

ANGUS JOURNAL 2021

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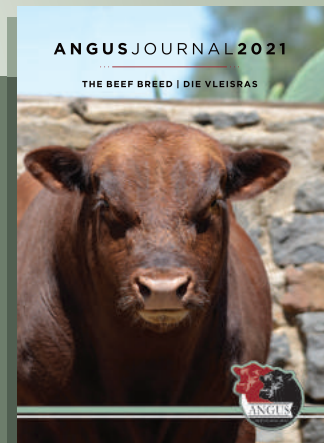
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Basie Bezuidenhout

'n Woord van die Voorsitter Message by the Chairman

"each problem is a new opportunity"

Voorspoedige 2021.

On 31 December we went to sleep and woke up on the first of January only to realize almost nothing had changed. We rushed to the end of the year to complete the tasks we were busy at. The next year we found we are still aiming at the same goals, working on the same tasks.

In 2018 Andrew Masterson said the following: "The next two years in the history of our beautiful country are going to be remembered as two of the most difficult and uncertain years in agriculture".

I am sure he did not even have Covid 19 in mind, but it turned out that his words were so true! It was true for the whole farming industry in our country and in the world. Some years ago a good friend started a meeting with "each problem is a new opportunity". This is exactly what South Africans did in 2020. With 2020 still in our memory, the people of SA stood together in many ways. As a farmer, it was encouraging and humbling to experience the goodwill of all South Africans through the droughts and fires. We as a farming community are thankful beyond words.

2020 sal seker onthou word as 'n jaar met minder hoogtepunte as die afgelope paar jare. Met dankbaarheid aan ons Skepper, het ons as boere en veral Angus boere sekerlik een van die beste jare die afgelope tyd ervaar.

Daar is 'n geweldige aanvraag na Angus koeie en veral verse regoor die land. Die vraag na bulle was baie goed en die gemiddelde pryse op veilings bevestig dit.

Wyle Minister Schoeman het gedurende die negentien sewentigs die Bloemfontein skou geopen.

In sy toespraak het hy verwys na die SA boere wat die beste boere in die wêreld is: "Maak jy die prys reg en hulle sal sorg vir 'n oorproduksie".

Hy het ook gesê dat die SA boer die mees positiefste boere in die wêreld is. Tydens 'n besoek aan die droogte gebiede het hy vir 'n jongboer, wat drie jaar op die plaas was gevra watter sy beste jaar was. Die jongman het geantwoord – "Oom, volgende jaar".

Ons is bevoorreg om met 'n ras te boer met soveel moontlikhede. Die uitstaande eienskappe van ons ras is sekerlik die gesogste in die wêreld en getalle gewys, bly dit die grootste ras ter wêreld.

Demand from consumers is for better quality Beef. There is no doubt that this will continue to force farmers to start using Angus bulls.

Met die al groter vraag na Angus bulle is dit ons plig en uitdaging om as stoet telers bulle te teel wat effektief is vir die kommersiële boer om vir hulle groter winste te genereer.

Pressure from animal lovers as well as labour challenges, will certainly increase the demand for polled animals with low birth weights and good temperament – all characteristics our breed is already famous for, hence another challenge!

When you focus on problems you will have more. Therefore, let us focus on possibilities and there will be more opportunities.

Ons as Angus telers HET DIE PLAN! Kom ons maak dit groot.

Groete
Basie Bezuidenhout



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by Wiaan Faber

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Linette Cloete

Note by the Editor

“I asked for strength
 –and God gave me difficulties to make me strong,
 I asked for wisdom
 –and God gave me problems to learn to solve,
 I asked for prosperity
 –and God gave me brains and work to do,
 I asked for courage
 –and God gave me dangers to overcome,
 I asked for love
 –and God gave me fellow human beings,
 I asked for favors
 –and God gave me opportunities,
 I received nothing I wanted, I received everything I needed.”

(Borrowed, source unknown)

Dis met groot dankbaarheid in ons harte dat ons 2021 aanpak in die landboubedryf. Ons was van die baie min mense wat gelukkig was om met ons werksaamhede te kon voortgaan in 2020, hoewel sekere sektore soos die wyn- en uitvoer-bedryf nadelig deur die nasionale inperkings-regulasies geraak is.

Ons het opnuut geleer om vreugde te vind in alledaagse dinge. Waardering te hê vir ons vryheid en die mense om ons met deernis en bedagsaamheid te behandel.

Met geleenthede en skoue wat afgestel is, moes ons baie vining leer om nie te ver die toekoms in te beplan nie en die beste te maak van elke geleentheid wat hom voordoen.

We wish to thank our sponsors, authors and advertisers for making the 2021 Journal possible.

In compiling this year's publication, we tried to cover a wide verity of topics. Hopefully there is something of interests for all our Angus breeders and friends.

A special THANK YOU to our eager photographers, you added the spice and the colour needed!



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Danie Dames

Verslag deur die Rasadviseur

Wat 'n voorreg om weereens 'n opwindende nuwe jaar in te gaan vol nuwe geleenthede. 2020 was 'n jaar waar ons almal dankbaar was om spatie te kan hê en ek glo ons almal het die vryheid wat ons het, deur te boer, en in die Landbou- sektor te kan wees, opnuut waardeer.

Covid19 en die gevolge daarvan op die wêreld ekonomie gaan nog vir baie jare gevoel word. Al die skoue, boeredae, vergaderings en inligtingsdae is gekanselleer in 2020. Inperkings het gemaak dat almal aanpassings moes maak. Die belangrikste was dat landbou en veilings egter kon aangaan wat 'n belangrike aspek vir enige ras is.

Soos voorspel in 2020 het die Angusras 'n uitstekende jaar beleef wat veilings aanbetref, en ons het 'n tekort aan Angusbulle en vroulike Angusdiere gehad. Angusbulle se gemiddelde pryse in sekere dele van die land het met meer as R10000 per bul gestyg wat toon dat daar 'n groot aanvraag na die ras is.

Die Woolworths Angus Beef projek is steeds goed op dreef en ten spyte van die moeilike ekonomiese omstandighede wat die land tans beleef, is die produk steeds hoog in aanvraag. Angus Beef is tans in Woolworths winkels regoor die land beskikbaar en ook in verskeie ander privaat instansies. Die volhoubaarheid van Angus Beef in 'n Suid-Afrikaanse mark gaan verseker in 2021 getoets word. Ons weet dat hierdie uitstekende produk vir homself sal praat en dat Angus Beef 'n huishoudelike naam sal word.

2021 het alreeds vir ons 'n paar uitdagings gegooi met verdere inperkings en meeste van die landbou skoue is alreeds gekanselleer. Ons het egter groot planne in plek vir hierdie jaar. Die Angus Klubs regoor Suid-Afrika is onsettend aktief en daar is alreeds verskeie Angus Boeredae & Kursusse wat gaan plaasvind met die doel om ons kommersiële mark en die jeug verder te betrek. Veilings word aktief bemark en die vraag na Angusdiere is alreeds hoog. 2021 gaan vir die Angusras 'n uitstekende jaar wees en as jy nog nie deel is van hierdie besonderse ras nie is dit nou die tyd om deel te word van ons Angus Reis.

Danie Dames
SA Angus Rasadviseur



Die aanvraag na Angusbulle en vroulike diere bly steeds hoog en 2021 toon baie potensiaal vir veilings.

Foto: Bulle van BIRD ISLAND REDS, Anton Vermaak.

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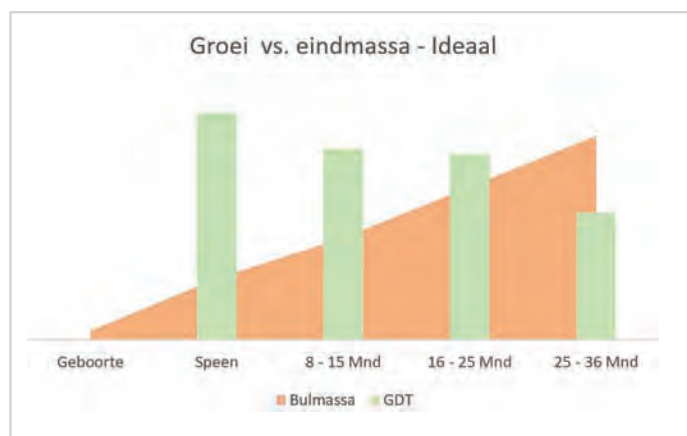
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Groeikurwes

Die ideale groeikurwe van bulle is om 50 % van hulle volwasse liggaamsmassa op 15 maande en 75 % op 2 jaar te bereik soos grafies voorgestel in Figuur 1. Die implikasie is dat kalwers wat gedurende die laat winter gebore word met 'n teikenmassa van 800 kg op drie jaar, 375 – 400 kg moet weeg gedurende November van hul tweede lewensjaar en 600 kg die daaropvolgende Augustus. Dit is goed beskryf dat diere wat konstant teen 'n matige tempo uitgroei 'n langer produktiewe lewensverwachting het. Diere wat gestrem was en intensief gevoer was neig tot probleme in terme van vrugbaarheid, langlewendheid, rumenontwikkeling en hoef probleme.

Figuur 1. Ideale groeikurwe versus GDT vir uitgroei van bulle

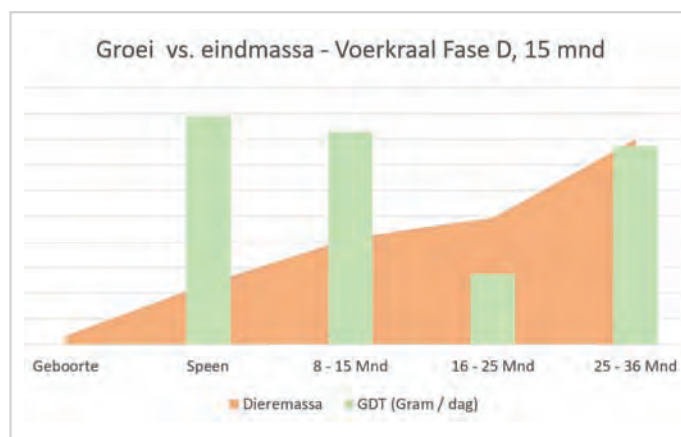


Die realiteit uit die stoetbedryf is dat bulle wat nie afgerond is vir 'n veiling nie, laer pryse behaal. Die stoetteler sit in 'n ongemaklike situasie dat hy diere met goeie sigwaarde moet aanbied deur middel van praktyke wat potensieel diereprestasie en vrugbaarheid kan benadeel (Voerkraal afrond benadering). Hiermee saam word prestasie toetsing gedoen wat relatief vroeg in die dier se lewe plaasvind en 'n intensiewe voerkraal aanslag of ekstensiewe weidings benadering kan hê.

Figuur 2 is nader aan wat in die praktyk gebeur, deurdat diere nie lank na speen in 'n Fase D toets opgeneem word, wat tot gevolg het dat die verlangde teikenmassa op 15 maande gemaklik bereik word. Hierna word diere dikwels na die veld geskuif met basiese aanvulling. Die probleem is dat diere dikwels nie hul verlangde 24 maande teikenmassa haal nie, aangesien hul die tweede winter swaarkry. Redelike herstel vind dan plaas op die somerveld, maar 'n intense voerfase word gevolg gedurende die derde winter om diere op teikenmassa en veilings gereed te kry. Variasies kom voor met produsente wat ook Fase D op die somerveld doen. Die goue

draad wat deurloop is nadat diere aanvanklik goed op teikenmassa gekry is, vind 'n verlansaming plaas wat herstel word met 'n intense voerfase wat nie bevorderlik is vir die bulle nie. Die verskynsel kom ook voor waar twee jaar oud bulle verkoop word. Bulle ontvang dikwels nie die versorging in die kommersiële kudde soos by die stoetteler nie.

Figuur 2. Praktyk realisasie van bulgroeikurwes



Praktyk realisasie

Die grootmaak van 'n bul tot 3 jarige ouderdom het 'n wesenlike koste implikasie. Die vraag word gevra of daar nie meer van weiding gebruik gemaak kan word om die einddoel



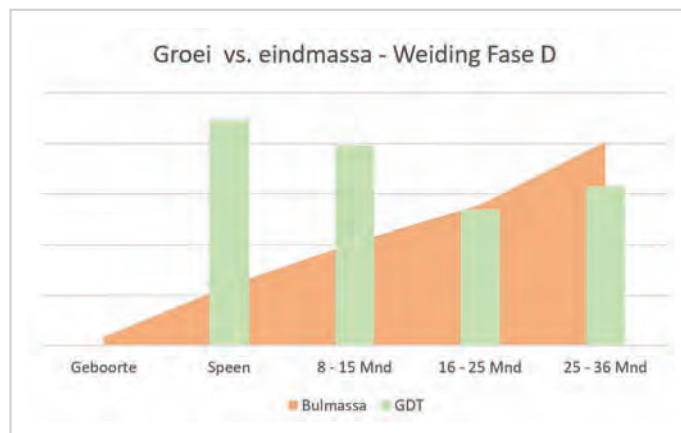
Foto: Wilru Campher LOUMOTTA

Vroulike Angus besig om aan voersorghum te smul

op 'n goedkoper wyse te bereik en die probleme rondom intensiewe voer te vermy nie. Uit die Molatek navorsingswerk van die laaste aantal jare het dit duidelik na vore gekom dat die somerperiodes die tydperke is wat massa teen lae koste aangesit word. Wintertye moet gebruik maak van alternatiewe ruvoer soos besproeide weiding of staande hooi (Sorghum kuilvoertipes) wat spesifiek vir hierdie doel verbou word. Staande hooi bv. Smutsvinger gee teleurstellende prestasie gedurende die winter – al was dit bemes. Hierdie stellings teen die agtergrond van bul uitgroei.

Bulle moet geleidelik uitgroei sonder drasties hoë of lae tye van massatoename. Vir beter winterkos kan die oorwinterings kampe redelik goed benut word tot einde Januarie waarna hulle gelaat word. Dit verseker beter oorwintering as totaal gespaarde veld – 'n praktyk wat sterk aanbeveel word. 'n Kuilvoer tipe Sorghum kan so laat as moontlik geplant word en nie totaal uitgroei nie. Dit word benut vanaf laat herfs met die speenkalwers vir die winter. Vir produsente wat fase D evaluasie doen kan dit op die Sorghum gedoen word wat dan tot laat lente sal duur. Die doel is om die eerste winter so sag moontlik te maak en die beste diereprestasie wat haalbaar is binne die hulpbron se vermoë te behaal. Figuur 3 toon die groeikurwe waar die benadering gevolg is om Fase D van die weiding te doen, somerveld optimaal te benut, veral gedurende die najaar en die winters eerder produksielek te gee. Dit het gevolg dat die veilingsvoorbereiding gedoen kan word met 'n laer energie rantsoen vir 'n korter tydperk wat nie nadelig vir vrugbaarheid, ens. is nie. Die ideaal soos getoon in Figuur 1 word nie ten volle bereik nie, maar goeie groei kom voor tot op 15 maande met teikenmassa wat ook op 24 maande bereik word vanweë goeie aanvullende wintervoeding in jaar 2.

Figuur 3. Geleidelike uitgroei van diere met fokus op weidingsbenutting



Met die uitgroei van bulle gaan dit oor meer as om 'n teikenmassa te bereik, maar ook om skelet en spierontwikkeling te bevorder. Noodwendig is daar 'n klemverskuiwing in aanvullings wat gegee word.

Rigtingwysers

Dit is duidelik dat bulle met minder kragvoer uitgroei kan word en meer van hoë kwaliteit weiding gebruik gemaak kan word. Daar is inderdaad produsente wat suksesvol hierdie praktyk volg en geen voerkraalfase het nie. Die aanvanklike vraag was of hierdie benadering meer koste effektief gesonder diere kan produseer. Die antwoord is twee ledig. Uit 'n veekundige oogpunt verseker 'n beter praktyk op weiding met diere wat meer geleidelik groei en as herkouers grootgemaak word waar hul moet produseer vir hul lewe. Verse wat nie hoë digtheid kragvoer ontvang nie toon nie rumen steurnisse en hoefprobleme op 3 jaar nie.





Foto: Wilru Campher LOUMOTTA

Tabel 1. Is die onverwagte antwoord wat toon dat die koste vir die twee benaderings baie soortgelyk is, met die grootmaak van 'n bul tot 3 jarige ouderdom wat met die meer intensiewe benadering R 13 877 kos teenoor die weidingbenadering van R 13 394.

Tabel 1. Koste vergelyking tussen twee bul uitgroei benaderings

Tydperk	Voerkraal benadering		Weiding benadering	
	Produk	Per Bul	Produk	Per Bul
Speen tot ± 15 maande	Proteïnelek 40	R86	Pasture Master op Sorghum	R1 379
	Fase D Rantsoen	R3 825	Voersorghum koste	R2 596
1 e Voorsomer	Foslek	R191	Foslek	R191
1 e Nasomer	Foslek	R191	Meester 20	R354
2 Winter	Proteïnelek 40	R364	Kondisielek	R984
2 e Voorsomer	Foslek	R223	Foslek	R254
2 e Nasomer	Foslek	R297	Meester 20	R884
Voorbereiding	Veilings rantsoen (Hoe energie)	R8 700	Veilings rantsoen (Lae energie)	R6 753
	Totaal tot 3 jaar	R13 877	Totaal tot 3 jaar	R13 394

Opmerkings uit Tabel 1.

- Dit is 'n teoretiese oefening uit 'n voedingsoogpunt om 'n spesifieke groeikurwe te verkry
- Dit word aanvaar dat variasie op die tema kan voorkom weens spesifieke omstandighede bv. Hulpbronsamestelling
- Die voersorghum koste maak voorsiening om 'n hoë kwaliteit weidingsgewas êrens tot op 15 maande te benut, dit kan ook somer weiding wees wat bemes sou word maar êrens moet voorsiening gemaak word vir 'n verbetering van ruvoer kwaliteit wat 'n koste het.
- Waar die voerkraal benadering meer basiese aanvulling gebruik aangesien die groei in die voerkraal tydperke geskied moet die weidings benadering meer van produksielekke gebruik maak om verlangde produksie vanaf die weidings te verkry. Dit is veral die wintertydperke wat goeie produksie aanvulling vereis.
- Om 'n gegewe produksie (eindmassa) te verkry vereis 'n spesifieke voedingspeil. Of dit teen 'n hoë peil oor 'n kort tyd of 'n laer peil oor langer tyd toegedien word verander nie drasties aan die totale koste daarvan nie.

Opsomming

Daar is goeie redes waarom produsente sekere praktyke volg en nie sondermeer sal verander nie. Dit is ook duidelik dat die koste implikasie nie 'n deurslaggewende faktor sal wees nie. Uit die oogpunt van meerderwaardige genetiese materiaal wat aan die mark voorsien word met gepaardgaande langlewendheid is die benutting van goeie kwaliteit ruvoer die rigting om te beweeg.

'n Benadering om te volg sou wees om terugwaarts te werk vanaf die einddoel. Om 'n drie jaar oud bul van 800 kg te verkoop beteken dit dat hy teen 0.68 kg per dag moet groei oor die totale tydperk van ± 800 dae. Beplan die uitgroei van die bulle oor die tydperk en vermy 'n onnodig hoë energie dieët wat probleme kan skep. Daar is produsente wat uiters suksesvol daarin slaag.

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OVERWINTERING OF COWS: BEST PRACTISE

Dr Josef van Wyngaard

Technical Manager Voermol Feeds

The main purpose of a supplemental lick is to fill the nutritional gap between nutrient supply, from forage in grazing systems, and nutrient requirement as set by the animal. The animal nutrient requirement is dependent on the weight, age and production status of that animal. Regardless of a mineral lick, transition lick, protein lick or production lick, all are there to fill a specific nutritional gap predominantly linked to a specific time period or season.

Research showed that animal production, in the form of weaning percentage and calf weaning weight, increased by 33% and 26%, respectively, when implementing a balanced annual lick programme when compared with a non-supplemented animal group. Correct protein supplementation and the transition from mineral licks to protein licks contributes significantly towards the increased observed animal production.

TRANSITION LICKS ENSURE SUSTAINED ANIMAL PRODUCTION

Once natural grasslands enter the late growing season, animals should be given additional protein combined with phosphorous in the form of a transition lick as recommended by Australian researchers McCosker and Winks (1994). A transition lick aimed at bridging the period from the green to the dry season, will promote both production and reproduction, as the extra protein in the lick will limit the loss of weight and condition.

Benefits:

- It ensures a gradual transition from phosphorous supplementation in summer to urea-containing licks in winter.
- It contains less urea than winter licks, thus decreasing the risk of urea poisoning when animals are switched to winter licks (high in urea) – they will be fully adapted to urea by then.
- It ensures that animals don't overfeed on the high-urea winter licks, as they will be adapted gradually.
- It provides at least 50 to 80 g of protein and 6 to 9 g of phosphorous per head per day during the period when the nutritional value of the grazing starts to decrease.
- It limits the loss of weight and condition in cattle (moderate growth is still possible), thus promoting production and reproduction.

When?

- As soon as there is a drastic increase in phosphate lick intake and/or grass reaches maturity when it starts to seed.
- In the high rainfall areas cattle will start reacting to protein supplementation even when grazing is still somewhat green.

Self-mixing transition licks for beef cattle

In sweetveld grazing areas good results are achieved with Voermol Superfos (V17422) or a Voermol Super 18 (V355) based transition lick (80 kg Voermol Super 18 plus 50 kg Rumevite 12P [V11994] plus 50 kg salt). Where it is necessary to supply more protein, especially on poorer sourveld grazing areas, one of the following transition licks can be mixed:

Raw materials	Transition lick			
	1	2	3	4
Voermol Premix 450 (V4676) (kg)	200	–	–	–
Voermol Bovelder Lick (V19218) (kg)	–	300	–	–
Voermol Dundee Lick Concentrate (V10737) (kg)	–	–	150	–
Voermol Bovelder Lick Concentrate (V19908) (kg)	–	–	–	150
Voermol Rumevite 12P (V11994) (kg)	100	100	150	100
Salt (kg)	150	100	150	200
Total (kg)	450	500	450	450
Recommended cattle intake (g/head/day)	250-400	200-300	190-300	200-320



Foto: Anton Vermaak, BIRD ISLAND REDS

PROTEIN LICKS MAINTAIN COW CONDITION, IMPROVES FERTILITY AND ENHANCES THE UNBORN CALF'S PERFORMANCE

It is well-known that protein supplementation is essential in preventing weight loss in breeding cows during the dry season. Hence, the main purpose of protein licks is to maintain the weight that an animal has put on in the summer until calving time.

Other benefits of supplementing protein licks

- Improved fertility. Supplementing nutrients that are lacking in dry grazing has a stimulating effect on an animal's appetite and promotes the digestion of dry grazing. This can then increase grazing intake by up to 20%. It limits condition and weight loss, thus improving fertility. Without sufficient protein supplementation through licks on dry grazing, breeding cows will not achieve their target condition by the start of the breeding season. The result is poor conception and resultant lower calving percentages.
- Strong immune system. Animal performance and optimal functioning of the immune system are adversely affected if animals are exposed to a protein deficiency on dry grazing or crop residues. Low resistance due to weak immunity will make animals more susceptible to bacterial and viral diseases, while animals will also immunise weaker when vaccinated.
- Generational feeding. Researchers in Argentina (2019) tested the theory: 'What you feed during late-pregnancy affects the calf's performance in the feedlot', on Angus

cows. Results showed that when feeding optimal protein levels to cows during late-gestation increased the Longissimus muscle-area of the born calf (68 vs 78 cm²) which resulted in a greater carcass dressing percentage when slaughtered after feedlotting.

Protein requirement of mature pregnant cows

A mature cow of 550 kg body weight requires 680 g of protein per day during early gestation and 860 g during late-gestation (last 1/3 of pregnancy).

Winter forage dry matter intake of dry beef cows may vary from 1.8% to 2.2% of body weight dependent on the digestibility of the forage, <52% total digestible nutrients and 52% to 59% total digestible nutrients, respectively. Hence, the average dry matter intake of a 550 kg cow is 11 kg.

The average protein level between sourveld and sweetveld grazing is 3.5% to 5.5%. Hence, 11 kg of average winter forage will only supply 500 g of protein, which is 180 g short of the animals protein requirement during early gestation.

When supplementing protein it is advised to aim for a minimum of 180 g of protein per cow per day and can be increased to 240 g per cow per day to ensure the animal's protein requirement is met on all types of veld. It is evident that a protein supplement on its own is not sufficient for a late-gestation cow, therefore it is advisable to feed a production lick with a higher intake at least 30 days before calving.

When?

Soon after the first frost or when it is evident that veld quality is decreasing. Lick intake is also a very good indicator of the animal's nutrient requirements. As soon as an increase in mineral lick intake is observed it is then time to start with a transition lick and soon after a protein lick.

