veilingskompleks**

Barco van Niekerk

Schalk Erlank

Moné Pretorius

Leslie Jenner

**053 832 5227**

072 384 9057

082 558 6891

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083 627 0617

# GWK



innoveer landbou

[gwk.co.za](http://gwk.co.za)



# RASKEUSE BREED CHOICE

Charl van Rooyen



Ek dink dat raskeuse in die verlede deur baie telers (stoet sowel as kommersieel) baie ligtelik opgeneem is.

Keuses in die verlede is gemaak op grond van mooi foto's, gesprekke by veilings of by verjaarsdae en ander funksies.

Ek glo dat die afgelope sowat ses maande vir ons 'n rigtingwyser was van wat ons in die toekoms kan verwag.

**Klimaatsverandering blyk om 'n realiteit te wees. Daarmee saam moontlik meer gereelde voorkoms van uiterste weerverskynsels waaronder groot temperatuur skommeling en droogtes te voorskyn gaan kom.**

In Suid-Afrika sit ons ongelukkig met die situasie dat boere en/of telers hierdie risiko's op hulle eie sal moet hanteer.

## AANPASSINGS

Ons sal as boere/telers daarop ingestel moet wees om aanpassings in nie alleen ons denke te maak nie, maar ook ten opsigte van boerderystelsels of praktyke.

So ook sal daar as gevolg van klimaatsverandering aanpassings gemaak moet word wat betref ons beesboerdery en gevolglik raskeuse.

**Seisoene skuif beslis aan en as jy op weiding boer gaan dit 'n verandering in jou dektyd teweegbring en gevolglik ook tyd van kalwing.**

## RASKEUSE

Gesien in die lig van bogenoemde uitkyk is keuse van die regte ras om mee te boer van kritiese belang en natuurlik bepaal dit die volhoubaarheid van jou boerdery/teelprogram.

My persoonlike mening en die van ander veekundiges deel die mening dat sekere inheemse rasse 'n groter bydrae in volhoubare beesboerdery in die toekoms in Suid-Afrika gaan speel.. (Let wel: Ek sê sekere inheemse rasse).

## BESKIKBARE HULPBRONNE

Raskeuse word dikwels uitgeoefen sonder om jou hulpbronne van die plaas of plase waar jy boer in ag te neem.

Ek bly nogsteeds na jare se betrokkenheid in die vee en stoetbedryf, verbaas om te

sien waarmee daar in baie ekstensiewe streke met baie beperkende hulpbronne geboer word. Gevolglik is dit vir elke beesboer nodig om sy hulpbronne van sy plaas te ken maar ook deeglik bewus te wees van die potensiaal van hierdie bronne.

Dis goed en wel as jy nou 'n behoorlike opname van bogenoemde gemaak het, maar daarmee saam is die raamgrootte van die ras waarop jy gaan besluit of mee boer, in verhoudig moet wees met die hulpbronne van jou plaas.

## RAAMGROOTTE

**Raamgrootte is direk gekorreleer met onderhoud en onderhoud beteken insetkoste. Insetkoste is weer verder geweldig belangrik in winsgewende beesboerdery omdat dit die enigste koste is wat werklik deur die boer of teler beheer kan word.**

En tog, 'n wetenskaplike feit dat kleiner of medium raambeeste minder vreet (onderhoud) as grootraam beeste.

## OMGEWING

Omdat omgewing waar geboer word baie belangrik is, en ek die aanname maak dat 'n groot deel of persentasie van ons beesboerdery in ekstensiewe, lae reënvalgebiede beoefen word beïnvloed dit gevolglik my raskeuse.

Tweedens is 'n ander faktor wat jou besluit in die volgende dekade moet beïnvloed natuurlik aardverwarming.

## GEVOLGTREKKING/ CONCLUSION

**Gesien in die lig van bogenoemde uitgangspunte en redenasies saam met 'n hele klompie jare se praktiese ondervinding wil ek na die Tuli beesras kyk as my keuse vir 'n ras vir veral ons ekstensiewe, warm droë landbou streke.**

## WHY TULI?

During the 1940's, when a bright young agricultural advisor realised that the indigenous people had a breed of cattle that outperformed any other.

He made selections, took it further and today we have the Tuli, a pure Sanga

breed, an African breed, which performs extremely well and is making headlines in the cattle world. If you listen to different remarks from Tuli breeders across the country there is a lot of common experience or knowledge that they share.

Some of these remarks are the following: "Despite the fact that the Tuli can be found in many areas that are not really suited for cattle farming the Tuli's achievements compare favourable to that of other breeds."

Where did this refinement process begin?

## Len Harvey, father of the breed, explains ...

The selection for medium frame, unicoloured polled cattle, with good production characteristics, has been applied with great success for more than fifty years.