Readymix and self-mixing protein licks for beef cattle

Readymix protein licks for sweetveld grazing areas for good results include Voermol Premix 450 (V4676) at 400 to 500

g/head/day or Voermol Ekonolick (V11147) at 630 to 800 g/head/day. The latter lick is ideal for phosphorous-deficient areas.

Voermol Bovelder Lick (V19218) is the recommended readymix protein lick for the sourveld areas. It contains higher levels of salt, natural protein, minerals and trace minerals especially for the high rainfall areas where the quality of winter forage can be extremely low.

Herewith a table for self-mixing protein lick options:

Raw materials	Protein lick			
	Sweetveld or mixed veld		Sourveld	
	1	2	1	2
Voermol Dundee Lick Concentrate (V10737) (kg)	250	-	400	-
Voermol Bovelder Lick (V19218) (kg)	-	500	-	600
Milled maize/whole small grains/Molasses Meal	100	120	-	-
Voermol Rumevite 12P (V11994) (kg)	25	-	50	-
Salt (kg)	150	250	300	400
Total (kg)	525	870	750	1000
Recommended cattle intake (g/head/day)	450 -550	400 -500	420 -520	400 -550

WHAT ARE THE UNIQUE CHARACTERISTICS OF VOERMOL'S MOLASSES BASED PROTEIN LICKS?

- Urea is dissolved in molasses syrup and the energy of molasses is immediately available to the microbes in the rumen, ensuring the effective utilisation of urea. This reduces the risk of urea poisoning.
- The relatively low pH in Voermol's products ensures that the breakdown of urea to ammonia in the rumen is slower. This ensures that ammonia is utilised more effectively by the microbes in the rumen, again reducing the risk of urea poisoning.
- Molasses is rich in potassium, which is a moderate laxative and subsequently aids in preventing dry gall sickness in animals on dry grazing.
- Molasses is palatable and thereby ensures that licks are not dusty. This assists in achieving the prescribed lick intake and, at the same time, prevents licks from blowing away.
- Voermol markets a range of molasses-based rumen-stimulating protein licks in various forms (loose lick, block or liquid); formats (premix, ready-to-use or self-mix); with high or low phosphorus content and with high levels of all six essential trace elements, as well as macro-minerals and Vitamin A. Farms often differ vastly due to various factors (including different soil types; climatic conditions; grazing composition and species; grazing and animal management practices, etcetera). This necessitates changes to existing lick supplementation practices and recipes, in order to achieve the optimum response.



Foto: RC Malherbe, ROECHAMA ANGUS

Should you require more information, contact your nearest Voermol agent (see www.voermol.co.za for details) or send an email to info@voermol.co.za



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What is the role / responsibility of the stud breeder?

To enable the commercial and fellow stud breeder, who buys genetics, to be more profitable. It is widely accepted that the commercial producer is the primary client of the stud breeder. Commercial producers buy the majority of stud bulls. Therefore, genetic improvement of economically important traits is of utmost importance. The right choice of a breeding bull is the most important factor that will influence the success of your beef enterprise. Bulls are usually 3% - 5% of the total herd, but their contribution to the genetic composition of the calf is 50%. The three bulls used previously in a beef herd contribute almost 90% to the herd's genetic composition. Consider the value of a bull in the long term. The bull will have an immediate impact over 1-5 years as the direct breeding of offspring and will have an additional influence of 3-10 years on the cowherd. The bull's influence will also have a further moderate impact on the cows over the next 20 years. The success of a breeding program will depend on whether the bull will improve your cowherd or not.

What is the "right" bull?

Bull selection may be the most effective method for genetic improvement in the herd, but bulls with low fertility, structural problems and low libido can reduce the weaning percentage of the herd. Select bulls that will produce replacement heifers that are well adapted (which also calve every year) for your environment and management. It is important that a bull is selected primarily for its genetic ability that will advance the breeding goals for the herd. It is also important to keep in mind that good genetics can be "hidden" by poor nutrition and that poor genetics can be "hidden" with good nutrition. A bull's "CV" is based on his own performance information as well as that of his family and other relatives. The "qualifications" of the bull expressed as estimated breeding values (EBVs). The "CV" of the bull must determine what is suitable for the specific needs of a herd, such as fertility, an improved growth rate, frame size of his daughters, as well as an improvement in milk production, etc.

Important characteristics with the selection of a bull

It is important to determine breeding goals based on traits of economic importance. The selected bull must complement the buyer's breeding goals, and all available information about the bull need to be analyzed prior to the date of purchase. Consider traits such as fertility, growth, feed

Wat is die rol / verantwoordelikheid van die stoetteler?

Om die kommersiële en mede stoetteler, wat genetika aankoop, in staat te stel om meer winsgewend te wees. Dit word wyd aanvaar dat die kommersiële produsent die primêre kliënt van die stoetteler is. Die meeste manlike stoetdiere word deur kommersiële produsente gekoop. Daarom is genetiese verbetering van ekonomies belangrike eienskappe van uiterste belang. Die regte keuse van 'n teelbul is die belangrikste faktor wat die sukses van u beesvleisonderneming sal beïnvloed. Gewoonlik is bulle 3% - 5% van die totale kudde, maar hul bydrae tot die genetiese samestelling van die kalf aanwas is 50%. Die drie bulle wat laaste in 'n vleisbeeskudde gebruik was, dra bykans 90% tot die kudde se genetiese samestelling by. Die waarde van 'n bul moet oorweeg word op die langtermyn. Die bul sal 'n onmiddellike impak hê oor 1-5 jaar as die direkte vaar van nageslag en sal 'n addisionele invloed van 3-10 jaar op die koeikudde hê. Die bul se invloed sal ook 'n verdere matige impak hê op die koeie oor die daaropvolgende 20 jaar. Die sukses van 'n teelprogram sal afhang van of die bul u koeikudde sal verbeter of nie.

Wat is die "regte" bul?

Bul keuse kan die mees effektiewe metode vir genetiese verbetering in die kudde wees, maar bulle met lae vrugbaarheid, strukturele probleme en lae libido kan die speenpersentasie van die kudde verlaag. Kies bulle wat vervangingsverse sal produseer wat goed aangepas is (wat ook elke jaar kalf) vir u omgewing en bestuur. Dit is belangrik dat 'n bul hoofsaaklik gekies word vir sy genetiese vermoë wat die teeldoelwitte vir die kudde sal bevorder. Dit is ook belangrik om in gedagte te hou dat goeie genetika "weggesteek" kan word deur swak voeding en dat swak genetika "weggesteek" kan word met goeie voeding. 'n Bul se "CV" is gebaseer op sy eie prestasie-inligting sowel as van sy familie en ander verwantes. Die "kwalifikasies" van hierdie bul word uitgedruk as beraamde teelwaardes (EBV's). Die "CV" van die bul moet bepaal wat geskik is vir die spesifieke behoeftes van 'n kudde, soos vrugbaarheid, 'n verbeterde groeitempo, raamgrootte van sy dogters, asook 'n verbetering in melkproduksie, ens.

Belangrike eienskappe met die seleksie van 'n bul

Dit is belangrik om teeldoelwitte te bepaal op grond van eienskappe van ekonomiese belang. Die gekose bul moet die koper se teeldoelwitte aanvul, en alle beskikbare inligting oor die bul moet voor die aankoopdatum ondersoek word. Oorweeg eienskappe soos vrugbaarheid, groei, voer doeltreffendheid en kwaliteitseienskappe en probeer ekstreme

efficiency and carcass traits and try to avoid extreme breeding values, especially with regard to mature weight, which is an indication of frame size. Commercial breeders should select for low birth weights and above average weights for 200 and 400 days (growth rate). Always keep in mind the fertility rates of the female animals. The reproduction figures of the dam also appear on the auction catalogue.

Heritability is an indication of variance within a trait which is due to genetics. A heritability estimate of less than 15% is low. The environment therefore has a big influence on the trait. An average estimate is 20% to 40% and more than 45% considered highly heritable. The environment therefore has a smaller influence on the trait

FERTILITY - Fertility is one of the most important indications of adaptability. Although fertility traits in general are less heritable, (3% to 10% is accepted worldwide as the norm) and external factors, such as nutrition and health, play a major role in fertility, this does not mean that we cannot show progress in fertility through selection. Fertility problems does not only stem from female animals. A bull that is not fertile will lead to major financial losses, especially if one keeps in mind that a bull contributes about 50% of the genetic composition of the calf and that a bull in a herd about 80% contributes to the breeding progress.

The most important measures of fertility are firstly the number of calves born in relation to the number of cows mated (calving percentage) and secondly the number of days between calvings (ICP). The average calving performance of the commercial sector is currently 61%. However, this figure does not compare very well to the 83% average calving percentage of the commercial farmer participating in performance testing.

teelwaardes vermy, veral ten opsigte van volwasse gewig, wat gekorreleerd is met raamgrootte. Kommersiële telers moet selekteer vir lae geboortegewigte en bo-gemiddelde gewigte vir 200 en 400-dae (groei tempo). Hou altyd die vrugbaarheidsyfers van die vroulike diere in gedagte. Die reproduksie syfers verskyn ook op die veilingskatalogus

VRUGBAARHEID - Vrugbaarheid is een van die belangrikste indikasies van aanpasbaarheid. Alhoewel vrugbaarheid laag oorerflik is (3% tot 10% word wêreldwyd as die norm aanvaar) en eksterne faktore, soos voeding en gesondheid, 'n groot rol speel in vrugbaarheid, beteken dit nie dat ons nie vordering kan toon ten opsigte van vrugbaarheid deur seleksie nie. Probleme ten opsigte van vrugbaarheid stam nie net van vroulike diere af nie en 'n bul wat nie vrugbaar is nie, kan tot groter finansiële verliese ly, veral as mens in gedagte hou dat 'n bul ongeveer 50% van die genetiese samestelling van die kalf bydra en dat 'n bul in 'n kudde ongeveer 80% tot die teelvordering bydra.

Die belangrikste maatstawe van vrugbaarheid is eerstens die aantal kalwers gebore in verhouding met die aantal koeie gepaar (kalf persentasie) en tweedens die periode bereken in die aantal dae vanaf een kalfdatum tot die volgende kalfdatum en staan bekend as die tussen-kalf-periode (TKP). Die gemiddelde kalfpersentasie van die kommersiële sektor is tans 61% terwyl die TKP ongeveer 436 dae is. Hierdie syfer lyk egter nie goed as dit vergelyk word met die 83% gemiddelde kalf persentasie van die kommersiële boer wat aan prestasietoetsing deelneem nie.

Dit is belangrik om die bul- en koei families te identifiseer wat die gene vir vroulike vrugbaarheid dra. In die geval van 'n bul kan streng bulseleksie 'n maatstaf wees deur nie bulle te selekteer wie se ma nie aan rasstandaarde voldoen ten opsigte



Foto: LOUMATTA Angus, Ventersdorp. (Loutjie Campher)

It is important to identify the bull and cow families that carry the genes for female fertility. In the case of a bull, bull selection can focus on age at first calving of the dam (depending on breed and environment), and inter calving period. It is important to pay attention to specific traits as functionality, adaptability to the environment, scrotal size, semen quality, and libido. It is also extremely important to look at its performance data and its breeding values, which will give an indication of its genetic potential.

GROWTH-The estimated breeding value is a numeric value that predicts the genetic merit for a specific trait, but the accuracy of the breeding value must also be taken into account. The weaning weight and the year weight of cattle can be genetically increased by means of selection and, by selecting for weaning weight; the growth rate can be increased in different growth stages. The positive genetic correlation between weaning weight and year weight will enable breeders to use weaning weight as effective selection criteria, even if the primary selection objective is for post-weaning growth. If the growth rate is a goal, it should be taken into account that birth weight can also increase due to the high correlation between growth traits. Rather select “curve bender bulls” that have a good growth rate after birth, but which then flatten out to ensure cow weights and frame type are limited.

FEED EFFICIENCY -The utilization of feed by animals has long been recognized as one of the most important cost drivers and influence the profitability of beef cattle production. Efficiency measures the inputs needed to achieve a desired output. Note that up to 75% of the cost of raising beef cattle is related to feed costs. Up to 70-75% of the feed intake in the lifetime of cattle is used for maintenance while 29% of the feed is utilized for growth and milk production. In view of the rising feed prices, the improvement in the efficiency of feed consumption is becoming increasingly important.

ADULT COW SIZE AND EFFICIENCY -The ideal frame size and profitability remains a controversial topic among cattle farmers. While one farmer wants to include medium frame cows in his herd because they require less maintenance, the other one breeds animals heavier, because every kilogram of beef means money in his pocket. The farmer's production system, available natural resources and market will determine the ideal frame size. To measure cows' efficiency, we can use calf weaning weight / cow weight ratio (MacNiel.2007), calf weaning weight / cow metabolic weight ratio (Rasby 2010) and Jordaan (2015) suggest that kg calf weaned per large stock unit be investigated as a measure of cow calf efficiency or cow productivity. Scholtz (2015) investigated cow efficiency by considering feed requirements for cows with different frame sizes. He found that cows with a large frame should wean a calf of 51% of its own body weight @ 150 kg / LSU, where a cow with a small frame should wean only a calf of 45% of its own body weight to be effective. A more efficient animal will also breed offspring that are more efficient.

van “ouderdom van eerste kalfwing” en nie op enige stadium oorgeslaan het nie. Dis belangrik om na spesifieke eienskappe op te let soos funksionaliteit, aanpasbaarheid vir die omgewing, skrotumomvang, semen kwaliteit, en libido. Dis ook uiters belangrik om te kyk na sy prestasiedata en sy teelwaardes, wat 'n indikatie sal gee van sy genetiese potensiaal

GROEI - Die fisiese voorkoms van 'n dier is 70% te wyte aan omgewingsinvloede en slegs 30% aan sy genetiese vermoë. (Afhangend van die oorerflikheid van die eienskap.) 'n Beraamde teelwaarde is 'n numeriese waarde wat die genetiese meriete vir 'n spesifieke eienskap voorspel, maar die akkuraatheid van die teelwaarde moet ook in ag geneem word. Die speengewig en die jaargewig van beeste kan geneties verhoog word met behulp van seleksie en, deur vir speengewig of die jaargewig te selekteer, kan die groeitempo in verskillende groeistadiums verhoog word. Die hoë positiewe genetiese korrelasie tussen speengewig en jaargewig sal telers in staat stel om speengewig as effektiewe seleksiekriteria te gebruik, selfs al is die primêre seleksiedoelstelling vir na-speense groei. As die groeitempo 'n doelwit is, moet in ag geneem word dat geboortegewig ook kan verhoog a.g.v. die hoë korrelasie tussen groei eienskappe. Selekteer eerder “curve bender bulle” wat na geboorte 'n goeie groeitempo het, maar wat dan afplat om te verseker koeigewigte en raam tipe word beperk.

VOERDOELTREFFENDHEID - Die voer van diere word lank reeds erken as een van die belangrikste metodes om die winsgewendheid van vleisbees produksie te verhoog. Doeltreffendheid meet die insette wat nodig is om 'n gewenste uitset te behaal. Neem in ag dat tot 75% van die koste van die grootmaak van vleisbeeste verband hou met voerkoste. Tot soveel as 70-75% van die voerinname in die leeftyd van beeste word gebruik vir onderhoud terwyl 29% van die voer aangewend word vir groei en melkproduksie. In die lig van die stygende voerpryse, word die verbetering in die doeltreffendheid van voer verbruik al meer belangrik.

VOLWASSE KOEI GROOTTE EN DOELTREFFENDHEID - Die ideale raamgrootte en winsgewendheid bly 'n omstrede onderwerp onder beesboere. Terwyl die een boer mediumraam koeie in sy kudde wil opneem omdat hulle minder onderhoud benodig, laat die ander een sy diere so swaar moontlik word, want elke kilogram beesvleis beteken geld in sy sak. Die boer se produksiestelsel, beskikbare natuurlike hulpbronne en mark sal die ideale raamgrootte bepaal. Om koeie se doeltreffendheid te meet, kan ons kalf speengewig / koei gewig verhouding gebruik (MacNiel.2007), kalf speengewig / koei metaboolse gewig verhouding (Rasby 2010) en Jordaan (2015) stel voor dat ondersoek gedoen word na kg kalf gespeen per grootvee-eenheid as maatstaf vir koei-kalfdoeltreffendheid of koei-produktiwiteit. Scholtz (2015) het koei doeltreffendheid ondersoek deur voervereistes in ag te neem vir koeie met verskillende raamgroottes. Hy het bevind dat koeie met 'n groot raam 'n kalf van 51% van haar eie liggaamsgewig moet speen @ 150 kg / LSU, waar 'n koei met 'n klein raam slegs 'n kalf van 45% van haar eie liggaamsgewig moet speen om doeltreffend te wees. 'n Doeltreffender dier sal ook doeltreffender nageslag teel.

Bull selection and performance testing

Performance testing is important and complement other criteria, which include functional efficiency and genetic variation, in the selection of a bull. Performance testing enables us to determine individual performance, as well as improvement of efficient beef production, by improving individual herd genetics. We can also apply this information to constantly strive to improve the overall quality of beef as a product.

As mentioned earlier, a bull's "CV" contains all his performance information as well as the performance information of his relatives. All this information is summarized in one Estimated Breeding Value (EBV) for each trait. The EBV is a combination of an animal's own performance, the performance of its family and the performance of its offspring are also taken into account. Genetic progress can be improved with the efficient use of EBVs, without adversely affecting other important traits. However, it is very important to keep in mind that EBV's as a selection tool will not be effective without a balanced approach. Breeding values are a wealth of information. The danger lies in excessive single trait selection. Emphasis on single traits at the expense of other important traits that determine profit can harm breeders and the industry.

Bul seleksie en prestasietoetsing

Prestasietoetsing is 'n belangrike aanvulling tot ander kriteria, wat bouwvorm (funksionele doeltreffendheid) en genetiese variasie insluit, in die seleksie van 'n bul. Prestasietoetsing stel ons in staat om te bepaal hoe individuele diere presteer, asook om die algemene doeltreffendheid van beesvleisproduksie te verbeter deur kuddes se genetica te verbeter. Ons kan hierdie inligting ook toepas om voortdurend daarna te streef om die algemene kwaliteit van beesvleis as produk te verbeter.

Soos vroeër genoem, bevat 'n bul se "CV" al sy prestasie-inligting sowel as die prestasie-inligting van sy verwantes. Al hierdie inligting word saamgevat in een Beraamde Teelwaarde (EBV of Estimated Breeding Value) vir elke eienskap. Die EBV is 'n kombinasie van 'n dier se eie prestasie, die prestasie van sy familie en die prestasie van sy nageslag word ook in ag geneem. Genetiese vordering kan verhoog word met die doeltreffende gebruik van EBV's, sonder om ander belangrike eienskappe nadelig te affekteer. Dis egter baie belangrik om in gedagte te hou dat hierdie hulpmiddel wat teelwaardes bied, nie veel sal help as balans en logika van die produksie stelsel oor die hoof gesien word nie. Teelwaardes is 'n voorbeeld waar daar 'n magdom inligting oor eienskappe vervat is. Die gevaar lê in die ooreiwerige toepassing daarvan sonder om na die korrelasie tussen eienskappe te kyk. Klem op enkel eienskappe ten koste van ander belangrike eienskappe wat wins bepaal, kan telers en die bedryf skade berokken. Sodra 'n balans behoorlik in plek is, kan die moderne ontwikkelings op genetiese terrein reg aangewend word.

Remember the old saying: "A good bull is half your herd, but a bad bull is your whole herd!!"

Onthou die ou gesegde: "’n Goeie bul is die helfte van jou kudde, maar ’n swak bul is jou hele kudde!!"



Foto: WENSPAN Angus, Viljoenskroon (Johan Kahts)

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IONOPHORES

THE GOOD, THE BAD AND THE (NOT SO) UGLY



Most ruminants are designed to produce either meat, wool or milk from consuming forages such as grasses and legumes. This is achieved by the symbiotic relationship a ruminant has with its microbial population in its rumen. The microbes assist the host animal to utilize fibrous plant materials through microbial fermentation. This is a natural process and a process we could accept and continue to farm with for generations to come. But in farming, as in many other aspects of life, the finishing line keeps on shifting and we need to adjust so that we will be able to make it to the finish line, hopefully with a performance which can be seen as above average. Why is this finishing line shifting? Well, the need to produce more from less, or at least more from the same. A farm or piece of land can only carry a certain number of animals, depending on the type of production system applied on that piece of land. So how do we produce more from the same piece of land? We can do this by improving the efficiency of the animals which we are farming with. There are many ways to improve the efficiency and one of those are by adding ionophores to the diet of the animal.

The GOOD - Ionophores are feed additives derived from naturally occurring bacteria classed as antibiotics, and is widely used in ruminant and poultry production systems. It is mainly used to improve feed efficiency and body weight gains. Ionophores improves or alters the fermentation characteristics in the rumen and this leads to improved production efficiency. Ionophores select against gram-positive bacteria and protozoa in the rumen. This is beneficial as less waste products, such as methane, is produced. As much as 12% of the gross energy of feed can be lost in methane production. By altering this fermentation environment, it also creates an environment for desirable bacteria to grow and produce, increased amounts of propionic acid and decreases the production of acetic acid and lactic acid which results in improving the overall energy status of the animal. Propionate has the potential to be used for gluconeogenesis and this results in an animal with higher blood energy concentrations. Collectively, this results to greater feed efficiency. Improved efficiency of animals results in higher yields per hectare, thus producing more from less.

Added advantages is that ionophores also assist in controlling coccidiosis,

acidosis, ketosis and bloat. Bloat: Bloat occurs when the animal fails to expel the gasses formed during fermentation at a quicker rate as at which these gasses are produced. A reason for the gas entrapment may be because of the stable foams which form in the rumen. Ionophores, such as monensin sodium, reduces gas production in the rumen and it may even reduce the viscosity of rumen fluid which also assist in controlling bloat. Because of the reduced production of acetic acid, the incidence of acidosis is also decreased. Coccidiosis: Coccidiosis is commonly a disease of young animals up to a year of age. Some cattle that has coccidiosis may appear healthy, with a watery stool with little or no blood present in the stool. In more severe cases, the stool will become bloody and running. The animals may even develop a fever, become depressed, dehydrated and lose weight. Ionophores can cross the membranes of the parasites causing coccidiosis and eventually causes the parasite to burst due to increased osmotic pressures inside the parasites themselves. Acidosis: Animals consuming high carbohydrate diets are prone to develop acidosis. Studies has shown that certain ionophores can increase the rumen pH in animals experiencing carbohydrate stress and



Photo: Colette Masterson, MILAGRO

thus decreasing the incidence of rumen acidosis. This increase in rumen pH is achieved by reducing the production of lactic acid forming bacteria (lactic acid has a pH of around 3.5) and promoting propionic acid forming bacteria. Ketosis: Sudden onset of lactation in cows can shift the cow into ketosis. Glucose and glucose precursors plays an important role in milk production. When the cow needs to mobilize body fat to meet this increase in energy demand, these fatty acids can easily be metabolized into ketone bodies which results in ketosis. As ionophores promotes propionate production, which in turn assist in glucose formation, it has the ability in limiting the onset of ketosis in cows.

The BAD - Ionophores are mainly fed in small amounts, in either a dry or liquid form. South Africa mainly uses the dry forms of ionophores which are mostly monensin sodium and lasalocid. It is important to ensure proper mixing of ionophores as ionophores can be toxic if consumed in large amounts. Many animal feed companies has some or other ionophore included in certain concentrates and licks, and this makes it more convenient and safer to use by producers. Concentrates which has ionophores included in them tends to mix better into a ration compared to adding the small amount of ionophores in separately.

Important signs to look out for when using feed containing ionophores are:

- Diarrhea and signs of abdominal pain
- Loss of appetite, reduced feed intake or even completely off feed
- Dullness, depression and lethargy
- Muscular stiffness and loss off balance
- Difficult or laboured breathing
- Death can occur within 3-14 days after ingestion
- Toxicity will usually involve a recent change in feed supplementation and will also normally involve more than one animal
- Cattle that recover from ionophores poisoning may die later on due to heart failure
- Horses are very susceptible to ionophore poisoning, so it is important to keep them away from feed containing ionophores

Taking the above points into consideration, it is important to use and mix your ionophores or concentrates containing ionophore according to the mixing instructions indicated on the packaging materials. It is also important to follow the guidelines on adapting animals to the feed containing ionophores.

The (not so) UGLY - As mentioned earlier, ionophores are classified as antibiotics. It is however in an antibiotic class that is not used in humans and for this reason there is no risk in humans developing resistance against antibiotics used in the human medicinal field.

So how does Molatek assist in improving the production status of your herd? Molatek has several products, especially for the feedlot side of the farming business, which has ionophores included. Molatek has three fattening concentrates for beef feedlotting, which includes Beef Fat 33+, Feedlot Concentrate and HPC 820. These products are designed to supply all of your concentrate needs in a feedlot ration. We also have two products which can be fed as lick supplements on green pastures which includes ionophores. Background 18 and Pasture Master assist in better energy utilization and thus better feed conversion efficiency for animals on green pastures. Molatek is also very fortunate to have a widespread sales team which are more than capable of assisting the farmer with his needs and questions.