Certain characteristics and attributes were on the lips of many breeders. In short the most common factors were the high fertility, the Tuli's calm and friendly temperament, longevity, adaptability throughout the country, marketability, the poll-factor and hardiness.

We chose the Tuli for what it is famous for. The motto of the Tuli is that it has maximum productivity at a low input/ low cost and that is exactly what it does. Cattle must be able to utilise the grass and keep it short for the sheep, which the Tuli does with ease.

We are close to the Karoo, where we have a mixture of grass and shrubs, and the Tuli utilises it well. The Tuli has a fine bone structure, which is important, as it means it can easily move on the rocky outcrops and mountains, and with its fine bones, it doesn't have to struggle with a heavy body to get to the grass.

During the drier years, we tend to give a slightly better lick, but in good years, we only put out salt in the veld.

**It is important for me that a cow must produce a calf every year. The conception in my herd is 94%, most other cattle breeds average 85%, which is regarded as good, it is also important to keep in mind that a cow should at least give back 45% →**

of her own weight, and the Tuli is very successful at doing that.

**Over the past ten years I was pleasantly surprised that cows have given back 46-50% of their weight, and some even 60% of their own weight, and produced a calve every year.**

Another aspect of production is marketability. A farmer does not want to struggle to market cattle or weaners, and you also don't want to spend too much to be able to sell them.

The average weaner weighs between 230 and 250 kg, which I think is a healthy weight that compares well with any other breed. As we are stud breeders, we do not want to sell bulls that are not up to standard. Bulls that are not up to standard and cannot keep up with the rest, must be slaughtered. Those slaughtered had good gradings and it shows that grazing animals can also be marketed.

One doesn't want to spend too much on them, and the fact that the Tuli has such a fine bone structure means that their bone development is rapid and therefore they tend to pick up muscle and fat mass quicker.

**Characteristics that tend to make indigenous breeds popular are their good resistance against ticks and tick born diseases, their smooth hide, and their ability to easily adapt to the environment.**

Despite the fact that Tuli can be found in many areas that are not really suited for cattle farming our achievements compare favourable to that of other breeds. What distinguishes them from other indigenous breeds is the poll-factor, 90% of them are polled, which is a saving on labour.

When you look at where the Tuli breeders are situated in the country, it becomes apparent that we are not really in a cattle area. In the large cattle areas, any animal can produce well, but in areas where it becomes more difficult, not all animals can perform well. The other benefit of the Tuli is that they calve very easily.

In the years that I am farming with Tuli's, there were only 3 animals which had problems with birth. Two of those were heifers, younger than 20 months. Heifers





that calf that young again points to the exceptional fertility. Another benefit of the Tuli in different areas is their hardiness and the fact that they are not labour intensive. You don't need to provide a lot of lick, they don't need to be horned, you don't need to look after the heifers while they are calving and then still at the end of the season market them. No penalisation at feedlots. You receive a very good price for your calve.

**The Tuli is an indigenous polled breed, a pure breed. At this stage, the Tuli is one of the most fertile indigenous breed.**

As I have said before, 90% of the breed is polled, which is a big advantage regarding savings on labour. Radio carbon testing proved that the Tuli has been in existence for two thousand years and over this period nature has made the best selection. Fertility is very high, hardiness and adaptability have also been bred in over that period.

I always tell farmers, if the Tuli can utilise Karoo veld that is actually meant for sheep, then they can thrive anywhere in the world.

**If it can adapt in the Karoo on this type of veld, and maintain the excellent condition, while it is extremely dry at this stage. When global warming is considered, the Tuli will adapt to those conditions as well. The prediction is that it will become desert-like due to global warming with less rainfall. The quality and quantity of veld will decrease, and the Tuli will definitely be a great advantage.**

The Tuli has not only proved itself to farmers in the Southern African region, but also in Australia, Argentina and North America.

Recently there has been big demand in South African genetics from north of our borders, especially in Botswana, Zambia and Zimbabwe.

## OUTSTANDING QUALITIES

- 👍 Excellent fertility.
- 👍 Good carcass and conformation (the best rib eye to carcass ratio of any breed in the world.).
- 👍 Mostly polled.
- 👍 Trouble free calving (27-36kg)
- 👍 Perfect udders with plentiful milk to produce a good weaner.
- 👍 Natural resistance to tick-borne disease and parasites.
- 👍 Ability to thrive under extensive conditions in a variety of habitats (Highveld, Karoo, Fynbos and EC coastal bush).
- 👍 Good hybrid vigour (Bos Indicus and traditional Bos Taurus).
- 👍 Medium framed with smooth coat.
- 👍 Docile nature.
- 👍 Longevity.

## OPSOMMING/ SUMMARY

Gesien in die lig van die volgende feite sal beesboere, soos ons sê uit die "boks" moet begin dink, as hulle nie alreeds begin het nie. Hierdie feite is die volgende:

### Aardverwarming

Die afgelope somer dag temperature is iets wat die meeste van ons nog nie beleef het nie.