Lastly, the age old question on the use of ionophores and the effect it might have on bull fertility. Numerous studies have shown that there are no negative effects on bull fertility fed ionophores and other studies show that there are minimal negative effects, but so small that it is negligible. There are also studies that indicate that yearling bulls having larger scrotal circumferences and larger pelvic areas than control group bulls. This larger scrotal circumferences also resulted in higher semen volume for these bulls. Studies from the 1980's until recently shows that ionophores can be safely fed to bulls which are being raised for breeding purposes.

The use of ionophores is a tried and tested technology without problems and it contributes to a profitable and effective farming enterprise.

For more information visit www.molatek.co.za or contact your nearest Technical Sales Agent for assistance.

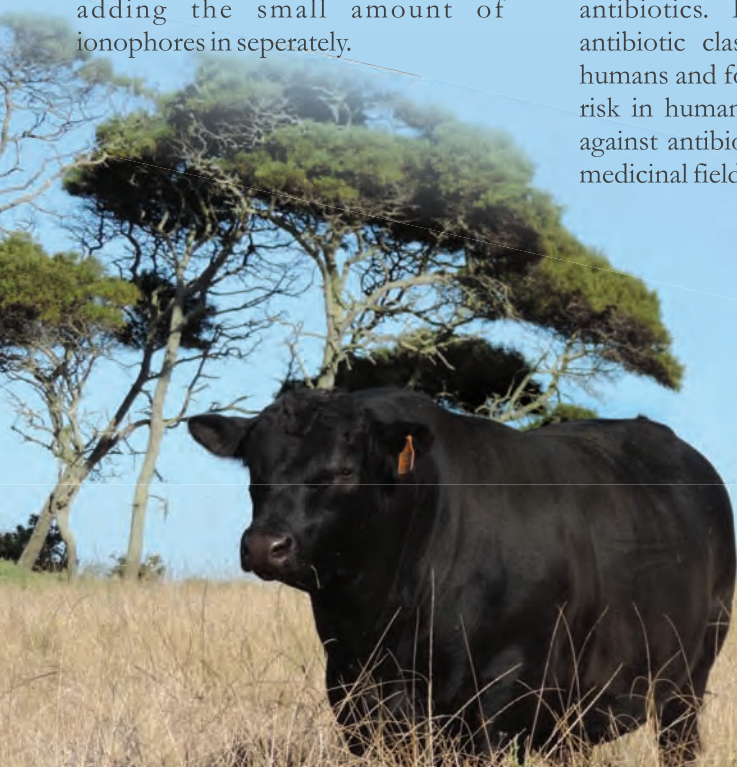


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It's all about connections – the ingredients of above-normal rainfall seasons over the summer rainfall region of South Africa

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The central and eastern part of South Africa receive the bulk of its rainfall during the summer months when temperatures are high enough for most crops and grasses to grow. Rainfall is almost exclusively in the form of showers and thundershowers, typically occurring during the afternoon and early evening. The mean seasonal rainfall increases from west to east and is subject to large year-to-year variations. Frequent dry and wet seasons pose severe challenges to agriculture, water managers and decision makers alike. But what are the makings of an exceptionally dry or wet season? Here the main (but not all) ingredients are unpacked.

Teleconnection

Large-scale interaction between the atmosphere and the ocean (also known as teleconnection) can influence climate patterns in various regions of the world. The most renowned example is the El Niño - Southern Oscillation (ENSO) phenomenon that affects global atmospheric circulation patterns and has been shown to be one of the primary modes of climate variability over the summer rainfall region of South Africa. El Niño refers to a large scale phenomenon associated with unusually warm surface water that occasionally forms across much of the tropical eastern and central Pacific Ocean. The top panels in Figure 1 show the 1982/83 (left) and more recent 2015/16 (right) El Niño events with yellow to red shading indicating above-normal sea-surface temperatures. La Niña, on the other hand, is characterized by cooler than normal sea surface temperatures across much of the equatorial eastern and central Pacific Ocean. The bottom panels in Figure 1 depict the 1999/2000 (left) and 2010/11 (right) La Niña events with blue shading indicating below-normal sea-surface temperatures. Although El Niño and La Niña events are characterized by warmer or cooler than average sea surface temperatures in the tropical Pacific, they are also associated with changes in wind, pressure, and rainfall patterns.

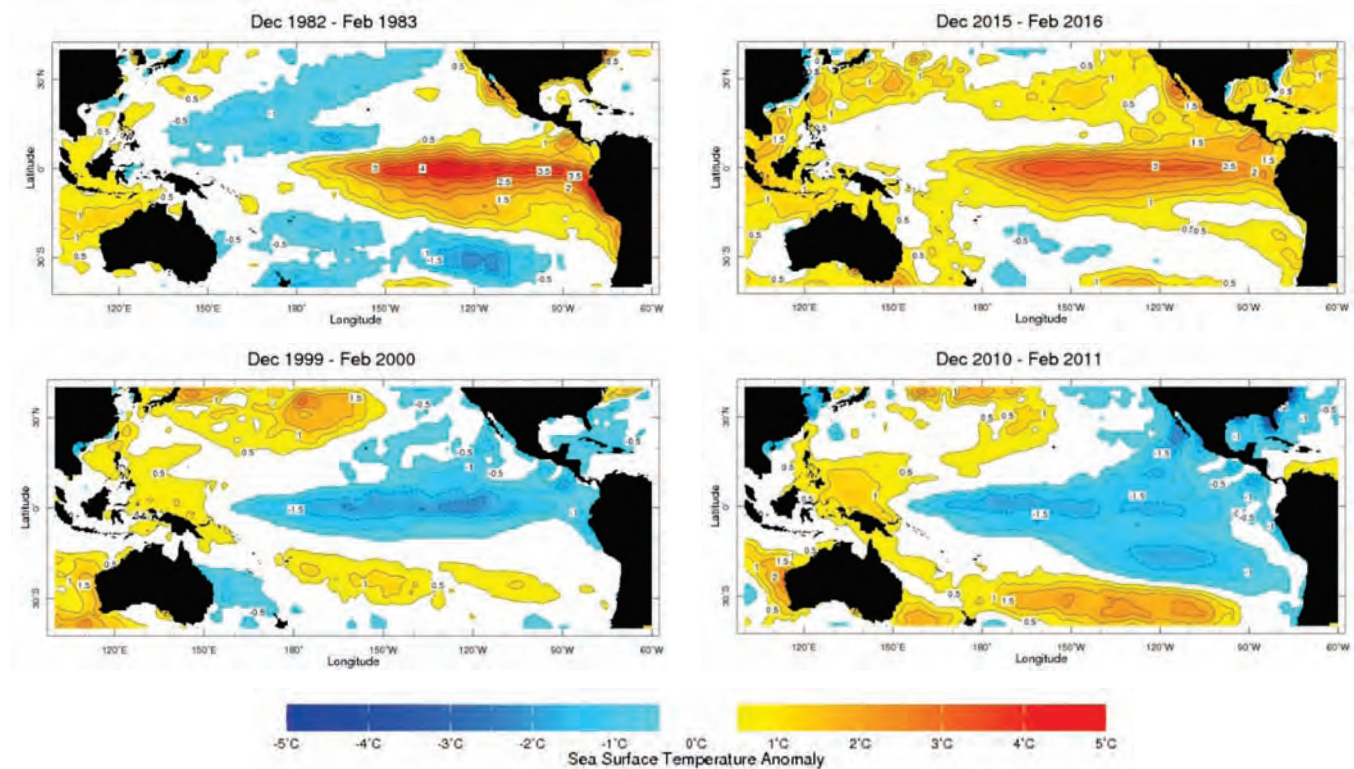


Figure 1: Seasonally (December – February) averaged deviations of the sea surface temperature from the long-term (1971 – 2000) mean. Source: International Research Institute for Climate and Society (<https://iri.columbia.edu/>).

While there is considerable variation between events, both El Niño and La Niña conditions typically develop between April and June, reach their peak strength during mid-summer and tend to persist for anything from about 9 to 18 months (sometimes even longer). So the shifted rainfall patterns associated with El Niño and La Niña typically persist for a few seasons and, depending on

the strength of an individual event, affects not only the tropical Pacific region but areas much further away as well. The time between successive El Niño events is irregular but they typically tend to recur every 2 to 7 years.

Historically speaking and referring to the central and eastern parts of South Africa, the following statement can be made:

- There is no clear relationship to summer rainfall under ENSO neutral conditions.
- There is an enhanced probability of experiencing below-normal summer rainfall during El Niño events (Figure 2, top left). The converse is also true, with above-normal summer rainfall less likely during such events (Figure 2, bottom left).
- There is an enhanced probability of experiencing above-normal summer rainfall during La Niña events (Figure 2, bottom right). The converse is also true, with below-normal summer rainfall less likely during such events (Figure 2, top right).

This does not imply that a near- or above-normal summer rainfall season cannot occur during an El Niño event. Put another way, the probabilities presented in Figure 2 can be interpreted as follows. Considering the data point centred on Bloemfontein we find that only 3 out of 10 El Niño years experienced above-normal mid-summer rainfall, whereas 2 out of 10 years experienced near-normal rainfall and 5 out of 10 years experienced below-normal rainfall (Figure 2, left panels). Still focusing on Bloemfontein we find that 6 out of 10 La Niña years experienced above-normal mid-summer rainfall, whereas 2 out of 10 years experienced near-normal rainfall and only 2 out of 10 years experienced below-normal precipitation (Figure 2, right panels).

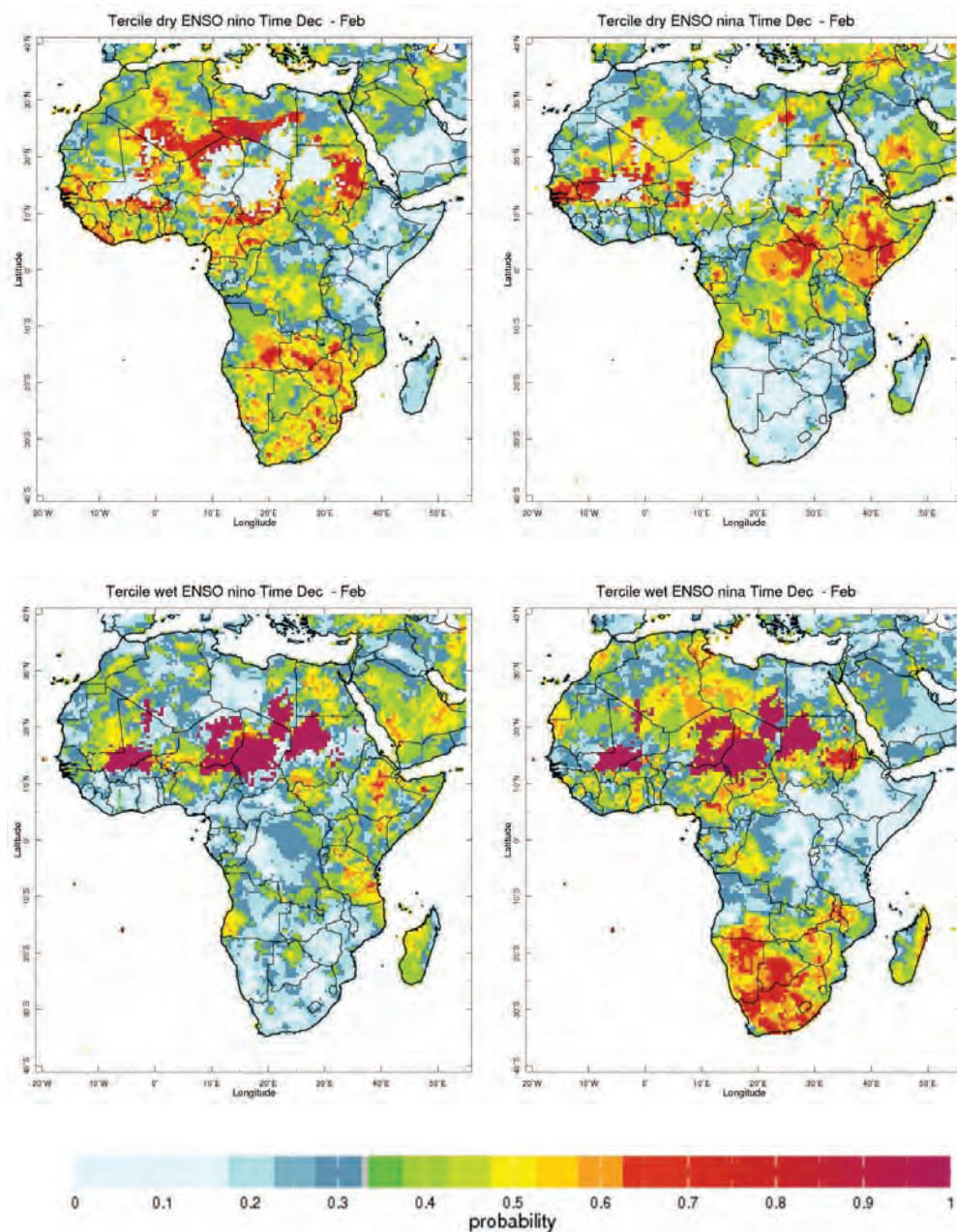


Figure 2: Probabilities associated with below-normal (top panels) and above-normal (bottom panels) mid-summer (December – February) rainfall during El Niño (left panels) and La Niña (right panels) events.

Source: International Research Institute for Climate and Society.

Exceptionally wet summer seasons are thus simply more likely during strong La Niña events. Such was the case during the 1999/2000 and 2010/11 seasons highlighted before (Figure 1, bottom panels). Figure 3 highlights the difference in the percentage of normal rainfall for the total summer growing season (July – June) during the 2010/11 La Niña event (left panel) as opposed to the 2015/16 El Niño event (right panel).

Figure 3: Percentage of normal rainfall for the summer growing season (July – June) for 2015/16 (left) and 2015/16 (right). Normal calculated for the period 1981 – 2010.

Source: South African Weather Service.

Tropical connection

Coinciding roughly with the planet's region of maximum solar heating (i.e. thermal equator), the Inter-Tropical Convergence Zone (ITCZ) is an extended large-scale band where into the surface winds in the tropics converges. The convergence of these winds, which typically carry large amounts of moisture, create a zone of deep convective activity and attendant shower activity. The ITCZ is undulating and exhibits a seasonal migration – moving north during the Southern Hemisphere autumn and winter, and south during the spring and summer. Owing primarily to the influence of the African landmass, the ITCZ dips further southwards over the eastern half of Africa and the south-western Indian Ocean to reach northern Mozambique and Madagascar (Figure 4), whilst favouring the formation of tropical depressions in its vicinity. It is this migration of the ITCZ that governs the onset of the rainfall season over tropical Africa.

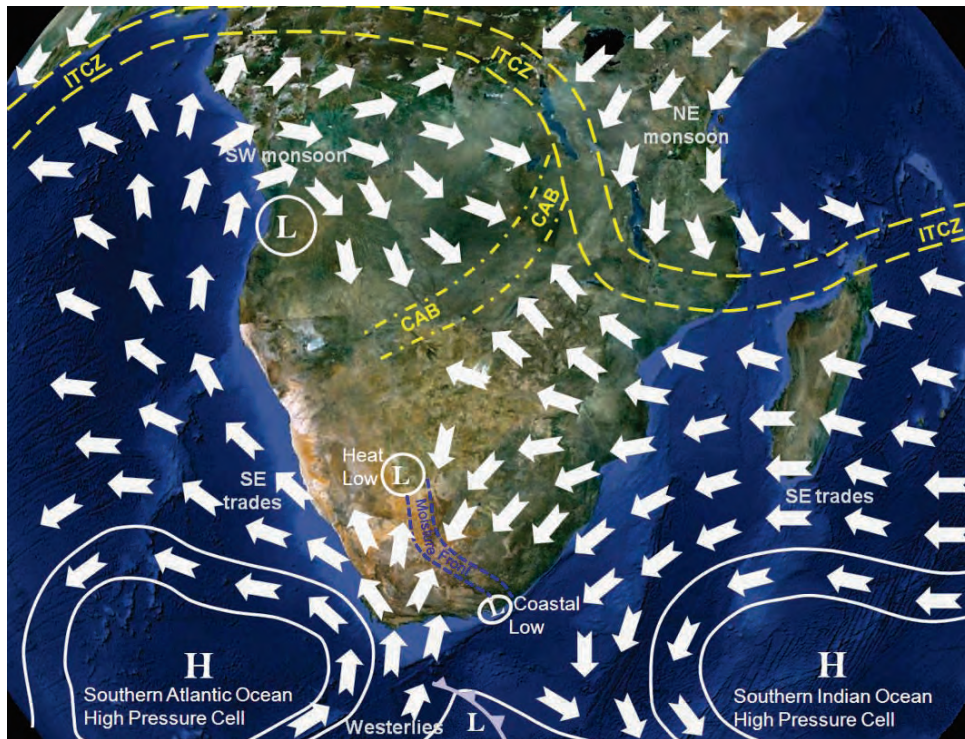
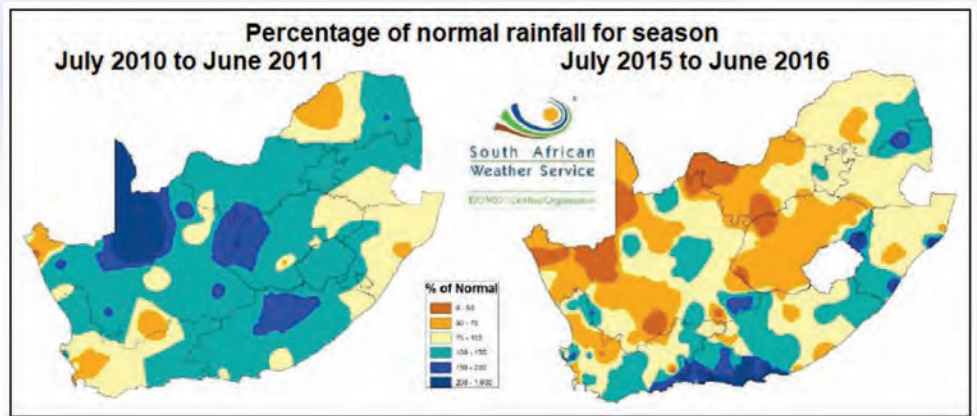


Figure 4: Basic summer weather patterns over Southern Africa. Arrows depict near-surface winds.

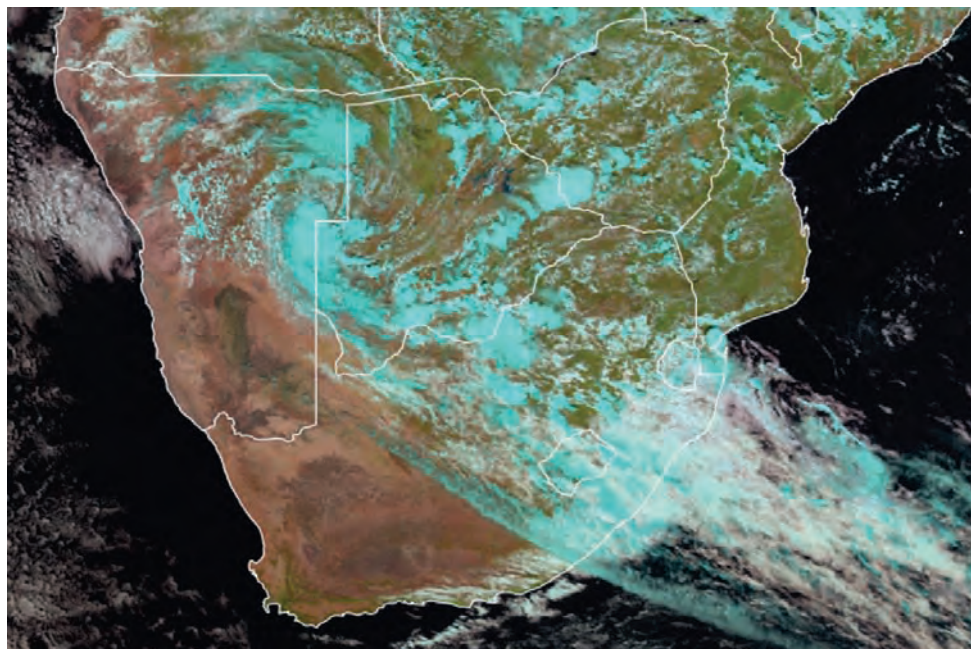
North of 20°S convergence between two opposing moist airstreams, viz. the south-westerly monsoon from the Atlantic Ocean and the south-easterly trades coming from the Indian Ocean, results in a secondary convergence zone known as the Congo Air Boundary (CAB). The CAB extends from the ITCZ south-westwards to Angola and northern Botswana (Figure 4). Quasi-stationary low-pressure cells (i.e. easterly lows) develop from time to time in this region, accompanied by ample rain. When a westerly wave or cut-off low approaches from the west in the mid-latitudes, an elongated tropical-temperate trough (TTT) stretches southwards across the subcontinent accompanied by a plume of tropical water vapour. The high energy tropical air, combined with surface convergence and an unstable atmosphere, favours convective development with ample rainfalls in the region to the east of the trough. Most of the rain will occur in the form of showers during the late afternoon and early evening.

During summer, TTTs are a major large-scale precipitation-producing weather system and are responsible for the majority of heavy rainfall days. It can be argued that above-normal rainfall years over the summer rainfall region is often marked by the presence of one or more TTTs which allows moist tropical air to flow southwards from the CAB. Such occurrences tend to be more common during La Niña events.

The unfolding 2020/21 summer rainfall season

All sea surface temperature and atmospheric indices concur that we are currently experiencing moderate La Niña conditions, with most models predicting it to weaken during late summer, and become ENSO neutral during autumn. This season has also seen a well-developed CAB, with several tropical depressions developing in its vicinity. There were also a few occasions where a TTT stretched across South Africa, feeding moist, tropical air southwards. The satellite image in Figure 5 depicts one such occasion where a deep tropical depression was centred on the border between Namibia and Botswana (between Gobabis and Ghanzi) on 2 January 2021, with a well-developed TTT stretching south-eastwards across South Africa. On this occasion good rains fell over the central and eastern parts of South Africa. The south-western Indian Ocean was also fairly active in terms of tropical cyclone development. Two tropical cyclones, viz. Chalane (December 2020) and Eloise (January 2021) also made landfall over Mozambique before February. The downgraded tropical depression (ex-Eloise) resulted in heavy downpours and localised flooding over large parts of southern Africa, where it left 20 people dead, hundreds of people homeless and caused a lot of damage to crops and infrastructure.

Figure 5: Colour enhanced visual satellite image of southern Africa at 14:00 local time on 2 January 2021. Source: EUMETSAT.



This season has already broken several rainfall records, with some non-perennial rivers reportedly flowing for the first time in over a decade and several large dams overflowing. The South African Weather Service kindly supplied the rainfall figures for selected stations within the summer rainfall region (Table 1). Figure 6 highlights the percentage of normal rainfall for the mid-summer season in progress.

It is evident that exceptionally wet conditions occurred during December 2020 (Figure 6, left panel) over a large swath of the recent drought stricken western and central interior, to include the eastern parts by January 2021 (Figure 6, right panel). It should be noted that there are still some areas of North West, Gauteng and southern Mpumalanga that did not experience similar wet conditions up until the end of January. Such is the nature of convective rainfall.