Die afgelope somer was die temperature in Tasmanië die hoogste in 100 jaar.

Dit gaan nuwe vereistes aan beesboere stel soos:

- 1.1 Watervoorsiening
- 1.2 Skaduwee voorsiening
- 1.3 Aangepaste beeste
- 1.4 Verandering in weiding
- 1.5 Lae koste – lae onderhoud beeste (easy care)
- 1.6 Veranderde seisoene wat dektyd en kalftyd gaan beïnvloed.

### Raskeuse

Uit die aard van bogenoemde gaan dit ook 'n invloed op raskeuse uitoefen.

Ten slotte redeneer ek dan dat sekere van ons inheemse rasse 'n groter rol in die toekoms gaan speel.

Volgens my ondervinding in die praktyk en dit wat ek waarneem, gaan die Tuli ras 'n goot rol speel wat ideaal gaan aanpas in 'n veranderde omgewing. ■

# AVONDALE



Breeding for Functionality and Fertility

Breeder of the  
2015, 2017 & 2019  
Platinum Elite Tuli cows



Herd Sire DKH 15-258

Selling in association with Tip Tree Tuli's

Don't miss our exciting **4<sup>th</sup>** Production Sale which

Our herds run on virulent Heartwater,

**Dave Mullins**

082 299 7953 [mullins@isat.co.za](mailto:mullins@isat.co.za)

Selling in association with Tip Tree Tuli's

# TIP TREE



Breeding for Enhanced Profitability and Genetic Progress

TT 12-03 our top proven stud sire sells at our 2019 Sale



# 24 September

includes our **First Gold, Silver and Bronze Phase C Bulls.**

**Redwater and Gallsickness veld**

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082 323 4286 [crosswayfarm@gmail.com](mailto:crosswayfarm@gmail.com)

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# Prediction of Breeding Values for Carcass Traits in Tuli Cattle

Dr Helena Theron, SA Stud Book



In South Africa most beef calves are finished in feedlots, therefore carcass weight is a major factor in the determination of price received per animal. Generally, too heavy or too light carcasses do not fit specifications and are penalized. Traits like inappropriate carcass size and weight or excess external fat cover can be addressed by improved genetic selection practices. Carcass traits should be an important consideration in beef bull selection. However, it is important for performance testing and selection to be able to accurately measure body and carcass composition on a live animal.

## MEASUREMENT OF CARCASS TRAITS

Historically carcass data was collected with progeny testing, requiring a bull's calves to be placed in a feedlot and slaughtered before traits were measured on the carcass. This was expensive and a very slow way to collect information and only a few sires could be measured.

Currently, there are several non-invasive techniques available for obtaining

objective phenotypic data for body and carcass composition, for example various methods using X-ray methodology and magnetic resonance imaging. As most of these methods are very expensive to use, the most common method used worldwide for measuring carcass traits on live animals is Real Time Ultrasound (RTU). It has the advantage that it is portable and reasonably priced, no radiation is involved and it requires no sedation or

anaesthesia. Ultrasound carcass scanning technology allows objective carcass information to be collected on live animals instead of having to slaughter progeny to obtain carcass information. However, there are also disadvantages to using ultrasound imaging; including less accurate anatomical resolution, image analysis which is not easily automated and most importantly, it cannot measure meat tenderness.

Carcass traits are measured in South Africa by RTU scanning of calves in post wean growth tests. In addition to traits measured in the growth test, (e.g. weight, height and length), eye muscle area (EMA), rib fat thickness, rump fat thickness and marbling are measured using RTU technology. These traits significantly influence red meat yield and quality, and are heritable.

## CARCASS TRAITS

**Carcass weight** is genetically influenced and can be changed by selecting on live weight, frame size and growth rate.

**Dressing percentage** is also an indicator of profit and is calculated as the hot carcass weight as a percentage of the live weight of the animal at slaughter. Dressing percentage typically ranges from 50% to 64% for the majority of beef cattle, while higher dressing percentages are more profitable.

**Eye muscle area (EMA)** is the area of the longissimus dorsi muscle (eye muscle or ribeye) and is measured with RTU between the 12th and 13th ribs. It is expressed in square centimetres. According to the scientific literature, EMA is an indicator of many carcass traits, including carcass yield, muscularity and carcass weight. As EMA increases, kg red meat yield increases.

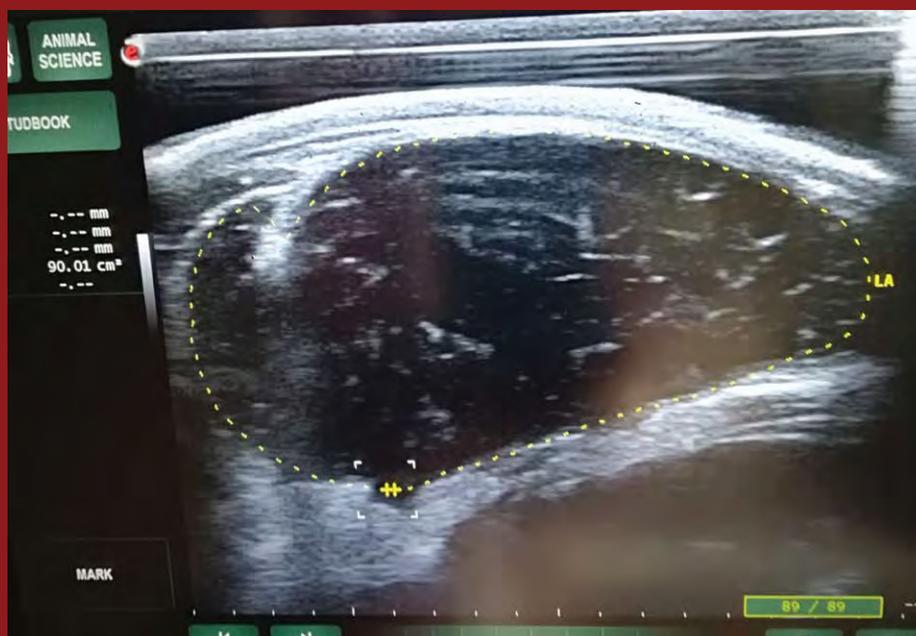
Fat thickness is a measure of external fat thickness on a carcass and is measured using RTU at two sites on the live animal. Ribfat thickness, otherwise referred to as **Backfat**, is measured at the same site as EMA between the 12th and 13th ribs, while Rumpfat thickness is a fat depot that is highly related to 12th -13th rib fat



*Marbling*

thickness (genetic correlation exceeding .70). This measurement can be beneficial when scanning very lean animals such as yearling bulls and can be used to improve the overall accuracy of external fat estimation. The subcutaneous fat covering over the carcass minimizes weight loss and protects the muscles from cold-shortening which occur during the carcass cooling process. The conventional refrigeration of carcasses

after slaughter may result in tougher meat, thus, an adequate fat thickness will ensure a higher quality product. It has also been shown that favourable genetic correlations exist between subcutaneous fat and reproductive traits, indicating that a high subcutaneous fat deposition are correlated to early finishing and sexual maturity, but undesirable genetic correlations exist between subcutaneous fat and weight gain.



*Measurement of EMA with the help of RTU scanning*

**Marbling** or intramuscular fat refers to the flecks of fat found within the muscle tissue, and is also measured together with EMA and Ribfat thickness between the 12th and 13th rib using RTU. It is however the most difficult of all ultrasound traits to measure accurately. Sufficient marbling is important for beef tenderness, juiciness and flavour.

Inadequate **tenderness** of beef is regarded as an important quality challenge facing the beef industry, as it plays a key role in consumer satisfaction. Tenderness is objectively measured with a Warner-Bratzler shear force device, but can only be obtained after the animal has been slaughtered. South African farmers are paid for tenderness based on the age of the animal. →

## SELECTION FOR CARCASS TRAITS

**Table 1: Heritabilities (on the diagonal) and genetic correlations for carcass traits as used in the South African genetic evaluation.**

	Weaning weight	End of test weight	ADG	Fat	EMA	Marbling
Weaning weight	<b>0.27</b>	0.84	0.40	0.11	0.53	0.13
End of test weight		<b>0.29</b>	0.77	0.24	0.61	0.20
ADG			<b>0.22</b>	0.26	0.35	0.24
Fat				<b>0.25</b>	0.06	0.27
EMA					<b>0.21</b>	0.19
Marbling						<b>0.20</b>



Backfat

It is possible to select for carcass traits as fat thickness, EMA and marbling are between 20 and 25% heritable (Table 1). A larger carcass with less fat and higher marbling should receive the best price, although South African farmers are not paid for marbling at this stage. However, due to underlying genetic correlations, when selecting for lower fat thickness, a decrease in marbling can be expected. According to the literature, selecting for reduced fat could also negatively affect fertility in beef females. It has been shown that daughters of sires selected for less fat often reach puberty later, require more services per conception and have an increased gestation length that could inflate birth weights and increase the risk of calving difficulty. Fat thickness is therefore a trait with an intermediate optimum – both extremes are undesirable. Bulls with desirable levels of performance for both lean yield and fertility should be selected. Breeding values (EBVs) are an effective genetic selection tool for improving carcass traits. →



Siebert Vermeulen and Gerdus busy with RTU scanning

**Figure 1: Number of measurements in Tuli cattle**