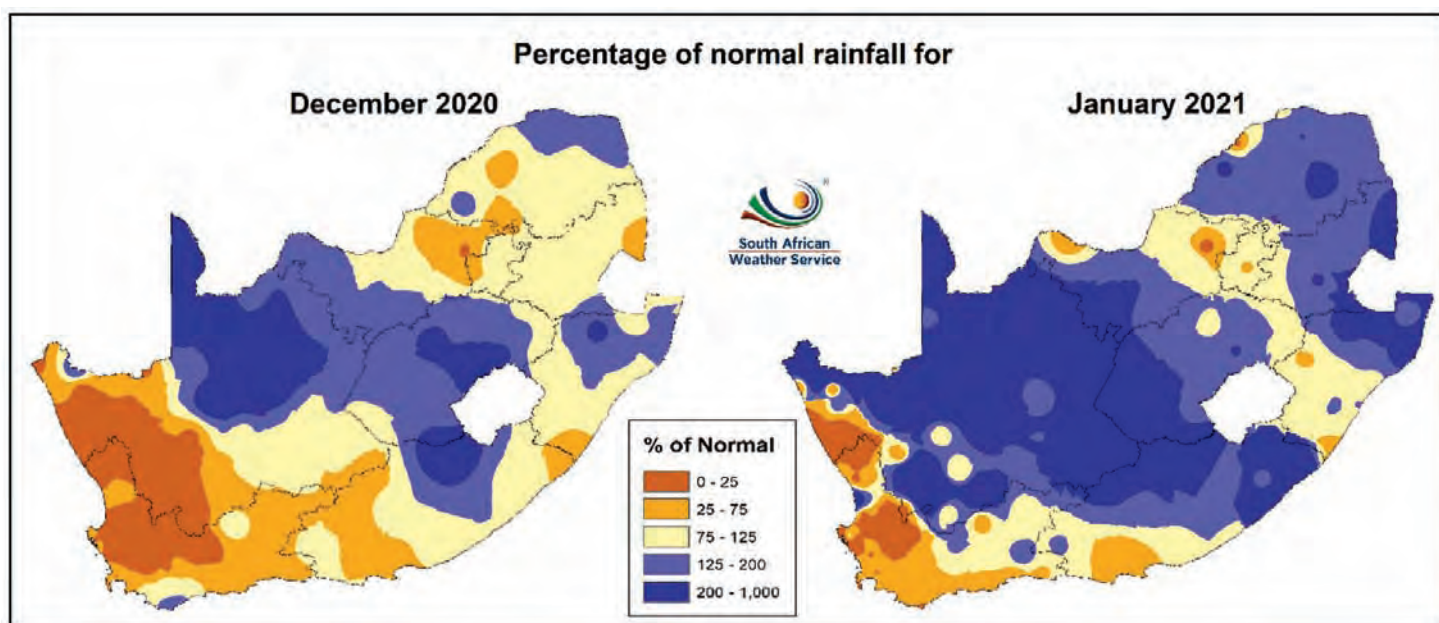


Figure 6: Percentage of normal rainfall for the two summer months of December 2020 (left) and January 2021 (right). Normal calculated for the period 1981 – 2010. Source: South African Weather Service.

Station	Monthly rainfall totals (mm) (Long-term mean in brackets)					Current season rainfall total (mm) (Long-term season mean in brackets)
	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	
Eastern Cape						
Aliwal North	12 (25)	84 (41)	55 (56)	186 (62)	284 (68)	622 (252)
Elliot	0 (32)	79 (46)	121 (78)	108 (81)	160 (97)	468 (334)
Free State						
Bloemfontein	7 (21)	32 (52)	73 (70)	105 (65)	193 (89)	412 (297)
Bethlehem	15 (35)	67 (83)	112 (96)	245 (86)	104 (96)	543 (396)
Gauteng						
Irene	4 (17)	114 (67)	165 (99)	115 (119)	158 (121)	556 (423)
KwaZulu-Natal						
Pietermaritzburg	27 (41)	61 (86)	172 (105)	191 (164)	214 (133)	666 (529)
Vryheid	14 (16)	56 (61)	70 (71)	210 (80)	252 (75)	602 (303)
Limpopo						
Polokwane	16 (17)	49 (43)	44 (85)	90 (81)	48 (82)	247 (308)
Lephalale	3 (10)	48 (43)	89 (53)	67 (80)	186 (76)	393 (262)
Mpumalanga						
Ermelo	14 (22)	59 (76)	81 (81)	102 (147)	265 (137)	520 (463)
Secunda	12 (33)	84 (82)	161 (104)	78 (136)	88 (114)	424 (469)
Northern Cape						
Kimberley	7 (12)	55 (30)	98 (42)	97 (46)	149 (57)	406 (187)
Upington	0 (5)	10 (16)	34 (17)	52 (21)	113 (31)	209 (90)
North West						
Pilanesberg	5 (6)	59 (42)	125 (70)	80 (96)	190 (108)	458 (323)
Vryburg	0 (11)	3 (33)	43 (50)	34 (65)	19 (89)	99 (248)

Table: Observed rainfall totals (in mm) for selected stations within the summer rainfall region. Blue values in brackets provide the climatological mean total rainfall for that month or season. *Source: South African Weather Service*

Acknowledgements

We would like to extend our gratitude to the following institutions:

- South African Weather Service (SAWS) for the historically observed rainfall data as well as the percentage of normal rainfall maps;
- International Research Institute for Climate and Society (IRI) for the sea surface temperature and ENSO impact maps; and
- EUMETSAT for the satellite imagery.



Photo: Angus heifer at LOUMOTTA Angus making the most of the good rain season in the North West. (Wilru Campher)

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CROSSBREEDING



Dr Helena Theron

Most commercial farmers know that mating cattle of different breeds results in increased performance in the crossbred calves relative to the average of the parental breeds. This article explains the benefits and economic importance of crossbreeding.

There are two primary advantages to crossbreeding:

- *Breed Complementarity*: the ability to combine traits from two or more breeds into one animal. For example, some breeds are known for adaptability or reproductive performance, whereas other breeds would add additional growth performance to the progeny.
- *Hybrid vigour, also known as heterosis*: 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 1). The greatest impacts on profitability from heterosis are the increases in overall production and longevity of crossbred cows.

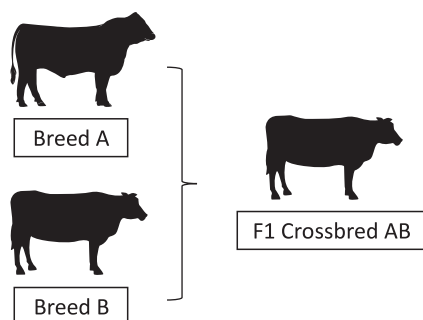
Measuring heterosis

Heterosis can be measured. For example, Breed A averages 200kg at weaning, and Breed B averages 240kg at weaning. When crossed, the A × B calves weigh on average 230kg at weaning, which is higher than mid-parent average of 220kg. The hybrid vigour from this mating can be calculated with the following equation:

$$\text{Hybrid vigour} = \frac{(\text{Crossbred performance average} - \text{Straightbred performance average})}{\text{Straightbred performance average}} = \frac{(230 - 220)}{220} = 4.5\% \text{ Improvement}$$

Individual heterosis

The hybrid vigour for the F1 or first-generation cross in this example is 4.5% above the average of the parent breeds for weaning weights. This is known as individual heterosis and is generally seen in growth traits of the crossbred offspring.



Maternal heterosis

Maternal heterosis is the increase in average production observed in crossbred F1 cows compared to straight-bred cows. They often have increased calving percentages, wean heavier calves and have greater longevity. Enhanced production from the crossbred cow is the primary benefit from a planned crossbreeding system.

Crossbreeding Systems

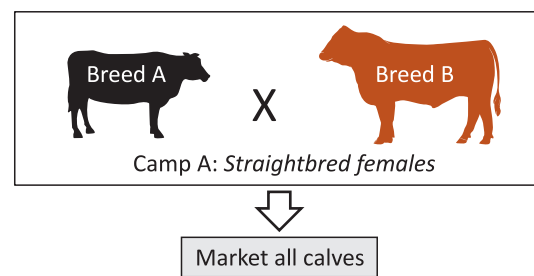
There are different ways of benefitting from crossbreeding in which one can utilize both individual and /or maternal heterosis.

Table 1: Heritability and heterosis for important traits.

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

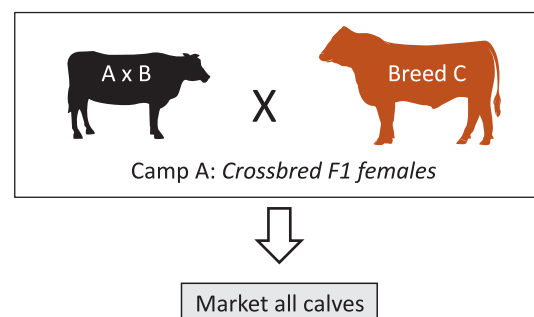
Two-breed Terminal Crossbreeding System

- Simple, basic crossbreeding system
- Breed A x Breed B
- 100% individual heterosis and no maternal heterosis
- All F1 progeny are marketed
- F1 replacement heifers can be sold as breeding females
- Replacement heifers are purchased, or home bred.



Three-breed Terminal Crossbreeding System

- The most hybrid vigour of any crossbreeding scheme
- Crossbred AB cows X Breed C sires
- 100% individual and 100% maternal heterosis
- All F1 progeny are marketed
- Purchased F1 replacement heifers should be environmentally adapted with the necessary maternal capacities.
- Terminal sires can be selected only on growth and carcass with no attention to maternal traits.



Sustainability

Hybrid vigour yields its greatest advantages in first generation crosses (F1), because hybrid vigour is not transmitted from generation to generation without continued crossbreeding. When crossing F1 with F1, the favourable combinations deteriorate due to recombination, and in practice, the genetic make-up of the F2 progeny are somewhere in between the parent breeds. The heterosis effect is lost.

In terms of hybrid vigour, the ultimate female is therefore the first-generation cow (F1) from the mating of two purebreds from different breeds. The challenge, however, 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 has some degree of heterosis but can become very complicated. Composite breeds also utilize heterosis without the need for continuous crossbreeding.

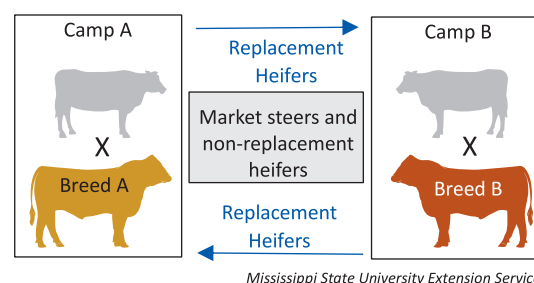


Angus bull covering a Angus cow. Angus cattle are well known for their good temperament, fertility, low birth mass and heavy weaning weights.

Photo: Wikus van der Merwe (VREDENHEIM Angus, Dewetsdorp district)

Two-breed Rotational Crossbreeding System

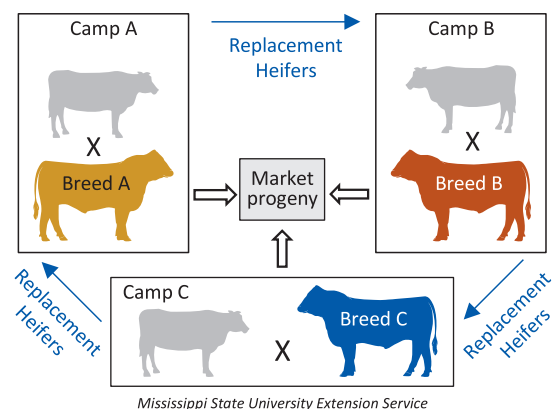
- Effective and relatively simple
- Females sired by Breed A are mated to sires of Breed B, and females sired by Breed B are mated to sires of Breed A.
- Heterosis stabilizes at 67% of individual and maternal heterosis after 6 generations.
- As replacement heifers sired by Breeds A and B are retained, both breeds should therefore have maternal characteristics.
- Two sires are required, therefore at least 50 cows and two camps are needed.



Mississippi State University Extension Service

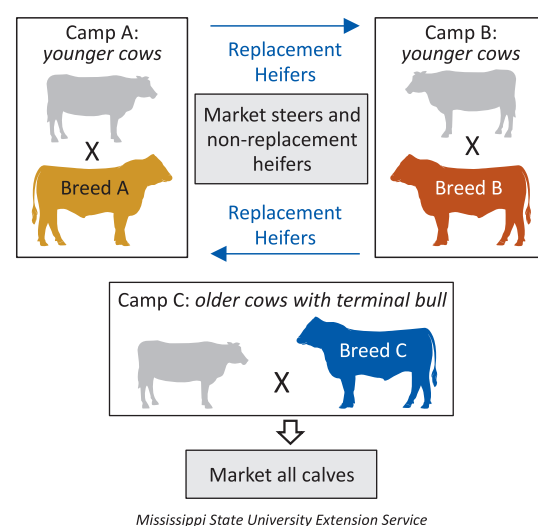
Three- and Four Breed Rotational Crossbreeding Systems

- Similar to the two-breed rotation with other breed(s) added.
- Three-breed system: Breed A sires are mated to females sired by Breed B, Breed B sires are mated to females sired by Breed C, and Breed C sires are mated to females sired by Breed A.
- Hybrid vigour stabilizes after several generations at 86% (3 breeds) and 93% (4 breeds) of potential individual and maternal hybrid vigour.
- Replacements are retained from within the herd.
- Three sire-breeds require at least 75 cows in 3 camps, while four sire breeds require at least 100 cows in 4 camps.
- The ability to locate 3 or 4 breeds that fit a given breeding scheme can be challenging.
- For only a slight gain between 3- and 4-breed systems, the system becomes very complicated. Benefits may not outweigh the cost.



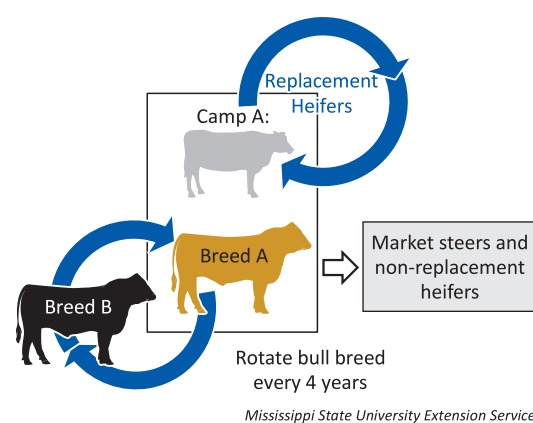
Three-breed Roto-Terminal Crossbreeding System

- Extension of the two-breed rotational system with a terminal sire added.
- Some cows (especially heifers) are placed in the two-breed rotation to produce replacement heifers, and the rest (older cows) is mated to a terminal sire to produce calves that are all marketed.
- The breeds used in the two-breed rotation must still be selected for the criteria specified in the rotational programs.
- Terminal sires can be selected for increased growth and carcass traits to maximize production from the cowherd.
- More labour, management, and breeding pastures are needed than in a two-breed rotation.



Sire Rotation Crossbreeding System

- Common crossbreeding system.
- One breed of sire is used for 4 to 6 years, and then the sire breed is changed.
- This system can use two, three or more breeds.
- As only one breed of sire at a time is required, one camp and any herd size are sufficient.
- A relatively high level of heterosis is maintained, usually >50% depending on the number and sequence of sires used.



Conclusion

A crossbreeding system should take advantage of breed complementarity and heterosis. Although the individual change in some traits are 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.

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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)

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Getting to terms with some terms in Animal Breeding and Genetics



Japie van der Westhuizen

SA Stud Book

The phrase, “lost in translation”, does not only apply for translation from one language to the next. It is also true when a perceived phrase or term might be misinterpreted due to many reasons, the most common being a void between the original definition of the term and its everyday usage by some groups or individuals. This has often led to totally different interpretations and outcomes.

This article is an attempt to refer to the definitions, highlight and somehow explain some of the terms used in animal breeding, mainly for livestock genetic selection and breeding.

The expression of any trait or observable characteristic, among animals in any group will vary. These differences can either be objectively defined or are, sometimes, a subjective opinion or observation.

In animal breeding, it all starts with a phenotype.

A **phenotype** can therefore be defined as:

A physical characteristic, observable or measurable in the "real world". (*reference Breeding Terms; National bovine Breeding Centre*)

Phenotypic characteristics can also be referred to as “traits” or “properties” of an animal. Some of these characteristics might be well defined and objectively assessed or measured and others might be a vague description or a subjective observation. Well defined, objective phenotypic characteristics are traits, such as body weight, milk production, recorded meat tenderness (as is being done with shear force measurements), and other known ones. Other traits or characteristics, such as visual assessments (by observers), can vary between being somehow objective to extremely subjective. These can include observed body size, muscularity, smoothness of coat, several linear type traits, and other subjective assessments or even opinions.

Differences in phenotypic characteristics are caused by genetic differences, responses to environmental differences (like feeding regime, seasonal effects, etc.) and bias by the observer or measuring instrument, in defining or describing these differences.

These facts are described in the most important equation in breeding, namely:

$$P = G + E (+ e)$$

Where	P = the phenotype (differences) observed or measured
	G = the genotype influencing the expression of the observed (or measured) Phenotype
	E = the non-genetic factors, therefore environmental constraints causing differences in the observed Phenotype
	e = observational error or bias

Since the observations or measurements for all properties or traits are also influenced by factors that cannot be transferred to the next generation, genetic selection forms the basis of progress in breeding livestock.

Genetic selection is all about picking animals with the ability to breed progeny conforming to the breeding objectives of the one making the choices to keep them as the parents for the next generation.

A **breeding Value** (Additive Breeding Value) also called an **Estimated Breeding Value** or EBV

A very simple definition for a **Breeding Value** is: *“The genetic value of an animal as a parent for a specific trait (or group of traits)”*.

This implies that such a value must be compared to a standard or a benchmark. Such benchmarks are:

- Other animals' breeding values (usually those also considered as selection candidates).
- The average breeding value of a population or group of other animals (like those in the same breed, born in the same country, born in a specific year (the so-called “base year”) or even the average of animals in a herd).

A breeding value is therefore “population dependant” (the comparison of its progeny relative to the progeny of others that must perform under the same conditions or in the same population).

Usually breeding values are expressed in the unit of measurement of a trait (for example, Kg body weight, mm shoulder height or scrotum circumference, Days Calving Interval, linear score units, etc.) or expressed as some form of standardised units (like standard deviation units for linear scores or an “index” value with a mean of 100 and a fixed, standardised distribution).

An **EBV** is therefore a prediction of an animal's true breeding value, making use of all available and relevant information. EBVs are usually associated with the use of BLUP (Best Linear Unbiased Prediction) methodologies to ensure that the prediction is independent of selection or mating bias. In these predictions, BLUP makes use of four sources of information, namely:

- **Pedigrees** (serves as an indication, on average, what proportion of “additive genes” are shared as relationships among all animals included in the pedigree included in the genetic predictions).
- Actual (phenotypic) **recordings** among animals subjected to the same environmental (and management) conditions (group) that contribute to average performance.
- The proportion of the differences in performance among the animals due to their genetic merit or, differently put, their breeding value differences, in relation to the total differences in performance (phenotypes) of all the animals in the same environmental (and management) condition (group). This is called the **heritability** of the trait.
- The proportion of differences in breeding values for different traits influenced by the same portions of the genome (the collective of all genetic code). This is called the **genetic correlation** among different traits.



Photo: Wilru Campher LOUMATTA Angus

The accuracy of predicting a “true” breeding value therefore depends on the information used in such predictions, basically the accuracy and completeness of pedigree information and the proportion of animals accurately recorded for the specific trait.

The current buzz in animal breeding is all about **Genomically Enhanced Breeding Values**.

The term “**Genomically Enhanced Breeding Value**” is loosely used to indicate the prediction of true breeding values by adding (mostly additional) genomic information of the animals involved in the prediction to the BLUP breeding value predictions. Two major different methodologies are currently being used for breeding value predictions using genomic information, namely:

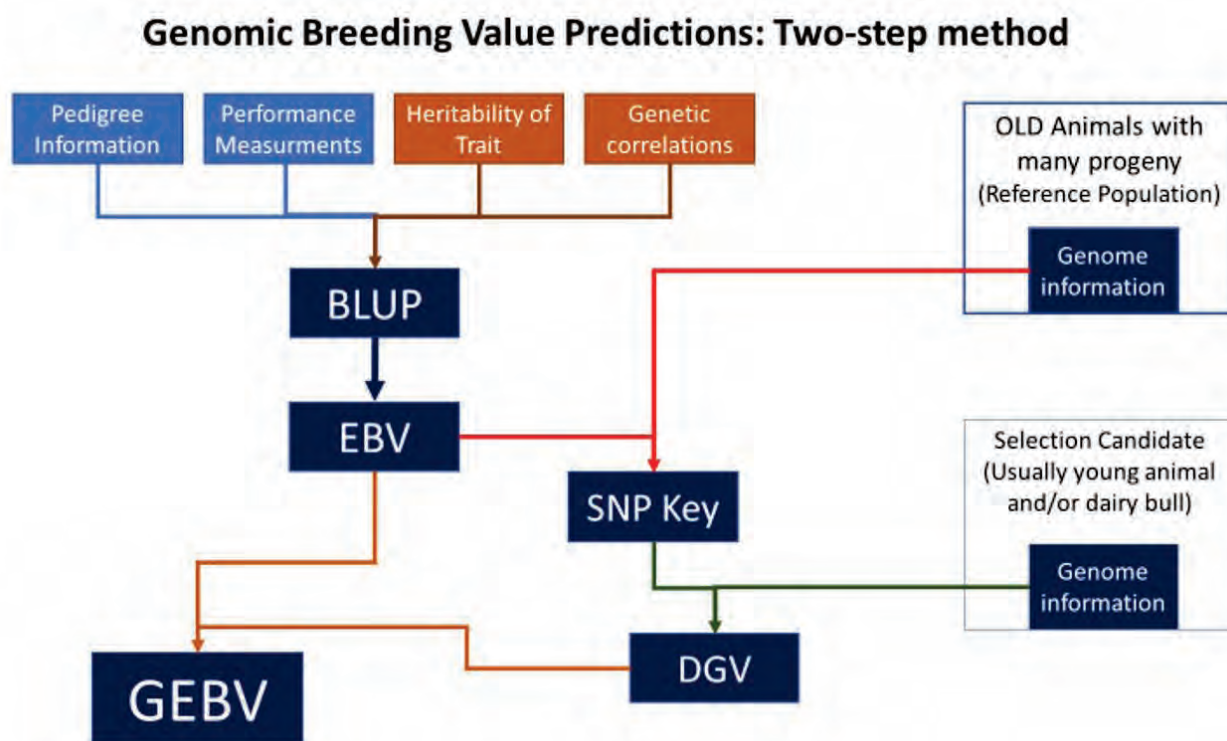
Two-Step (method)

This method is based on comparing a (very) large number of animals' EBVs with their genomic information and establishing a relationship between the two sources of information. This relationship is called the “**SNP-key**”. As, in the case of heritability and genetic correlation estimations, the SNP-key is population dependent (breed and country population specific).

This method is called the “Two-step” as more than one step (in fact more than two steps) are needed to predict the breeding value where the genomic information is added to enhance the prediction accuracy.

Animals with known genomic information receive **DGVs** (direct genomic values) based purely on their genomic information's similarity to the SNP-key. Both the SNP-key and this relationship are subjected to an accuracy of prediction (as reflected by the reliability published with the DGV). The DGV serves as an interim step in the prediction, as the second important step is the blending of the DGV with the EBV (obtained from BLUP). This blending is in relation with the accuracy associated with the prediction of the two values. The result of this blending is called a **GEBV** (commonly known as a Genomically enhanced EBV).

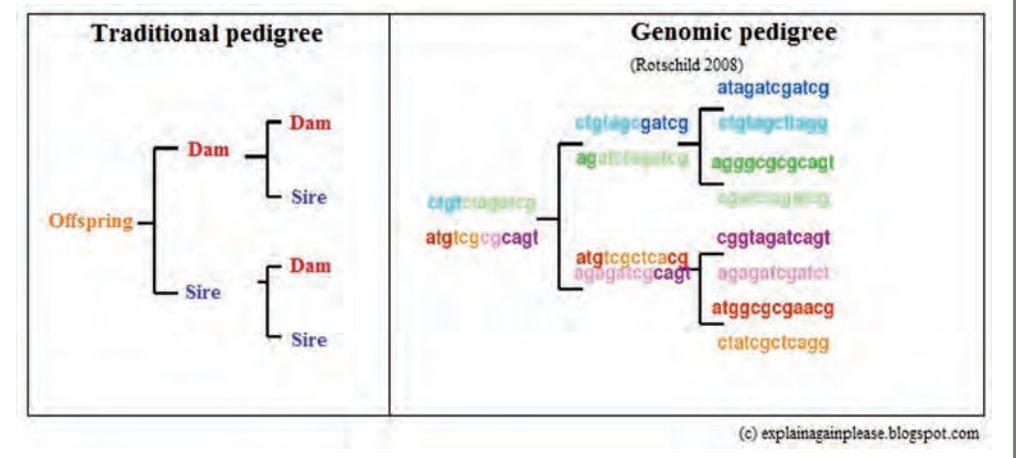
The following figure illustrates the two-step method.



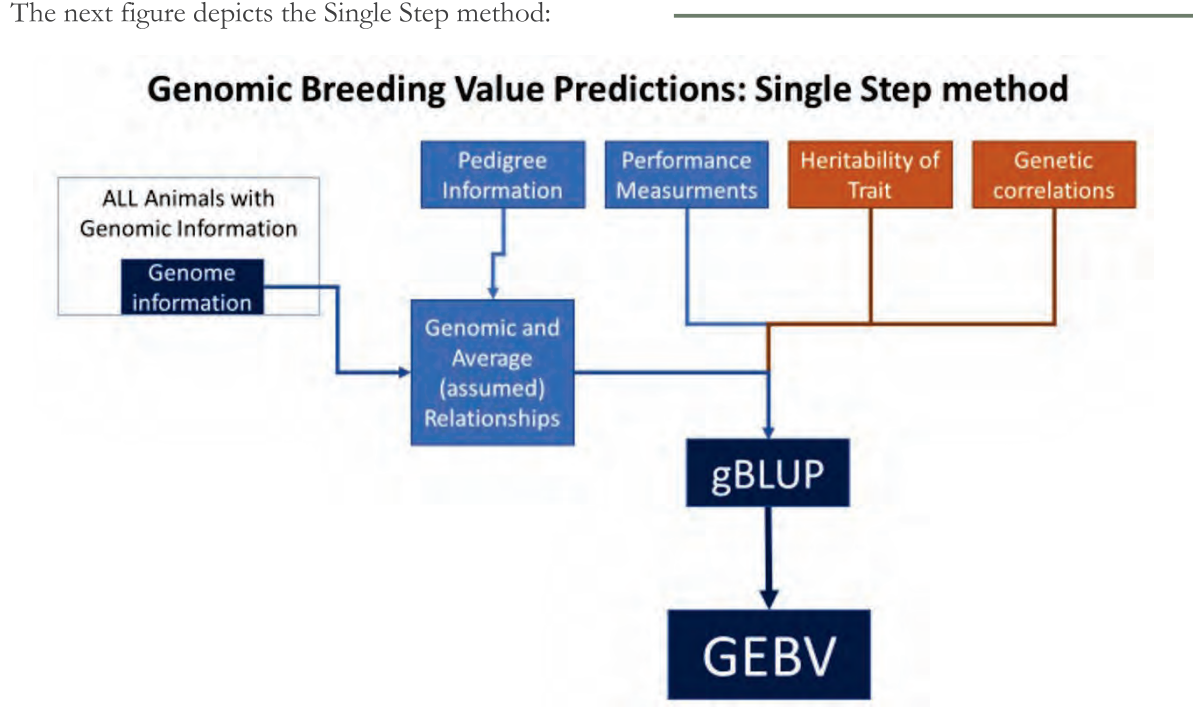
Single Step (method)

It is well known that BLUP EBVs rely on two sources of information from breeders, namely records and pedigree information. Relationships among animals reflect the common parts (based on “average” assumptions) of the genome among them. The Single Step simply changes the assumed relationships among animals to the true relationships, based on their genomic information. The breeding value prediction therefore results from **gBLUP** with the result that the **GEBVs** are calculated in a different manner when compared to those from the two-step method. The inclusion of true relationships increase the accuracy of breeding value prediction for young animals due to the common parts of their genome with others in the population, especially those with high accuracy (G)EBVs. Each animal therefore contributes towards the accuracy of prediction.

The following figure explains the difference between a “traditional pedigree” versus a “genomic pedigree”.



The next figure depicts the Single Step method:



The importance of setting objectives and goals.

The genetic value for a combination of traits in a single value (**Selection Index** or **Selection Value**)

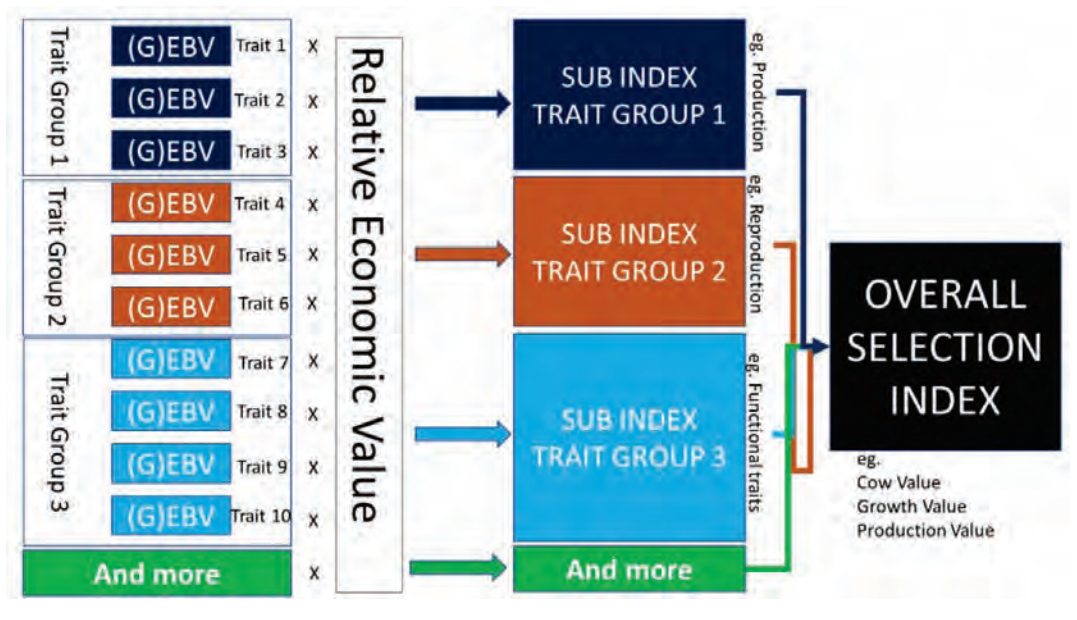
It is normal in any selection program to select for more than one trait simultaneously. This is done because of various reasons. Not all traits contribute equally towards profitability. To complicate it more; traits are also genetically linked (correlated). When these correlations are ignored, unwanted selection responses could be the result.

The most effective way to reach breeding objectives, when selecting for more than one trait, is to combine them in a single (selection index) value. These values are usually expressed in monetary (Rand) values or sometimes as standardised units.

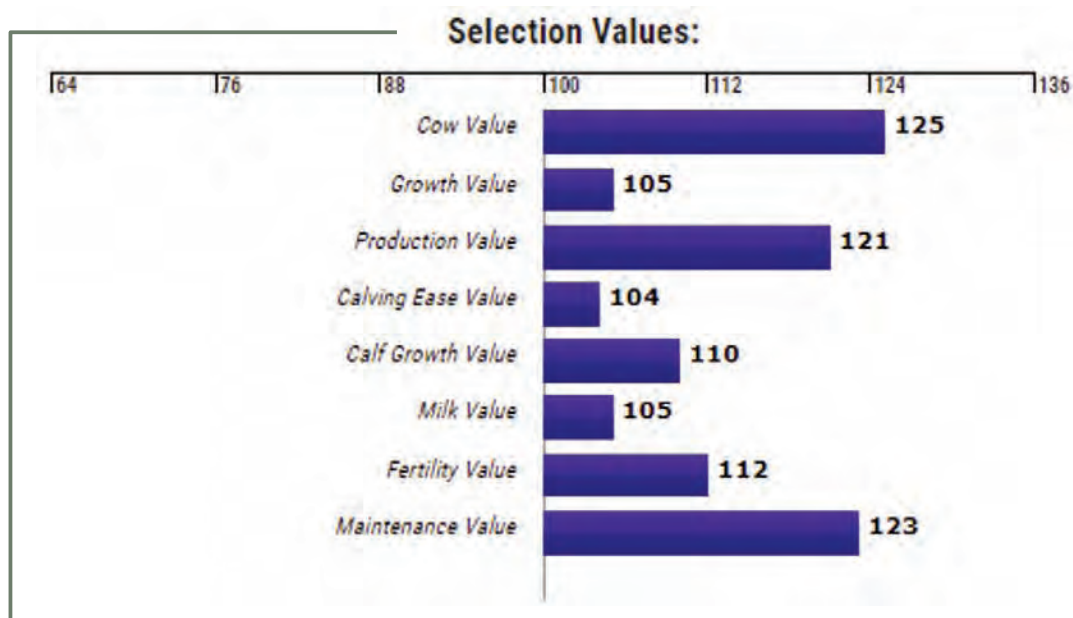
In each case, the selection index reflects the genetic levels and variation in the relevant country as well as the pricing system for products, such as weaners or long weaners, etc. (and culled or sold animals) and variable input costs (health, raising costs of replacements, maintenance of the cow herd, loss due to sickness, other involuntary culling, feed cost relative to product income).

A selection index, therefore, is a combination of individual EBVs (or GEBVs where genomic information is included in the BLUP calculations of the EBVs) construed in the ratio of economic importance of, and expected correlated responses, due to selection for all the contributing traits.

The following figure is an illustration of the typical building blocks of a selection (index) value.



The following figure reflects the genetic merit of a South African Angus bull's genetic merit (BLUP breeding values). The overall Selection (index) Value, named cow value reflects the predicted profitability (per hectare) of his daughters based on the contributing building blocks (trait groups), calving ease, pre-wean calf growth, maternal ability ("milk"), female fertility (combination of heifer and cow fertility as well as progeny functional longevity) and cow maintenance.



The genetic merit of this Angus bull for daughter profitability is 25 index points (breeding value index of 125) better than the breed average of active animals. He is also genetically superior for growth efficiency (as illustrated in the 105 Growth Value) that will result in profitable progeny finished for the beef market.

Understanding the terms and definitions of the building blocks in animal breeding not only assists in meaningful debates, but more importantly, supports the breeding of animals impacting on the profitability of livestock production.

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Bloemskou 2018 (JK 1518)

Rooi Angus Verskalkkampioen

Bloemskou 2018 (JK 1619)

Puik, geregistreerde bulle jaarliks in September beskikbaar by die Kroon Angus-veiling, te Viljoenskroon.

Presence of Angus SA

Jason Reding

Edited by Dr Helena Theron

The Angus Society of South Africa was founded in 1917 and makes it one of SA's oldest breeders' societies. The Angus breed has been characterised as to having good growth, excellent mothering ability, adaptability and is a globally recognised breed associated with high quality beef products. Currently, the Angus SA is the fourth largest registered stud beef breed participating in production recording with SA Stud Book in Southern Africa. With over 18 000 stud animals, Angus SA represents the largest pure Taurus type, with over 120 actively participating stud breeders countrywide. All the discussions about the Angus SA below, are based on figures present in the SA Stud Book Annual Angus SA Report 2020, which is available on request from the Secretary of the Angus Society of SA. These figures are representative of the period 01 January 2019 to 31 December 2019 and solely pertains to measurements taken on stud animals. This report serves as a benchmarking tool that allows breeders to assess the current state of a breed in comparison to the SA Beef average. What is new is the ability to compare different Beef types that are common in SA which includes your foreign pure Taurine and Indicine types, the local Sanga types and the more recently established Composite or Synthetic breeds. One must keep in mind that these averages are an indicator of the stud animals actually being measured and may therefore differ to what is occurring in the breed and/or beef type.



Red Angus cow with her new born calf at LOUMOTTA Angus. Angus cows are well known for their good mothering ability and fertility. (Photo: Wilru Campher)

Birth Numbers and Fertility

A total of 5 047 Angus SA calves were born and registered as stud animals in the year 2019. Natural service represents the highest proportion of birth notifications with 64% of calves being conceived this way, 32% are due to artificial inseminations and 4% were embryo transfers. The high numbers in breeder dependant matings (AI and embryo) is indicative of the Angus SA breeds ability to source genetic material from a global gene pool.

The average age at first calving (AFC) of 31 months is 3 months earlier than the average AFC of most other breed types in SA, and is a good improvement from the average AFC in 1990 being 35 months. The average inter-calving period (ICP) was 413 days in 2004 and in 2019 was 414 days. The good fertility performance of this breed indicates that breeders have managed fertility on a consistent basis in order to get the best out of their animals.

Production Recording

In 2019 the Angus SA breed had a 1kg lower birth weight in comparison to the SA Beef average. Since 2013, there has been a substantial decrease in the proportion of animals being measured for BW related to the number of birth notifications recorded within the Angus SA breed. Thus the average BW given here is only representative of 55% of animals born in 2019 compared to 91% of animals born being measured for BW in 2013.

Table 1, which shows an average weaning weight of 239kg, 15kg higher than the SA Beef average, and points to the good growth characteristics of this breed. Angus SA bull calves fall into the 4th percentile with an average WW of 247kg while heifers are in the top 13th percentile with an average WW of 232kg. There has been a slow but steady increase in the proportion of Angus SA animals being measured for weaning weight.

Figure 1 shows the trend of average WW in Angus SA in comparison to the SA Beef average. Both averages have increased steadily over time with the average WW of Angus SA in 1990 being 212kg. This works out to an increase of about 1.4kg in the average WW per year up to 2019 and can be



Young Angus bulls ready for auction at the annual Malherbe & Roberts Sale 2020. ROECHAMA Angus makes use of both Phase C and Phase D testing, making sure they provide buyers with quality stud cattle. Angus bulls are well known for low birth weights and heavy weaning weights. Photo: Wikus van der Merwe

attributed to the ongoing selection for higher weaning weights allowing for the earlier marketability of these animals to be sold to feedlots.

Only 10 to 15% of animals born are eventually measured for 12 and 18 month age weights thus these averages are more representative of animals being kept as replacement heifers or those that underwent growth tests.

Performance Testing

Angus SA breeders consistently tests around 400 bulls every year in either a Central Feed Intake Growth Test or On Farm Growth Test. In 2019, 24 Angus SA stud bulls underwent a central feed intake growth test. These animals ranked in the 6th Percentile for both average daily gain (ADG = 1 852g) and feed conversion ratio (FCR = 5.42kg/kg) in comparison to the 16 other beef breeds that were evaluated. This is consistent with the Taurus types having a higher average ADG and lower FCR compared to other beef types and can be said is due to the selection of these animals to perform well in feedlot conditions. 294 Angus SA bulls underwent farm growth evaluation. This can occur at an intensive, semi-

intensive, semi-extensive or extensive level and these averages may be a blend of these different farm test scenarios. Here, the Angus performed well (23rd percentile) with only the Composite beef types having an ADG of 98g more. In both growth tests, Angus SA stud animals had consistently high test end weights with similar results (25th and 23rd percentiles). The obvious improvement over time (Figure 2) that has resulted in a higher ADG and lower FCR in the Angus SA compared to 20 to 30 years ago and is evidence that breeders have been selecting the best performing animals.

The assessment of live carcass traits requires the use of an ultrasound machine at the closing of a test as well as the presence of a SA Stud Book approved technical advisor. All Intake animals are scanned, but some animals tested On-farm may not be scanned. This is evident in the Angus SA breed as only 46% of animals tested on farm underwent RTU scanning. Angus beef producers and sellers are known to tout the quality of their meat. The high marbling percentage of 3.73% (6th percentile) for intake tests and 3.63% (1st percentile) for on farm tests supports the ability of Angus SA breeders to promote their beef products. Eye muscle area was measured at an average of 70mm² in both test environments

and demonstrates a level of uniformity in meat quality in the Angus SA breed.

The ability for heifers to be evaluated under growth test conditions has been recently adopted by a handful of breed societies, with three breeds participating in 2018 and two breeds in 2019. The Angus SA breed has not yet to date assessed the growth and live carcass characteristics of any of their female animals. As most of the feed on the farm is consumed by the cow herd, it is important to be able to measure and select replacement heifers for their feed efficiency as well.

Logix Herd Analysis

The SA Stud Book Annual report serves as an indicator of what is occurring at a breed level but how do you as a farmer benchmark your own herd according to what is occurring within your own breed? The development of a Logix Herd Analysis has been ongoing. This analysis is an assessment of the level of production recording, record keeping and performance testing that you as a breeder have placed on your herd. This will allow you to benchmark every trait that you have measured against the average of the breed and will allow for the recognition of where there is room for improvement within your herd.

Conclusion

The ability to benchmark your breed with regards to what is currently occurring in the stud beef cattle industry will aid new breeders who are interested in forming new stud herds to identify the breed they think will be best suited towards their farming conditions and the end goal they have in mind. It is however always important to know where your breed fits best in the beef production chain and to ensure that the breeding objectives adopted by the breeders will assist commercial bull buyers to sustain profit. It is also known that the productivity of the beef cow and her progeny depends on their genetic merit, coping with the physical and production environments they are subjected to. The same is true for each individual breeder. Breed and herd reports should therefore play a pivotal role, both for genetic selection and managing the breed and individual herds.

Figures and Tables

Figure 1: Phenotypic Trends for Weaning Weight at 205-days of age.

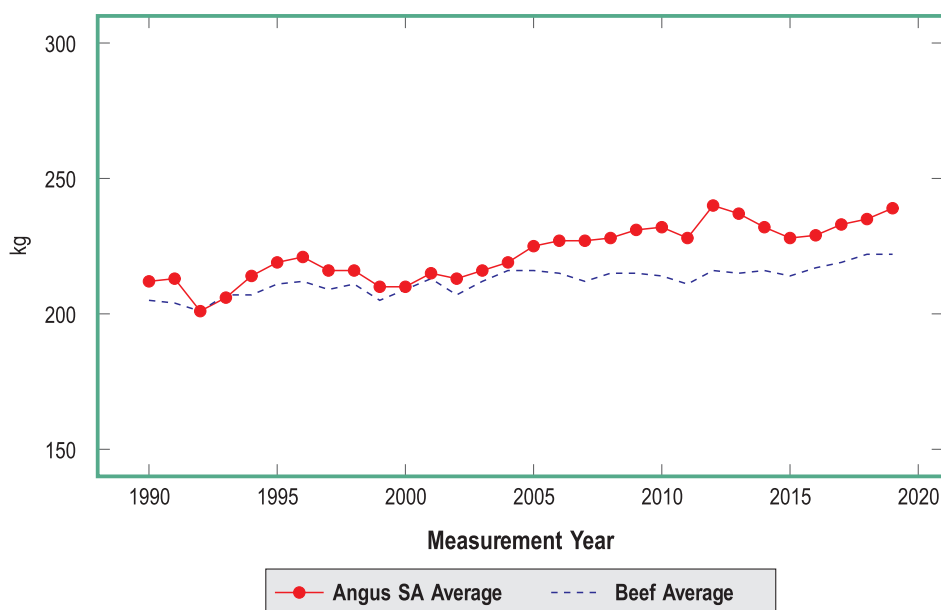
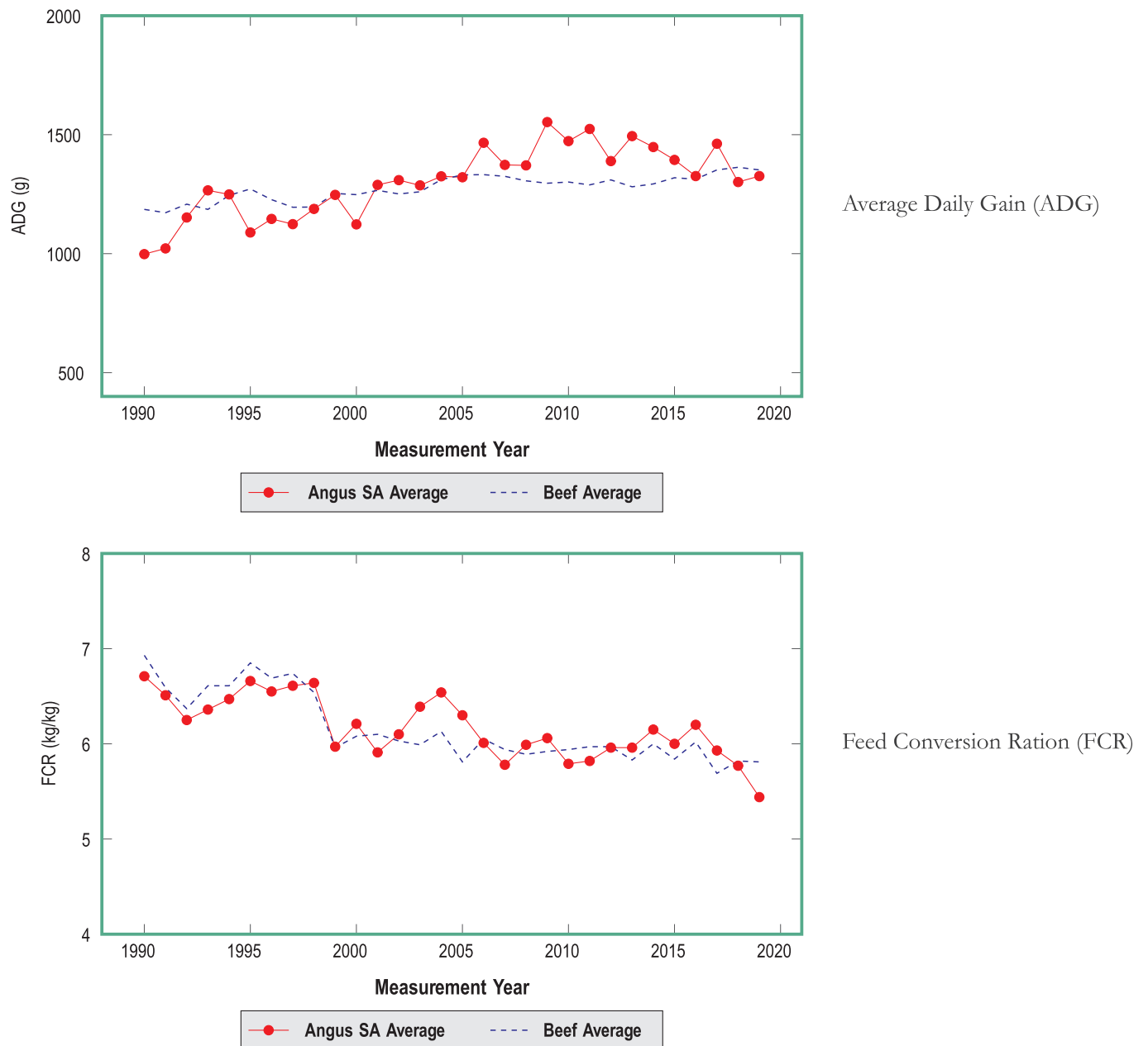


Figure 2: Phenotypic Trends for Average Daily Gain (ADG) and Feed Conversion Ratio (FCR)**Table 1:** Comparing weight and fertility measurements of the different breed types participating in production recording with Logix Beef

Comparing Breed Types									
Beef Breeds	Birth Weight	Weaning Weight	12 Month Weight	18 Month Weight	Scrotal Circ.	AFC	ICP	Cow Weights	
	Average (kg)	Average (kg)	Average (kg)	Average (kg)	Average (mm)	Average (months)	Average (days)	Calving (kg)	Weaning (kg)
Angus SA	34	239	326	407	348	31	414	574	581
All Beef Types	35	222	272	352	344	34	434	492	507
Sanga Types	32	195	236	306	330	33	409	430	458
Taurus Types	38	227	310	384	344	34	439	548	561
Indicus Types	29	192	230	305	321	34	457	420	426
Composite Types	35	227	274	357	345	34	432	503	513

*Averages are based on a few measurements are not meaningful representations of the breed and should be interpreted with caution.
Weights are adjusted and breed averages taking breed population size into consideration.



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What is the impact and the role of science and technology in the beef value chain?



Ben Greyling
Ben@arc.agric.za

Wat is die impak en die rol van die wetenskap en tegnologie in die vleisbees waardeketting?

Dr Ben Greyling & Frans Jordaan

ARC-Animal Production, Irene

The saying that we do not use technology but live technology only reflects how dependent we have become on technology itself. In fact, it has become such an integral part of our lives that we often take it for granted. The Covid-19 pandemic highlighted the importance of a few technologies - we attend congresses, sporting events and even music concerts virtually, shop more and more online and arrange virtual meetings, just to name a few. From experience, we also know that difficult times often highlight our weaknesses as well as strengths. Some of the many negative effects of the pandemic include the fact that our country's GDP shrank by an astronomical 51% in the second quarter of 2020 compared to 1.8% in the first quarter. The good news, however, is that our agricultural sector has grown by 15% over the same period that was characterised by enormous contractions of most industries.

In light of the decline of our economy and the increasing demand for beef, farmers will have to pull out all the stops to produce more profitably and sustainably. At present, our farmers produce just over one million tonnes of beef per year and it is estimated that the demand for beef will increase by more than 20% over the next decade. It goes without saying that there will be tremendous pressure on producers to produce meat more efficiently, profitably and sustainably in order to be able to participate in the beef cattle value chain which is inherently very competitive. This chain is of course dynamic and, largely, vertically integrated. This means that many feedlots, which process between 70-80% of our beef, have their own abattoirs and supply meat directly to the wholesale and even retail trade. Farmers will therefore have to manage and optimize their production systems in order to be able to align themselves with the requirements and demands set by the value chain.

Rely on diversity and prevent losses

One of the strengths of our beef cattle industry is the variety of beef breeds which offer a diversity of genetics that are adapted to the different environments of our country. Diversity, specifically when it comes to animal genetics, is one of the key ingredients that enables farmers to respond to change, whether good or bad. DNA technology has become indispensable in farmers' efforts to quantify and select genetic variation linked to economically important traits. Several genetic markers have for instance already been identified that are associated with traits linked to profitability, including feed efficiency. Furthermore, many studies have also investigated the levels of genetic variation within as well as among breeds, revealing the extent to which breeds are genetically different

Die gesegde dat ons nie tegnologie gebruik nie maar tegnologie leef, weespieël maar net hoe afhanklik ons van tegnologie geraak het. Om die waarheid te sê dit het so integrale deel van ons lewens geword dat ons dit as vanselfsprekend aanvaar. Die Covid-19 pandemie het die belangrikheid van tegnologie uitgelig - ons woon kongresse, sportbyeenkomste en selfs musiekkonserte virtueel by, doen inkopies al hoe meer "aanlyn" en reël virtuele vergaderings, om maar net 'n paar te noem. Uit ondervinding weet ons ook dat moeilike tye dikwels ons swak en sterk punte na vore bring. Van die menige negatiewe effekte van die pandemie sluit in die feit dat ons land se BBP met 'n astronomiese 51% gekrimp het in die tweede kwartaal van 2020 in vergelyking met die 1.8% afname in die eerste kwartaal. Die goeie nuus is egter dat ons landbousektor met 15% gegroei het oor dieselfde tydperk.

In die lig van die nagevolge van die pandemie en die toenemende vraag na beesvleis sal boere alles moet uithaal en wys om meer winsgewend en volhoubaar te produseer. Tans produseer ons boere net oor die een miljoen ton beesvleis per jaar en na raming sal die vraag na beesvleis met meer as 20% styg oor die volgende dekade. Dit is vanselfsprekend dat daar geweldig druk op produsente sal wees om meer doeltreffend, winsgewend en volhoubaar vleis te produseer ten einde te kan deelneem aan die vleisbees waardeketting wat inherent baie kompetend is. I.g. is dinamies en tot 'n groot mate vertikaal geïntegreer. Dit beteken dat baie voerkrale, wat tussen 70-80% van ons beesvleis proses, hul eie slagpale het en ook direk vleis lewer aan die groot- en selfs kleinhandel. Boere sal dus hul produksie stelsels sodanig moet bestuur en optimaliseer om te kan inpas by die vereistes van hierdie ketting.

Maak staat op diversiteit en voorkom verliese

Een van ons vleisbeesbedryf se sterk punte is ons diversiteit van genetika in die vorm van verskeidenheid beesrasse waarmee geboer word en wat aangepas is by die uiteenlopende omgewings van ons land. Diversiteit, spesifiek as dit kom by dieregenetika, is een van die belangrike bestandele wat boere in staat stel om te reageer op verandering, hetsy goed of sleg. DNS tegnologie het onmisbaar geword in boere se pogings om genetiese variasie te kwantifiseer en te selekteer vir ekonomies belangrike eienskappe. Verskeie genetiese merkers is reeds geïdentifiseer wat met ekonomies belangrike eienskappe geassosieer word, soos bv. voerdoeltreffendheid. Verder is heelwat studies ook gedoen op die vlakke van genetiese variase binne rasse asook oor rasse heen, m.a.w. hoe rasse geneties van mekaar verskil.

from each other. The level of genetic variation within a breed is an important indicator of its fitness and ability to adapt to change while information regarding the degree to which breeds are structured is central to our ability to devise breeding, management and conservation strategies for our breeds.

Studies done on crops around the world have shown that some of the biggest losses are already happening on the farm, amongst others, due to diseases and pests. This not only impacts negatively on the farmer's income but can also lead to the consumer eventually having to pay more for food. The same principles can apply to a large extent to a beef producer. We must keep in mind that losses and subsequent reduced income are not only linked to deaths - a loss can also be attributed to an income forfeited due to inefficient production, such as cows that do not calve every year. There is a big variety of genetic diseases that has already been identified and for which many can be tested in a DNA laboratory in order to eliminate unwanted genes from the herd and ultimately in the breed as well.

Newer developments in the field of DNA technology include the study of epigenetics, a phenomenon where the environment influences the DNA of an animal (or human) in such a way that certain genes are either suppressed or switched on. Interestingly, many of these epigenetic changes can be transmitted to progeny over several generations. The environment in this case may include temperature (especially heat), diet, stress, chemicals and other factors of which we know very little about at present. As an example, dairy cows under heat stress were found to produce lighter calves with weakened immune systems. Another study on epigenetics revealed that the composition of certain sheep breeds' diets adversely affected the weight of their offspring. Research on epigenetics will in future enable us to better understand complex traits, such as disease resistance and reproduction, to name but two, and to use the information to address productivity amongst others.

Summary

Without a doubt, technology has become indispensable in our current lifetime, whether it be digital technology, DNA technology or any other available and of course affordable technology. The big question is to what extent do we use it or are many of us the proverbial latecomers in many cases who first want to see who is going to use it and whether it is going to add value to my business? The outstanding benefit of DNA technology in particular is the fact that it has already proven itself, especially for characterizing, conserving and managing of our genetic resources. It also plays a prominent role in enabling producers to participate in the beef value chain, which is paramount to the sustainability of any farmer's enterprise.

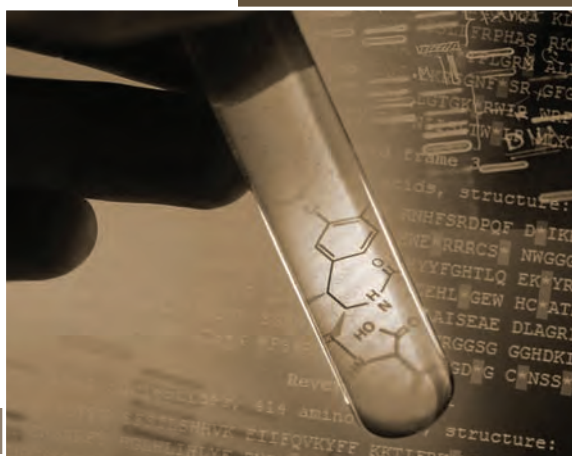
Hierdie inligting is baie belangrik en handig as dit kom by hoe uniek bepaalde rasse is, hoeveel genetiese variasie binne die ras is (wat baie belangrik is vir hul vermoë om te kan aanpas) en hoe die ras van ander rasse verskil ten einde ons genetika verantwoordelik te kan bewaar en te bestuur.

Studies gedoen op gewasse oor die wêreld heen het aangetoon dat van die grootste verliese reeds op die plaas plaasvind, onder andere a.g.v. siektes. Dit knou nie net die boer se inkomste nie maar kan ook daartoe lei dat die verbruiker uiteindelik meer vir kos moet betaal. Dieselfde beginsels kan tot 'n groot mate geld vir 'n vleisbees produsent. Ons moet onthou dat verliese nie net gekoppel is aan vrektes nie – 'n verlies kan ook toegeskryf word aan 'n inkomste verbeur a.g.v. ondoeltreffende produksie, soos bv koeie wat nie kalf nie dra ook by tot verlaagde inkomstes. As dit kom by genetiese siektes, is daar 'n groot veskeidenheid wat reeds geïdentifiseer is en waarvoor toetse gedoen kan word ten einde van die slegte gene ontslae te raak.

Nuwer ontwikkelinge in die veld van DNS tegnologie sluit in epigenetika, 'n verskynsel waar die omgewing 'n dier (of mens) se DNS sodanig beïnvloed (nie verander nie!) dat bepaalde gene òf onderdruk word òf aangeskakel word. Interessant genoeg kan baie van hierdie epigenetiese veranderinge oor 'n paar geslagte oorgedra word. Die omgewing in hierdie geval sluit in temperatuur (veral hitte), dieet, stress, chemikalieë en ander faktore waarvan ons nog baie min weet. So, byvoorbeeld is gevind dat melkkoeie onder hitte stres ligter kalwers geproduseer het met verswakke immuunstelsels. Die samestelling van bepaalde skaaprasse se dieet het ook epigenetiese verandering laat plaasvind wat die gewig van hul F2 nageslag nadelig beïnvloed het. Navorsing op epigenetika sal ons in die toekoms in staat stel om komplekse eienskappe, soos siektebestandheid en reproduksie, beter te verstaan en die inligting aan te wend om produktiwiteit aan te spreek.

Samevatting

Sonder twyfel het tegnologie onmisbaar geword in die eeu waarin ons leef, of dit digitale tegnologie, DNS tegnologie of enige ander van die hordes beskikbare tegnologieë is. Die groot vraag is tot watter mate gebruik ons dit of is baie van ons die spreekwoordelike laatkomers in baie gevalle wat eers wil kyk wie dit gaan gebruik en of dit waarde gaan toevoeg tot my onderneming. Die groot pluspunt van DNS tegnologie is die feit dat dit homself reeds bewys het, veral as dit kom by die karakterisering, bewaring en bestuur van ons genetiese hulpbronne. Dit speel ook 'n al hoe groter en belangriker rol om produsente in staat te stel om te kan deelneem aan die beesvleis waardeketting.

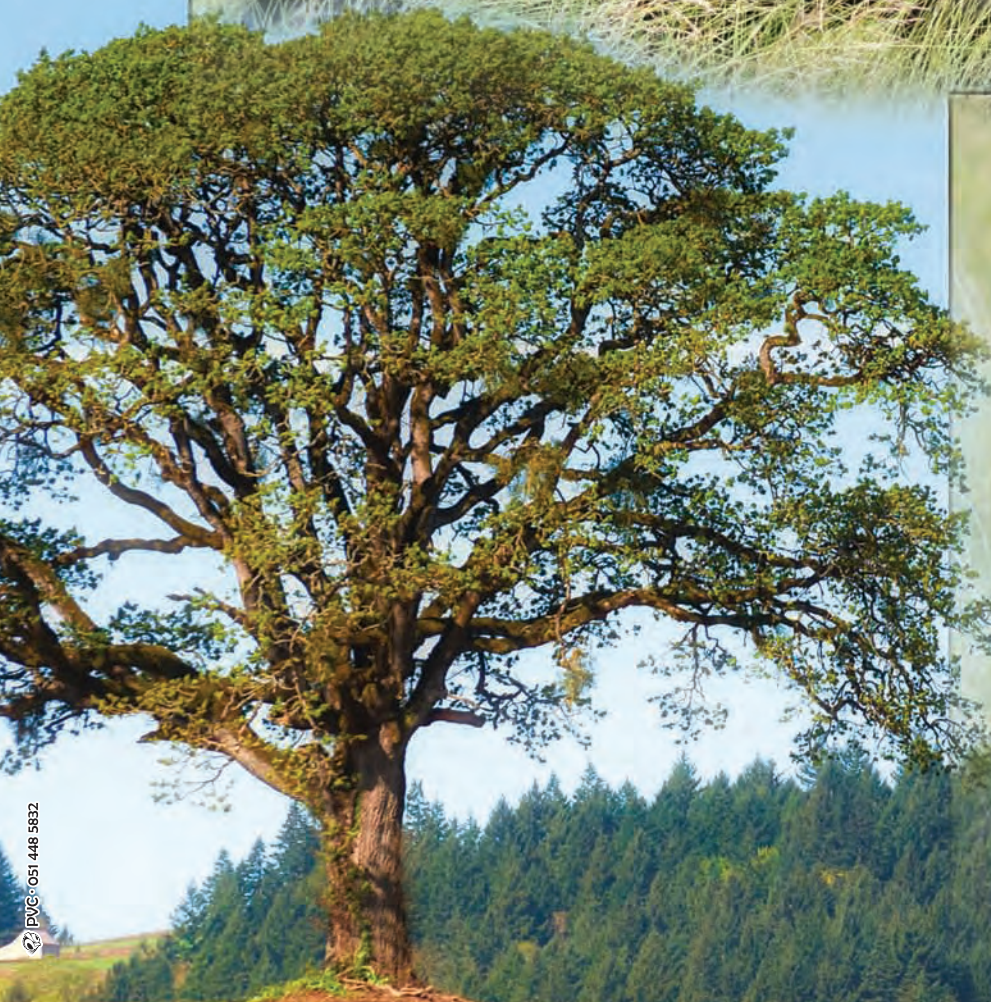




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Angustelersprofiel

Wie is Benedetto Angus?

Wikus van der Merwe, Februarie 2021

Op Doringboompie word daar sedert 2010 met Angusse geboer. Voorheen het Rudi Claassen 100 Holstein koeie gemelk. Vandag is die melkmasjien stil en wei daar 30 Rooi Angus stoetkoeie op hierdie 100 hektaar in die Bainsvlei omgewing, net buite Bloemfontein. Rudi is tans die Vrystaat Angus Klub se Voorsitter en verteenwoordig die Vrystaat as Raadslid op die SA Angusraad.

Die oomblik dat jy op Doringboompie arriveer, is Rudi se passie vir die Angusras baie duidelik. Sy entoesiasme vir sy beeste is aansteeklik en dit wys in die kwaliteit van sy kudde! Rudi vertel dat die kudde opgebou is uit koeie wat hy by die Mequatling-, Geluksbron-, Roechama- en Vansia-stoete aangekoop het. Sy fokus is koei-families. Dit is een van die twee belangrikste aspekte van teling vir hom. Elke koei-lyn het 'n storie. Deur selektiewe gebruik van K.I. bulle voeg hy waarde toe tot die koei-lyne. Vir Rudi is die ander belangrike aspek korrektiewe paring. Dit doen hy met sy ondervinding uit die suiwelbedryf. Hy kombineer syfers met visuele waarde – die tipe Angus waarvan hy hou.

Bulle uit die Hide-A-Way's-stoet het ook 'n groot impak op die Benedetto-stoet gemaak. Rudi vertel dat die bul Wing Commander veral 'n groot invloed gehad het met die vroulike diere wat deur Wing Commander geteel is. Die ingevoerde semenvaar, Red Six Mile Custom Made, het ook 'n groot impak op die kudde gehad. Nuwe bulle word noukeurig uitgesoek en parings word deeglik beplan voordat die koeie gedek word.

By die vraag “Hoekom Angus?” antwoord Rudi vining dat die Angusras se temperament dit maklik maak om met hulle te boer. “En daarmee saam die Angusboere, die lekker mense!” vertel hy

verder. Rudi verduidelik dat die hoë aanvraag na Angusbulle ook vir hom belangrik is en dit maklik maak om met die ras te boer. “Ek sukkel nie om my bulle verkoop te kry nie.” Benedetto Angus bulle verkoop oor die hele Vrystaat en Noord-Wes en tevrede kliënte kom jaar na jaar terug Doringboompie toe om nog bulle te koop. Vir Rudi is naverkopediens aan sy bulkopers belangrik, “dis vir my lekker wanneer 'n boer terugkom om weer 'n bul te koop na die eerste keer”.

Om op 100 hektaar 'n stoet te bedryf is nie maklik nie. Dit verg harde werk om genoeg kos te kan produseer. Hy gebruik hoofsaaklik gewasse soos Teff en Japanese radyse om die veld mee aan te vul.

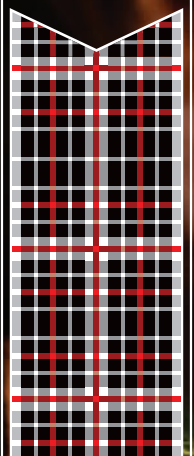




Rudi plant ook sugargraze, Smutsvinger, hawer en mielies wat gestroop word en gebruik word in lek-aanvullings vir die kudde.

Vir Rudi is betrokkenheid by die Angus Genootskap baie belangrik. Dit skep die geleentheid om die beeste in ander kuddes te sien en by ander telers te leer. Die Genootskap maak dit ook moontlik om semen van top bulle in te voer en in Suid-Afrika te registreer. “Die mense was goed vir my, ek het goeie vriendskappe opgebou met die Angus-manne.” Verder is die deel van kennis en die uitruil van idees vir hom belangrik. “Dis 'n plek waar 'n teler kan leer en kan groei en waar jy jouself teen die beste kan meet.” Skoue is ook vir Rudi belangrik, “dis waar ek my stoet kan meet teen die beste en

dit help my baie met bemarking van my beeste.” Oor die pad vorentoe vir die Benedetto Stoet en die Angusras is Rudi optimisties. Sy plan om 'n Vrystaat Angus klubveiling op die been te bring is goed op dreef. Hy wil graag aan die volgende Nasionale Kampioenskap deelneem en natuurlik is sy mikpunt om ten minste 'n klas te wen. Verder word daar passievol gewerk om nog harde, veld aangepaste bulle te teel op Doringboompie!



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Angustelersprofiel

Wie is Bodeel Angus?

Wikus van der Merwe, Februarie 2021

Van die oomblik wat jy op Bodeel aankom is dit duidelik dat Johannes en Marijke Botha hierdie stoet met passie bedryf! Die Bodeel Angusstoet is in 1997 geregistreer en in die afgelope 25 jaar is die hele kudde opgeteel met die hulpstamboek, geen vroulike diere is ingekoop nie. Johannes merk op dat dit 'n lang pad is wat min mense bereid is om te loop, maar dat hierdie manier vir hulle baie bevredigend as telers was. Marijke is van mening dat deur middle van Bodeel se opteelprogram, hulle die moederlyne kon identifiseer wat oor die jare goed presteer het. Hierdie seleksie is gebaseer op die

retensie van vroulike diere uit sekere lyne. Dit is ook nou daardie moederlyne wat die top bulle in die kudde teel. Verskeie Bodeel koeie ontvang ook jaarliks Logix Elite toekennings vir hulle prestasie in beide reproduksie en produksie. Van die bulle wat oor die jare 'n groot impak gemaak het op die Bodeelkudde is JMS12 760, Leachman Red Spread, Travelin Express, RCM1164, Mequatling Fireworks II en LCC Major League. Die Bothas se filosofie oor teling is eerstens gegrond op goeie vrugbaarheid, dan volg aanpasbaarheid en Johannes vertel verder dat dit belangrik is om met die regte tipe bees te boer vir jou boerdery-omstandighede. Dit is ook vir hulle belangrik om 'n produk te teel waarmee kopers tevrede is.

Johannes en Marijke is beesboere. Angusboere. Hulle hele hart is in dit! In die Viljoenskroon omgewing, waar hulle boer en waar saaiboerdery die hoof landbouvertakking is, word hulle lande eerder aangewend om voer te produseer. Gewasse soos sugargraze, akkerbone, lusern en teff word verbou om te verseker dat die Bodeelkudde reg deur die jaar goed kan eet. "Sonder goeie kos het ons niks!" merk Johannes op. Die kudde het 4 dek- en kalf-seisoene deur die jaar en verse kalf gemiddeld op 30 maande vir die eerste keer. Streng seleksie vir vrugbaarheid word toegepas en koeie wat nie dragtig raak nie, word uitgeskot. Omdat Bodeel so uniek is in hulle bestuur word 'n bul vir vier rondtes dekkings deur die jaar gebruik met 6 weke rusperiodes tussenin. Dit stel hulle in staat om baie nageslag van 'n bul te



aanspoor om elke jaar te verbeter. Omdat al die Kroon Anguslede op elke plaas betrokke is met die seleksie, word die kwaliteit van die aanbieding verseker. Daar word jaarliks ongeveer 35 bulle aangebied, stoetverse en ook kommersiële Angusverse. In 2021 sal dit die negende Kroon Angus veiling wees. Soos elke jaar belooft dit om 'n geleentheid te wees wat oorloop van gasvryheid en top Angusbeeste.

By die vraag “Hoekom Angus?” kom die antwoord vining, “want Angusse is vir ons mooi beeste!” Daarmee saam glo hulle dat daar geen ander ras is wat die vermoë het om voer in vleis om te sit soos die Angusras nie. “Die Angusse weet wat om met die weiding te maak wat ons vir hulle gee”, sê Johannes. “As dit kom by vleis geproduseer per

kan bekom. Op hierdie manier word die impak van 'n goeie bul in die kudde vergroot. Die beskikbare weidings word ook so aangewend om optimale produksie te kry uit die koei en kalf, asook die Angus se potensiaal vir voer omskakeling na vleis ten volle te kan benut. Daar word ook vier keer per jaar 'n groep Angusosse gelewer aan Woolworths vir die Angus Beef projek. Deur die osse self af te rond, word waarde toegevoeg tot die boerdery.

Bodeel het in 2012 aangesluit by die Kroon Angus groep wat verder bestaan uit ZEC Angus van Dr Enslin Coetzee en Wenspan Angus van Dr Johan Kahts. As 'n groep selekteer hulle saam die diere wat elke jaar op die veiling aangebied word. Dit is ook 'n omgewing waar die drie vennote mekaar

hektar kan die Angus nie geklop word nie. Verder is die Angus ook 'n ras waarmee 'n mens kan waarde toevoeg as gevolg van die kwaliteit van Angusvleis. Die hoë aanvraag na Angusse maak dat ons gemaklik ons bulle en vroulike diere kan verkoop.” Johannes en Marijke vertel verder dat die Angus Genootskap vir hulle deure oopmaak as telers deurdat daar 'n spesiale mark geskep is vir die bemaking van Angusvleis en ook omdat die ras aktief deur die Genootskap bemark word. Verder geniet hulle die aktiewe klub struktuur en die geleentheid vir samesyn rondom Angusbeeste wat dit bied. Die Bodeel Anguskudde is oor die jare opgebou met harde werk en uit 'n passie vir teling en beesboerdery – dit wys in alles wat op Bodeel gebeur. Die Anguskudde floreer en saam word hier geboer, van geslag tot geslag!

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Angustelersprofiel

Wie is Makojalo Angus?

Wikus van der Merwe, Maart 2021

Die Makojalo Anguskudde is in 1999 deur Kobus Delpont gestig. Die plaas wat net buite Potchefstroom geleë is, kan met tye 'n uitdagende omgewing wees vir beesboerdery. Suurveld en klippe in die rante maak dit moeilik, maar die Makojalo Anguskudde is in staat om in hierdie uitdagende omgewing te presteer. Kobus is 'n praktiserende Geoktrooieerde Rekenmeester en ouditeur en bedryf sy praktyk in Potchefstroom. Sy dogter Mari, wat deesdae aan die stuur van Makojalo se kudde is, het 'n B. Com graad in Bemaking en Toerisme. “Die feit dat Mari aan die stuur is, gee ons baie gemoedsrus” is Kobus se trotse woorde. Beide Kobus en Mari se agtergrond en opleiding gee hulle 'n unieke aanslag tot die boerdery. Kombineer dit met 'n liefde vir die Angusras en jy is seker van 'n wenresep.

Om 'n stoet te begin is nie maklik nie, maar deur van die regte basis-diere gebruik te maak kan 'n stoetteler wel suksesvol wees. Kobus vertel dat die eerste Rooi Angus vroulike diere baie selektief aangekoop is vanaf Loutjie Campher, Philip Barnard, Dirk Giliomee, Lynne Oldfield en Jan Vosloo. Makojalo se twee stammoeders was Anvos Girly en Anvos Red Moira. Beide hierdie koeie se seuns, het ook in later jare, 'n groot impak op die kudde gehad. Die Swart Angusse van Makojalo stam af van vroulike diere wat by Dr Jurie Geldenhuys aangekoop was. “Hy was in daardie stadium een van die top Swart Angustelers in die land” voeg Kobus by. Die sterk basis vroulike diere word verder uitgebou deur 'n uitgebreide embrio-spoelprogram op Makojalo. Om te begin met die regte vroulike diere het ook vroeg in die kudde se bestaan al vrugte afgewerp. Kobus vertel trots dat die





kudde reeds in 2006, met die Nasionale Kampioenskappe, die voorreg gehad het om al vier die vroulike kampioene op die skou te kon vertoon. “Anvos Lofty is 'n bul wat ons lank in die kudde gebruik het. Die bul het 'n besonderse bydrae gemaak om die Makojalo-kudde te kry waar dit vandag is” vertel hulle verder.

Wanneer die vraag gevra word, hoekom Angus? Is die antwoord dat Anguskoeie vir Kobus en Mari prentjie mooi is. Hulle glo ook dat jy moet boer met 'n ras waarvan jy hou. Daar is 'n groot verskeidenheid rasse – genoeg sodat elkeen kan kies waarvan hy hou! Ons hou van die Anguskoei se temperament en haar goeie moedereienskappe. Volgens Kobus en Mari is die Angusras 'n wingewende ras om mee te boer, die natuurlike poenskop-faktor is natuurlik ook 'n bonus. Daarmee saam het die Angustelers vir hulle soos familie geword en het hulle oor die jare baie vriende gemaak deur hulle betrokkenheid by die Genootskap. “Ons het aan die begin jare dit veral waardeur dat daar nie inkennigheid onder die telers was nie. Die manne het maklik inligting uitgeruil en ons is deur verskeie telers met

goeie raad bedien. Dit het ons dadelik laat tuis voel tussen ons Angusvriende” vertel Kobus oor die eerste jare van die Makojalo Stoet.

Makojalo Angus se doelwit is om diere te teel waarvan hulle hou, wat funksioneel doeltreffend is en aangepas is in hulle omgewing. “Met tye kan dit maar 'n harde omgewing wees, ons verbou nie gewasse nie en ons diere moet gemaklik op die veld met 'n goeie lek kan oorwinter. Ons teel medium-raam, geharde diere.” Die verse in die kudde kry voorkeur wanneer dit by weidingsbeplanning kom. Kobus en Mari maak seker dat hierdie verse wat die nuutste in die kudde is en uit top genetika geteel is, goed uitgegroeï is wanneer hulle in produksie kom. Op Makojalo is daar ook 'n unieke kruisteelprogram met Nguni-beeste. Mari vertel dat sy en haar ma, Louise, 'n liefde vir die Nguni-ras het en 10 verse en 'n bul aangeskaf het. Kobus vertel dat hy hulle 'n paar jaar later oortuig het om 'n Angusbult by die Nguni vroulike diere te gebruik. Vandag, omtrent 10 jaar later, het hulle nog nie teruggekyk nie. Hulle verwys graag na die koeie as Angunis. “Die Angusbult het boude op die Ngunis gesit!” vertel hulle opgewonde. Daarmee saam het die Angus se rustige temperament en goeie melkproduksie die Nguni-koeie, wat ook van nature uitstekende moeders is, verder gekomplimenteer. Die kalwers is poenskop en met die gebruik van veral 'n Swart Angusbult, word kalwers van meestal een kleur verseker.

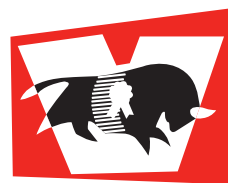
Oor die pad vorentoe is Kobus en Mari opgewonde. Hulle beplan om die kommersiële deel van die boerdery en die kruisteelprogram met Angusbult uit te brei en het nog grond aangekoop vir hierdie doel. Hulle beplan ook weer 'n jaarlikse veiling waar gastelers uitnooi word om diere op die Makojalo veiling aan te bied. Hierdie veiling staan bekend as Makojalo and Friends. Op Makojalo is daar duidelik groot planne vorentoe vir die Angusras. Kobus en Mari gaan die toekoms tegemoet met die woorde: “Ons glo jou planne kan verander, solank dit net nie opraak nie!”

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Biosecurity plan for cattle, sheep and goats exhibited at a championship



Dr Danie Odendaal, consulting veterinarian

Gearing up for 2022!

With the cancellation of the 2021 Bloem Show, the Angus National Championship show was postponed to 2022 and will take place in Bloemfontein at the 2022 Bloem Show.

Ensure you plan ahead and keep the 2022 champions healthy and in peak condition.

INTRODUCTION

Biosecurity is a comprehensive concept, the basis of which is discussed in the attached documents: **What is a biosecurity plan and Prevention of diseases through vaccination.**

Following discussions with various show organisers, it was confirmed that most do have a basic biosecurity plan in place which consist of three components:

1. Cattle that participate in a championship must test and be free from bovine tuberculosis within 4 months before said event. Herd testing should take place annually.
2. Livestock entering the showgrounds must be tested for and free from bovine tuberculosis. They must have been tested in the last 24 months.
3. Cattle and other livestock must have a veterinarian's health certificate stating that they are free of any obvious signs of disease. Such an examination must be completed within three months of the championship date.

Over the years many championships have been presented based on the biosecurity plans currently in place, without major problems due to disease outbreaks having been directly correlated with animals brought from different farms.

Admittedly there has not been a lot of biosecurity awareness in the past and consequently problems that might have arisen were also not reported. Animals brought to a championship mainly come from stud herds where good management is applied because of the high value of the animals. Therefore disease prevention measures are also usually of a higher standard.

Many of the exhibitors also sell live animals for breeding purposes, which serves as a further incentive to have good disease prevention measures in place on the farm where the animals are bred. These herds are tested as a standard procedure for brucellosis, tuberculosis and sexually transmitted diseases such as trigomonosis and vibriosis. Only herds that are free of these diseases can offer breeding animals for sale.

This biosecurity plan utilises existing biosecurity plans, combined with proposed changes in a bid to reduce the risk of foot-and-mouth disease while there is an active outbreak, or during the 12 months following the conclusion of a foot-and-mouth disease outbreak.

This plan is a basic but practical biosecurity plan. THE PURPOSE IS TO REDUCE RISKS AS FAR AS POSSIBLE. Developing a fully comprehensive plan that excludes all risks, will take much longer than is currently possible and in many cases will not be practicable.

BIOSECURITY PLAN

The biosecurity plan is simple and can be practised by all exhibitors or breeders.

1. All cattle must be tested and free from bovine brucellosis.
2. All cattle must be tested and free of bovine tuberculosis.
3. Bulls must be tested and free from STDs.
4. All animals should be treated and free from external parasites, specifically signs of sheep scab.
5. All animals must be treated and free from internal parasites.
6. All animals must undergo a quarantine period of at least 28 days at their place of origin before they can join the championship, in order to eliminate the risk of foot-and-mouth disease. If the animals attend a following championship in a period shorter than 28 days, the daily foot-and-mouth observation process should be continued and documented until the next



BIOSECURITY PLAN

championship. These observations, together with the 28 days of the previous championship, must be submitted. See the guideline for basic daily observations attached.

7. All animals must be examined by a veterinarian and be free of any visible signs of disease.
8. All transportation vehicles used by either the owner/exhibitor of livestock, whether owned or temporary contracted by the owner/exhibitor or any other person, to a championship should be treated/pre-sprayed/sanitized prior to loading of any animals to the championship. It fully remains the responsibility of the previously mentioned person/s, at own costs, to ensure that the said vehicle/s, is/are thoroughly cleaned and/or treated, pre-sprayed/sanitized, as and if or when required, no matter how often, to comply and/or fall within any and all formal biosecurity legislation as stipulated.

MORE ABOUT EACH SUBSECTION OF THE BIOSECURITY PLAN

1. All cattle must be tested and free of bovine brucellosis

There are many basic, but more important adjustments to be made to a biosecurity regime to prevent possible transmission of beef brucellosis which presents a very high risk due to its very high prevalence throughout the country.

Animals coming to the championship must come from a herd that has tested clean of bovine brucellosis (test date within the last 12 months prior to the show).

Because the disease is a herd-related disease, and the herd does not necessarily exhibit obvious signs of disease (with the exception of abortions in pregnant cows), the herd must be tested and free of the disease to eliminate the risk as far as possible.

In a herd where carrier animals (positive herd) are present, it is still possible to transmit the disease. This is due to the long period involved in the development of the disease. Individual animals that have already been infected, may not test positive if they were recently infected.

Hence the animals that are taken to the show must test negative but must also come from a negative herd where all the heifers were tested after their first calving.

2. All cattle must be tested and free of bovine tuberculosis

These basic but important adjustments must also be made with regard to biosecurity so as to prevent possible transmission of bovine tuberculosis. Although there are currently fewer cases of bovine tuberculosis, the risk of transmission should be eliminated as there is no preventive vaccination or treatment of sick animals available.

Animals taken to the championship must come from a herd that has tested clean of cattle tuberculosis (herd test date within the last 24 months).

Because bovine tuberculosis is also a herd-related disease and there are no obvious signs of disease (with the exception of animals experiencing the end stages of the disease), the herd must be tested and free of the disease to eliminate the risk as far as possible.

In a herd with carriers (positive herd), the disease can still be transmitted. This is due to the long period of disease development. Individual animals that have already been infected may not test positive if they have been infected very recently.

The animals taken to the championship should have been tested within the last twelve months and test negative, but they must also come from a negative herd in which all the cattle were tested (within the last 24 months).

3. Bulls must be tested and free of STDs

Because there is a risk that sexually transmitted diseases can be transmitted at a championship, this test is included in the new biosecurity plan as there is a very high incidence of sexually transmitted diseases, as reported by veterinarians.

The two diseases to be tested are trigomonosis and vibriosis. Both diseases are tested using sheath washes or sheath scrapes.

This is also a herd-related disease and all bulls must be tested for and free of the disease during the last three months. This includes those bulls taken to the championship.

4. All animals must be treated against and free of visible external parasites

There is a high risk of external parasites transmission where animals are shown or exhibited. External parasites can easily be transferred from one animal to the next when in close contact.

Ticks therefore pose a further risk because they can transmit tickborne diseases from one animal to another. To prevent this, animals must be free of all external parasites when shown or exhibited.

They must therefore be treated and rid of external parasites before being transported to the championship. Specific attention and indemnity apply to sheep scab.

5. All animals must be treated against internal parasites

There is a lower risk of internal parasites being transmitted when animals are shown or exhibited. In most cases no direct transfer can take place from one animal to the next if they don't share a pasture. To reduce the risk, animals must be free of all internal parasites when shown or exhibited.



6. All animals must undergo a quarantine period of at least 28 days at their place of origin, before coming to the championship, so as to eliminate the risk of foot-and-mouth disease

The best way to eliminate the risk of foot-and-mouth disease is to ensure as far as possible that infected animals are not brought to the championship.

Unlike in the case of bovine tuberculosis and bovine brucellosis, there is no cost-effective test that can be performed to determine whether the animal is free of the disease. There is a test that identifies animals that are already showing signs of disease or animals that have recovered or been exposed, but this is performed at great cost by the state in the event of an outbreak.

- The only practical method to reduce risk is the quarantine measure that can be followed to keep the group of animals going to the championship in isolation for at least 28 days at their place of origin.
- Seclusion means that they cannot come into contact with any other animals on the farm that are newly introduced during the 28-day period. They can still be part of the existing herd.
- The person responsible for the care of the animals must then, on a daily and structured basis, observe all the animals that will go to the championship, using the daily observation chart and the specific description of the disease signs that indicate a foot-and-mouth disease infection.
- Any signs of illness must be noted, and signs should be confirmed daily in respect of all the animals comprising the championship group, as well as any other animals that are in contact with them. To confirm this, the responsible person must sign the record keeping form every day.
- Because the developmental period of the disease is short (maximum 14 days), any animal possibly infected with the foot-and-mouth disease virus, will show signs of disease during that period.
- In the event that an animal exhibits disease signs that correspond to the given list of foot-and-mouth disease signs, the veterinarian should be asked to examine the animal. This will include taking samples to confirm or discount foot-and-mouth disease.

Animals can only be brought to the championship if there were no signs of foot-and-mouth disease in the herd in the preceding 28 days and if they were not put with new cattle during the 28-day quarantine period. The owner of the cattle must confirm this in a statement.

If the animals are taken a following championship within a period shorter than 28 days, the daily foot-and-mouth disease observation should be continued and documented until the next championship. This observation, together with the 28 days of the previous show, must be submitted.

7. All animals should be examined by a veterinarian and be free of any visible signs of disease

The herd veterinarian must examine the herd during the 28-day quarantine period to confirm that the correct procedure has been followed, and examine the animals that are going to the championship for any visible signs of disease.

The investigation will also include:

- Inspecting for any external parasites or infectious skin conditions and recommending treatment options against external parasites.
- Taking manure samples to determine the presence of internal parasites and recommending treatment against internal parasites.
- Completing any of the other required herd tests if not already done.

Animals can only be brought to a championship if they have been declared free of visible signs of disease by the veterinarian who examined them. The veterinarian must make a statement confirming this.

The management of Bloemfontein Showgrounds will put the following actions in place:

1. **One week before the arrival of the first animals there will be NO animals on the grounds.**
2. **All facilities involving animals (stables, loading areas, wash areas) will be pre-sprayed with a general animal-safe disinfectant.**
3. **Continuous cleaning will take place while animals are on the premises, and includes the removal of dirt and hay.**
4. **At the end of the championship, ALL dirty hay, bedding and manure will be removed, the areas washed and re-sprayed with a general animal safe disinfectant.**

SUMMARY

This is a biosecurity plan that meets the basic requirements for preventing the transmission of major diseases, including foot-and-mouth disease.

It is the showman, breeder, exhibitor and breed society's choice to attend a championship within the framework of the regulations contained in the biosecurity plan.

A safe environment is created, as far as possible, for the attendance of or participating in a championship and championship is safeguarded of any claims in this regard.

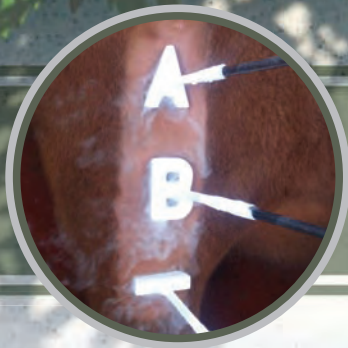


HOT ANGUS

ANNERI OTTO

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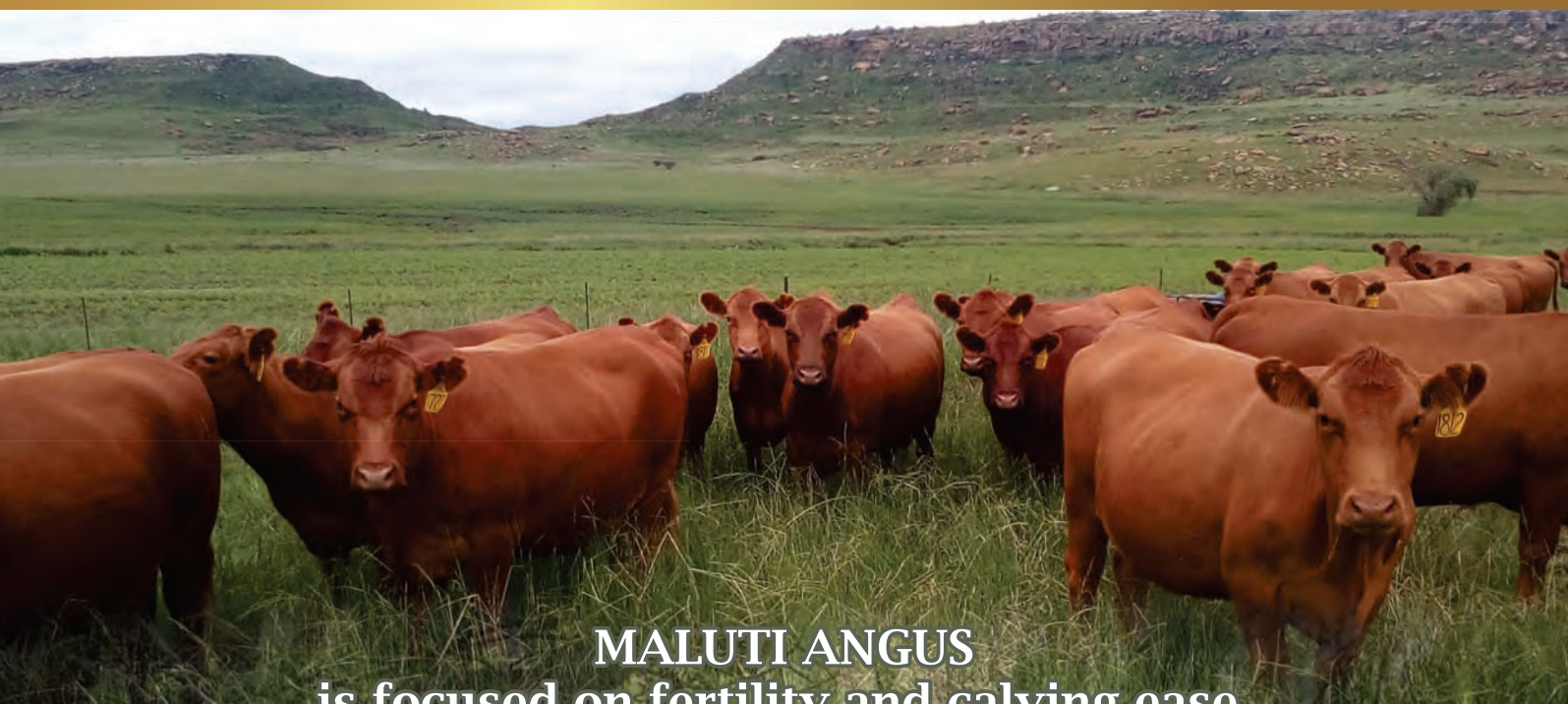




MALUTI ANGUS

André Breytenbach: 082 774 6804

E: andre@maluti-angus.co.za | Posbus | P.O. Box 1775, Bethlehem, 9700



MALUTI ANGUS

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Inter calving period for the herd

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- 2016/17 = 371 days
- 2017/18 = 363 days
- 2018/19 = 358 days
- 2019/20 = 355 days



MELKBOSSTRAND

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PRIVATE SCHOOL

History was made at Melkbosstrand Private School (MPS) in February 2021 with the launch of the subject Agricultural Management Practices. MPS is one of the few, if not the first, independent private school who is promoting Agriculture among the youth of South Africa for the future.

MPS is privileged to be partnering with Mr. Seymour Currie of Joyce's Angus Stud who will be acting as a mentor to our learners and sharing with them from his wealth of knowledge as a championship Angus breeder.

In addition MPS has also partnered with RFID Experts Africa, a subsidiary of BKB, who will be erecting a fully automated and electronic cattle handling facility on site where our learners will be exposed to the latest precision technology used in agricultural management practices. As part of the school's strategy to promote Agriculture amongst the youth the school would also like to involve the community and will, once the RFID cattle handling facility has been established, make the facility available to any other school in the vicinity who is prepared to offer Agriculture as a subject.

We, as a school, look forward to expanding our agriculture footprint and being part of the whole value chain involved with the agriculture industry and promoting this under our youth for the future.

OJ Dreyer

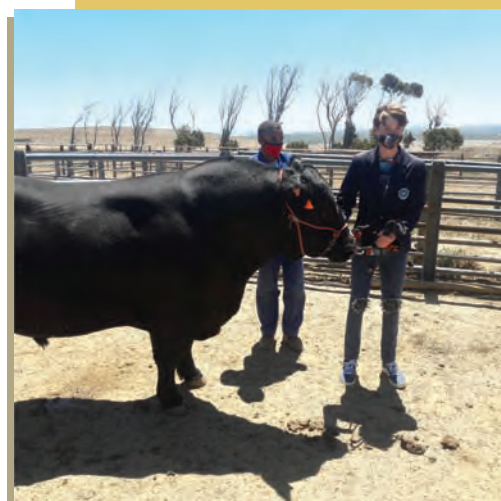
CEO



LEARNER COMMENTS: FARM VISIT on 9 Feb. MR. CURRIE

The experience of visiting the Blaauwberg farm of Mr. Currie was amazing and very interesting. We learned so much about Angus cattle and other things I never knew even existed. I finally see how important and fascinating cattle farming really is. Mr. Currie was a very good host and made the the lesson very interesting and humorous. His knowledge of the animals was unbelievable. It was also fun when we led the bull around the compound. The bull was very calm and understood our guidance. It was an amazing experience and I am looking forward to the next visit.

Ek en my klasmaats was Dinsdag 9 Februarie genooi om na oom Seymour Currie se Angus boerdery te gaan. Dit was 'n groot ondervinding en was vet pret. Ons het baie nuwe goed geleer en het die voorreg gehad om een van sy top bulle om die ring te lei. Ons het dit regtig baie geniet en die ander kinders skoon jaloers gemaak. Ek wil net persoonlik baie dankie sê aan oom Seymour vir sy tyd en geduld met ons mal kinders. Ek hoop ons kan weer gaan want ons het nog baie om te leer.



Agricultural Management Practices is the study and application of production, economic and management principles that are used in the cultivation, transformation and marketing of food and other agricultural products. The subject is designed to provide learners with a sound practice orientated base that integrates theoretical and practical competencies.

THE FOLLOWING SKILLS ARE DEVELOPED IN THE LEARNERS:

Management Skills:

the knowledge and skills required to plan, organise, guide, control and evaluate production factors to achieve sustainable production enterprises;

Entrepreneurial Skills:

the ability to manage risks and combine production factors creatively to produce superior goods and services;

Operational Skills:

involves the day-to-day management of crop and animal enterprises;

Marketing Skills:

those value-adding activities in the agricultural supply chain that deal with various agricultural production lines; and

Research Skills:

involves aspects of problem identification; setting objectives; data collection, analysis, evaluation; and report writing.





Kroon  *Angus*
VAN OESLAAR TOT OESLAAR
FROM GENERATION TO GENERATION
VEILING • AUCTION
7 SEPTEMBER 2021



Dr. Enslin Coetzee 083 255 1638
enslincoetzee@gmail.com
Issie Liebenberg 083 987 7060

Angus Poster boy!



EXAMPLE OF A STRONG ANGUS HEAD

BEWARE!

fly-by-night online auctions



Covid-19 lockdown restrictions have led to an unprecedented migration to online auctions as a means of selling anything from properties and cars to office furniture and even household goods.

New companies are emerging using social media marketing to encourage buyers to bid or make offers on goods and buyers in the agricultural industry can be duped into participating in a sale process or so-called auction that is not transparent, legal or safe.

As a result, the South African Institute of Auctioneers (SAIA), has noticed an uptick in complaints leveled at fly-by-night auctioneers who do not fulfill their obligations to deliver goods or choose to provide alternative goods that are not what the customers bid for. There have also been reports of problems associated with the refunding of deposits where these are required.

“Unfortunately, it is only when problems arise that the bidder realizes they are dealing with unprofessional sellers purporting to be Bonafede auctioneers and this should send a clear signal to the public to only deal with professional, registered auctioneers who are members of SAIA. Before committing to purchase on a so-called auction site, a simple check on the SAIA webpage will dispel any concerns you may have. Our members have remained resilient in the face of the virus and are among the leaders in online auctioneering,” says SAIA chairman, John Cowing.

He continues that the institute's members comply with all requirement and legal requirements to ensure honest and fair auctions. Most will display their membership credentials on their website which can be verified by our office if the bidder has any doubt. “Our members are responsible custodians of assets who prescribe to our code of conduct. You are well advised to establish who in fact you are dealing with before parting with money. These auctions are putting a stain on our industry and we hope in time with legislation we will be able to eradicate these illicit traders.

“While we actively promote the growth of the industry and the uptake of new technologies, we do not support these organised crime syndicates. You can often find bargains at auction but put simply, if it sounds too good to be true, it probably isn't true. It also pays to go to the institute's website www.auctioneering.co.za to explore member offerings or phone the Hotline on 021 813 6342 or WhatsApp 067 117 7049 with any queries,” concludes John.

South African Institute of Auctioneers president, John Cowing

Prepared on behalf of **South African Institute of Auctioneers, Sonja Styger**, SAIA Secretary,
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Email: media@mediasavvy.biz
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Although it is expected of auction houses or auction companies to be a registered member of several regulating authorities and covering bodies, these governing bodies do have not have real power over unethical and fraudulent auctioneers.

*Know your auction house and your auctioneer!
There are several trusted brand names in the agricultural industry that have been in business for several years - with good business ethics.*

Rheeboksplaat Angusstoet

*"Ons teel mediumraambeeste met lae geboortemassa
en selekteer vir gehardheid."*



Veiling: 17 Junie 2021

Jan van Dyk

Ceres

GIELIE GELDENHUYS



Algemene Jaarvergadering

Kort na die afkondiging van die noodtoestand en aankondiging van die inperkingsregulasies, het die Angus raad besluit om die AJV wat sou plaasvind in die Oos-Kaap, na Bloemfontein te verskuif.

Baie onsekerheid het bestaan of hierdie jaarlikse instelling wel sou kon voorgaan. Met die verslapping van die inperkingsregulasies kon die AJV wel plaasvind – sonder die tradisionele aandete en prysuitdelingsfunksie wat 'n instelling oor die jare heen geword het.

Anguslede van die Vrystaat, Noordwes, Oos-Kaap, Wes-Kaap, Gauteng, Mpumalanga en KZN het die vergadering bygewoon.

Die vergadering wat op die Bloemskou-terrein plaasgevind het, was ongelukkig die naaste wat ons in 2020 aan 'n skou gekom het – met net die die Hertzogville skou wat in 2020 kon plaasvind.

RC Malherbe se termyn as Voorsitter het met afloop van die vergadering tot einde gekom. Basie Bezuidenhout vat die leisels as Voorsitter oor. Basie Bezuidenhout het die afgelope twee jaar as Onder-Voorsitter op die Raad gedien. Issie Liebenberg is verkies as Onder-Voorsitter.

Vanuit die Anguskantoor wil ons vir RC Malherbe bedank vir die werk wat hy vir die Angusras gedoen het. 'n Jongman wat gelei het deur die voorbeeld te stel. RC Malherbe sal nog 'n jaar op die Angusraad dien as Ex-Officio.

Ons wens ook vir Basie Bezuidenhout alle voorspoed en sukses toe.

Seymour Currie, Theuns Bruwer en Rudi Claassen dien vir die eerste keer op die Angusraad.

Dr Japie van der Westhuizen en Herman Labuschagne het SA Stamboek verteenwoordig by die vergadering.

Na afloop van die vergadering, is 'n kort prysuitdeling gehou.

Stoffel Wiese het die NJ Kruger Herdenkings-trofee ontvang en is aangewys as die Beste Jong Teler vir 2020. Baie geluk Stoffel, voorwaar 'n prestasie om op trots te wees!

Die Hennie Langenhoven trofee is toegeken aan die Vrystaat Angusklub,

vir beste Angusklub van die Jaar 2020.

Die SA Angus Genootskap trofee vir Beste Kommersiële Produsent en die Ben Oosthuizen trofee vir Persoonlikheid van die Jaar staan oor na 2021 waar dit op 'n gepaste geleentheid oorhandig sal word aan die 2020 weners.

Soos die tradisie reeds vir baie jare is, is die Pat Mossop-toekennings ook gemaak.

André Breytenbach van Maluti Angus (Bethlehem) stap vir die tweede agtereenvolgende jaar weg as die kudde met die korte TKP. In 2018 is Maluti Angus aangewys as kudde met die tweede kortste TKP.

Baie dankie aan al die Anguslede wat die vergadering bygewoon en daarvan 'n sukses gemaak het.



Beste Jong Teler van 2020. RC Malherbe (Voorsitter) oorhandig die NJ Kruger Herdenkings trofee aan Stoffel Wiese.

2 Oktober 2020 Bloemfontein



Martiens le Roux en Peter Carroll (junior)



Anton Pelser (senior) en Anton Pelser (junior)



Issie Liebenberg, André Breytenbach en Basie Blynaut



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Ons teel vrugbaarheid en produksie

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Livestock Farming 4.0

Digitalisation for Future Meat Supply

by Jaco Maass, February 2021

Even though the world still struggles with a devastating epidemic that has led to millions losing the battle against COVID19, population growth is set to grow by 30% over the next three decades. This population growth will lead to an increased demand for food. According to the "Future of Food" report by Accenture in 2017, global protein demand will increase by 80% over today's levels, and the reality is that our traditional farming practices will not be up to the yield challenge. The world will require changes in how food is produced and retailed globally to supply in the rising demand. Underlying these rapidly required changes are macro forces that influence how the world produces, distributes, buys, sells, and consumes food.

Environmental Issues

Despite the industry's requirements to produce more, livestock farmers will have to accomplish this in an environmentally friendly and sustainable manner. The environmentalist is not viewing the industry in a positive light in this department. The Food and Agriculture Organisation of the United Nations released a report in 2006 that pointed to the livestock sector as one of the top three most significant contributors to severe environmental problems. The livestock sector uses one-third of global arable land and 8% of available freshwater. South America is also primarily responsible for deforestation and biodiversity loss and contributes 15% of global CO2 emissions. Therefore,

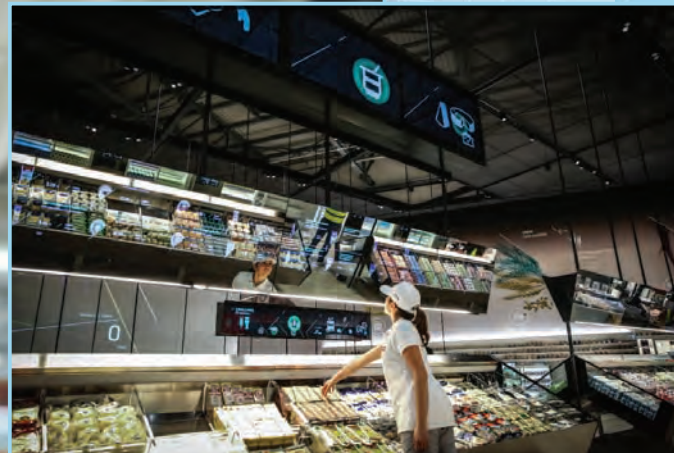


livestock's contribution to environmental problems is on a massive scale, and the impact is so significant that it needs to be addressed with urgency.

Precision Livestock Farming

Action is required if, as predicted, meat production will more than double from now to 2050. The industry needs to halve impacts per unit of output to achieve a mere status quo in overall impact. Precision Farming has had a significant impact on crop farming over a couple of decades with great success. Crop farmers will know it as the management concept, based on observing, measuring and responding to inter and intra-field variability in crops. The goal of precision agriculture is to define a decision support system for production management to optimise inputs while preserving resources.

Precision livestock farming differs in its use of advanced technologies to optimise an individual animal's contribution. Through this "per animal" approach, the farmer aims to deliver better results in livestock farming. Those results can be quantitative, qualitative and addressing sustainability. The technologies brought to us by Industry 4.0 will have to be deployed through precision farming techniques to supply in demand for protein in a sustainable and environmentally friendly way. By doing this, livestock farmers will become more productive and use resources more effectively.



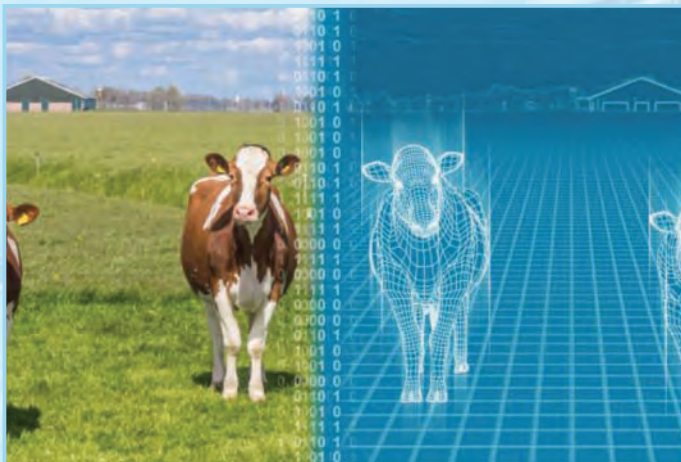
Fourth Industrial Revolution

The solution lies in the effective use of the technologies that form part of the Fourth Industrial Revolution that is significantly changing the world we live and operate in. Klaus Schwab, founder and executive chairman of the World Economic Forum and the author of the book 'The Fourth Industrial Revolution' states that *"in the future, technological innovation will also lead to a supply-side miracle, with long-term gains in efficiency and productivity. Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth."*

Also known as Industry 4.0, it describes the blurring of boundaries between the physical, digital, and biological worlds. It's a fusion of advances in artificial intelligence (AI), robotics, the Internet of Things (IoT), 3D printing, Blockchain Technologies, quantum computing, and other technologies. It is the collective force behind many products and services that are fast becoming indispensable to modern life, and we use it daily. Think GPS systems that suggest the fastest route to a destination, voice-activated virtual assistants such as Apple's Siri, personalised Netflix recommendations, and Facebook's ability to recognise your face and tag you in a friend's photo.

Radio-frequency identification (RFID)

Radio-frequency identification (RFID) technology in livestock farming is the first step to precision livestock farming. The EID (electronic identification) RFID tag allows us to create a digital twin of the physical animal. Without the EID tag, precision farming in livestock is not possible.



Removing the EID tag from the animal, in effect, terminates the digital twin and the advantages of precision livestock farming. The RFID technology, which included the EID tag, the scales and the handheld readers, allows us to make the animal part of the Internet of Things (IoT).

The Internet of Things (IoT) brings many advantages for livestock farming to face up to the challenges as previously discussed. Today's digital landscape, devices, machines, and objects of all sizes can automatically transfer data through a network, effectively "talking" with each other in real-time. The top five advantages of the IoT are cost reduction, efficiency and productivity, mobility and agility, business opportunities and customer experience.

Data Analytics

Once data is collected on each animal, passed through the Internet of Things to a network and collected on a cloud database, it allows a business like Shift DX to apply data analytics to the data. Data is a list of facts and details collected from farming interactions on each animal. It is the raw list of facts that are processed to gain information.

Applying data analysis to the collected data allows us to inspect, clean, transform, and model the data to discover useful information, make informed conclusions, and support decision-making. Data analysis plays a role in making decisions more scientific in today's business world and helping the agricultural value chain operate more effectively.

Blockchain Technology

Blockchain technology brings the trust element to collected data and allows the various actors in the value chain to share trusted, decentralised information. People are surprised to hear that the blockchain is simply a database, just like any other database. You can put data in it, and you can read data from it. There are, however, a few crucial differences.

Traditional databases get installed on a server, and there is an owner of the server that maintains the data's integrity. With traditional databases, there is a single point of failure, and most importantly, you have to trust that owner of the database. On blockchain, it is different because the data is distributed. Each node, represented by a server, has a full copy of the data and is distributed between the different nodes. There is, therefore, no single copy. All the nodes that form the blockchain own the data. Should anyone change the data, it immediately and instantaneously synchronises across all the connected nodes for everyone to look at the same version of the truth.

The second big difference is about how data goes into this database. There needs to be a consensus and agreement on the data before it can enter the blockchain. The technology forces consensus about the data's relevance and truth, which is fundamental in the technology's trust element.

The third big difference of a Blockchain is the way its security works. In traditional databases, the security is layered around

the data, and if a hacker can get through the layers of security, he has access to all the data. This will allow the person who can access the database and make changes to the data because it holds only a single copy of the truth. With the blockchain, the security is woven into the data itself using advanced cryptographic techniques and some advanced mathematics. The blockchain is literally a chain of blocks of transactions each one mathematically dependent on all of the previous transactions. It is therefore impossible for a hacker to go and change transactions without breaking this chain. This means that the data is immutable and can never be changed.

Blockchain's inherent transparency makes it possible to quickly identify food production safety issues through enhanced transparency and traceability. Because blockchain is based upon an immutable, anonymous ledger, record keeping and accounting can be made more secure and less prone to human error. Not only does the technology open up alternative financing opportunities, but it also delivers alternative payments solutions to farmers.

Digital Cooperation Supply Chain

All of the technologies mentioned above open up the opportunity to develop a digital cooperation supply chain in the meat industry. In the United States, Walmart has worked with the American Angus Association to redesign the value chain to supply meat known for quality. The world largest retailer realised that the customers are demanding change and would like to know the story of the food that they eat. They turned the meat supply chain's marketing strategy around by listening to the customer's requirements by developing two programs, namely Premium and Lower Choice. Lamar Steiger, a consultant who helped Walmart rethink the meat supply chain, believes that meat's base price will be in a program in the future. Any meat that is sold outside of a program will be commodity pricing.

Whether this vision of the future becomes true or not, as livestock producers, we will have to distinguish ourselves from each other through the products we produce. Steiger makes a point that the market will start to pay a premium for the uniqueness you deliver. The reason is that value chain actors can pass the uniqueness through to the consumer or reduce cost in the process.

Building Trust through Data

BKB is a well-known agribusiness with its roots firmly established in the livestock industry. The company which celebrated its 100th year of business in 2019 recognised that it would have to start with digital transformation of its core business activities to survive the next century. For that reason, it acquired RFID Experts Africa in 2015 and established Shift DX in 2019.

RFID Experts Africa is joining forces with Shift DX to assist the South African livestock farmers in facing the challenges discussed in this article. Shift DX serves as the technology partner of RFID Experts Africa to become a one-stop-shop in its unique vision to be industry leaders in the agricultural

supply chain's digital transformation. The businesses envision doing this by applying data collections techniques through innovative platform technologies to deliver ongoing value and measurable results. The various products and services allow clients to make calculated, informed decisions and ultimately ensure their long-term growth by driving targeted sales and increasing profitability, sustainability, and traceability.

In partnership with established agri-businesses in Southern Africa, the two businesses lead the charge into the future of digital transformation. RFID Experts Africa has an established relationship with the international livestock identification company, Datamars, and has recently become the preferred supplier of Tru-Test devices in South Africa. Backed by global approved technology, RFID Experts Africa is building livestock precision farming solutions for the South African livestock farmer.

Partnering with Shift DX makes sense for RFID Experts Africa. As an initiative by the 100-year old agribusiness, BKB, which leveraged its virtues of trust and ethical behaviour, Shift DX was born to continue the legacy in a digitally transformed world. The business makes Blockchain technology a reality of South African farmers to deliver a trustworthy story of the products they produce and in doing so, opens up international trade opportunities.

Together, the two companies are passionate about the global agtech market and are applying pioneering technologies to solve complex digital solutions with the South African farmer. Shift DX has established a relationship with international companies like Microsoft (platform services), Xcira (digital auction solutions) and Dimension Data (technology support services). Shift DX is focused on creating differentiated experiences by tirelessly removing customer pain points in both physical and digital environments with these combinations of services and technology experiences.

Committed to push the boundaries and think outside the box, the businesses will continue to pursue real-world, practical applications through incredible technologies that can help our clients do better business and build an environmentally friendly and sustainable industry in the process.





KEN JOU VEE...

Ons begryp dat boerdery onvoorspelbaar is. 'n Mens is uitgelewer aan die weer. Danksy RFID Experts Africa kan jy jou veebestuur stelsel met die kragtigste gereedskap in die bedryf toerus.

Wetend.

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The global **increase** in carcass weights:

Size matters to the consumer?

PE Strydom | Professor: Department of Animal Sciences

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The Food and Agriculture Organization predicts that the global population will increase from the current 7 billion people to 9.5 billion by the year 2050 and will need 70% more meat, milk, and eggs (FAO, 2009). While the total and per capita consumption of poultry meat enjoyed the largest growth over the past decades, beef consumption also increased 18% (1990 to 2009).

So how did we as scientists and industry (including breeders and producers) respond to this call over the past decades? We developed and improved technologies in genetics, growth-enhancing substances (chemical compounds), nutritional formulations, feeding strategies and animal management strategies to increase the performance of the animal. And we were/are very successful to quote Capper (2011) reported that the USA in comparison to 1977, produced the same amount of beef in 2007 with 70% of the animals on 67% of the land with cattle consuming 81% feed and 88% of the water but produced 22% less manure and less greenhouse gasses, i.e. 18% less methane and 12% less nitrous oxide (N_2O). Although these figures are impressive with regards to sustainability of beef production, the term “sustainable production” also include the maintenance of the final product's functional qualities, i.e. meat that is safe, has good nutritional value, is attractive (visual quality) with a good shelf life and, ultimately, provides eating satisfaction. Variability in eating quality were the major reasons for decline in beef consumption in Australia and the USA during the 1980s and 1990s (Bindon and Jones, 2001; Howard et al., 2013) and therefore careless utilization of technologies that impact negatively on eating quality will influence the consumer's attitude toward beef, even when beef becomes more affordable as a result of better technologies.

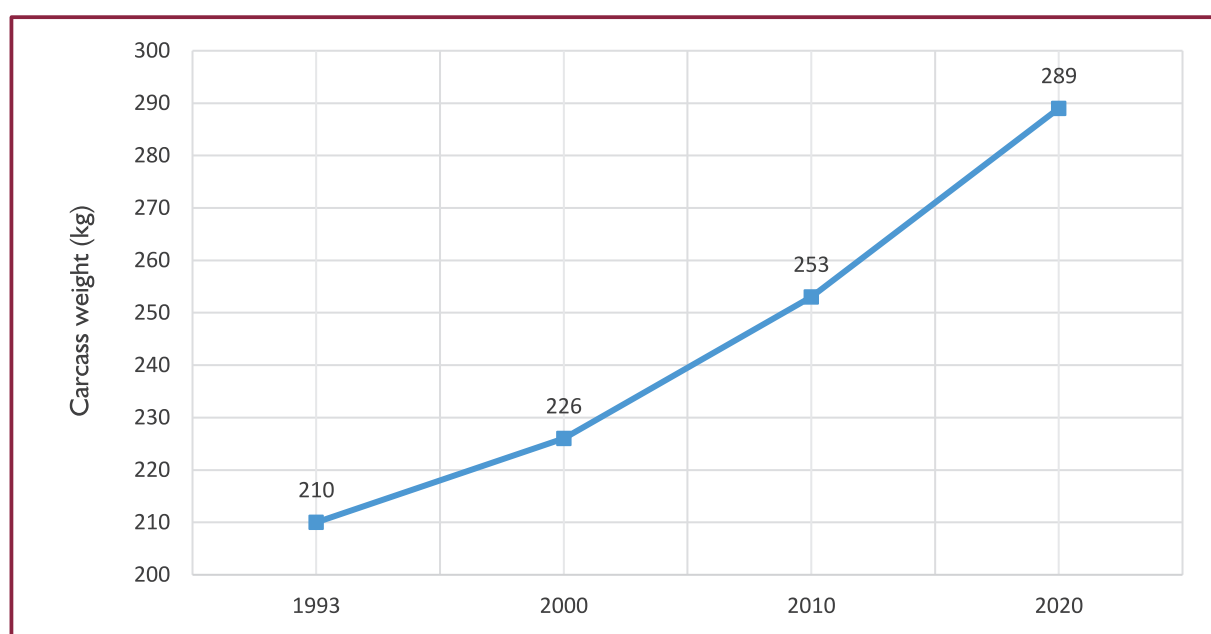


Figure I: The change in average carcass weight of grain-fed (A2, A3) in South Africa cattle between 1993 and 2016 (Data RMAA)



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Although various studies have shown that technologies such as genetics and growth enhancers (e.g. zilmax) may impact negatively on meat quality, we want to focus this discussion further on an aspect of progress that are seldom considered a threat to meat quality. The fact more beef is being produced with less animals means that carcass weights have increased. In the USA carcass weight increased by 100 kg, since 1960, 33 kg in the last 10 years, while the trend was the same (over last 10 years) although not to the same magnitude in other beef producing countries, i.e. 25 kg in Canada, 15 – 20 kg in the UK, between 10 and 30 kg in the South Americas, about 30 kg in Australia but 40 kg in South Africa (Figure 1), while France and some European countries always had large carcasses. Why is this important for meat quality?

When muscle is converted to meat during the first 12 hours during the process of rigor mortis, it is essential that the correct environmental conditions are maintained. Without going into technical details, muscle energy is converted to lactic acid during rigor mortis (the process of glycolysis) in the absence of oxygen (due to the killing of the animal) and this process ends when the muscle energy (glycogen) is depleted or the environmental conditions brings the process to a halt. In practice, conversion of muscle to meat can be measured by following the pH (acidity of the muscle) and temperature curve (Figure 2). Under ideal conditions the pH should reach 6 around 20 to 25°C (dotted line). Meat quality is affected negatively when the carcass chills too slowly and/or the pH drops too quickly (bottom, broken line) or vice-versa (top, solid line). Because carcass weights are increasing (and in some cases carcasses becomes fatter) it is more likely that the carcass chills too slowly and muscle pH drops too quickly. Extensive research have shown that when the pH drops to below 6 while the muscle temperature is still above 35°C (high rigor temperature, or HRT), damage (denaturation) is caused to the different proteins in the muscle, which affects colour, drip loss (water binding within the muscle) and proper aging (tenderization over time).

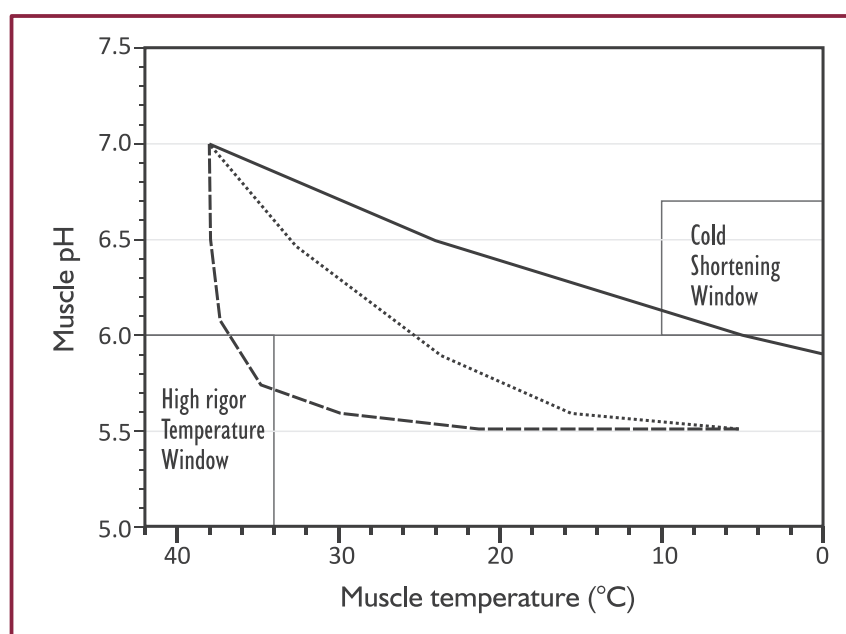


Figure 2:
The pH-temperature window to optimize conversion of muscle to meat (dotted line)

High rigor temperatures (HRT) affect colour in two ways. Initial colour may be attractive, but due to poor protein quality, the shelf life will be short and colour of displayed steaks will deteriorate quicker than with normal steaks, forcing the retailer to use high quality meat (such as steaks) in lower priced products such as sausages (please note these colour deterioration does not mean meat is spoiled). In other cases, meat exhibits a pale colour (pork-like) or two colours (two-toning; Figure 3). The latter often occurs in large cuts like the rump and topside where the outside part of the muscle that chilled effectively exhibits normal cherry red colour while the part closer to the bone (deep muscle) appears pale due to slow chilling and protein damage. A good colour and colour shelf life is important as consumers use colour as indication of expected quality and freshness when make purchase decisions. The second defect is excessive moisture loss which often ends up in vacuum bags, in other words, leads to a loss of actual value of the product (weight loss; Figure 4), but will ultimately lead to a dry unpalatable product. Finally, because the aging (tenderisation) of meat depends on the functionality of the calpain enzyme system, HRT conditions can cause pre-mature exhaustion of enzyme activity, so that aging progresses quickly initially but fail to continue to reach the best aging potential and tender meat.

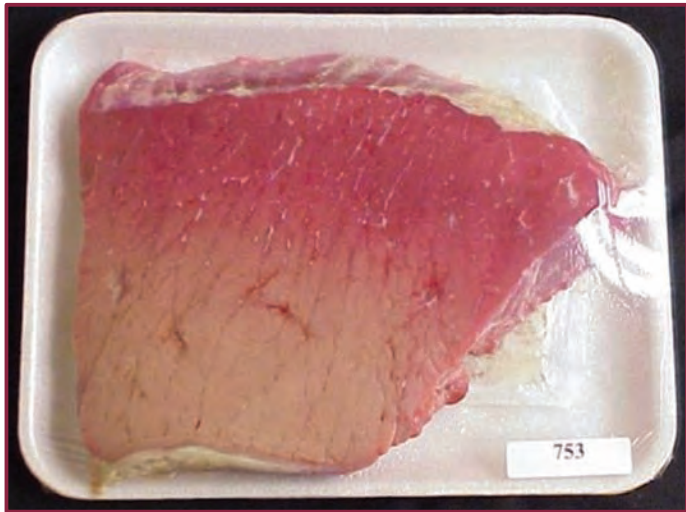


Figure 3: Two-toning in the silverside muscle (Biceps femoris) due to ineffective chilling



Figure 4: Excessive drip in vacuum bag as a result of poor chilling.

In Australia, carcasses are graded according to the amount of drip (weep; Figure 5 and 6) to distinguish at an early stage between good and poor chilling regimes of carcasses. In addition, colour scores are also given where 1B and 1C indicates pale colour and scores 2 and 3 indicate ideal red colour. It was found that the % carcasses with scores of 1B (very pale) increased from 2% when muscle temperature at pH6 was 10°C to 40% when temperature at pH at 6h was 40°C, Likewise, 1C scores increased from 21% to 60% when temperature at pH 6 varied from 10 to 30°C (Hughes *et al.*, 2014).

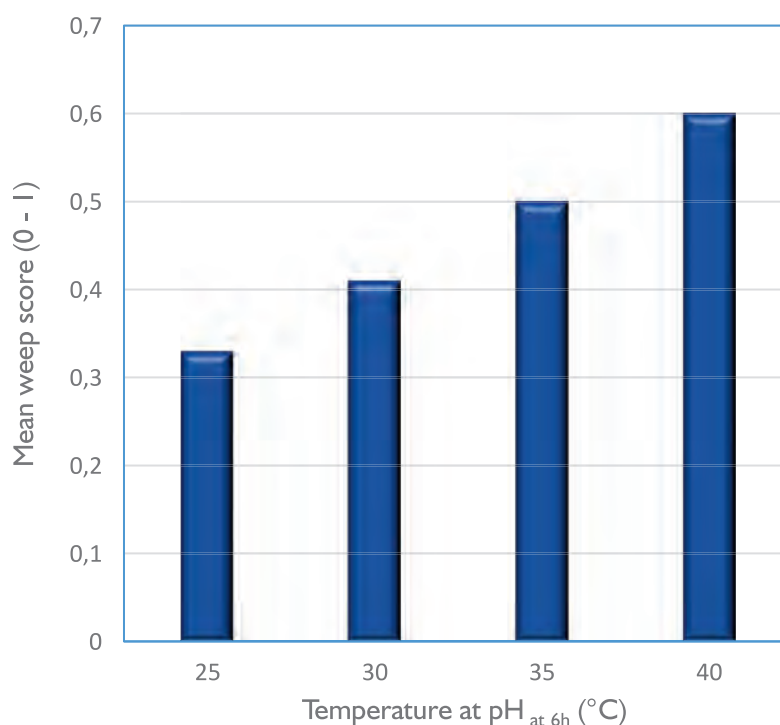


Figure 5: Pale colour with beads of moisture exuding from the surface, both which are associated with high rigor temperatures (ineffective chilling).

There are certain hurdles preventing industry to address the problem of HRT. As mentioned at the beginning of the discussion. The primary industry is focused on efficiency rather than quality and will therefore continue the trend for production of larger carcasses. Meat has a relatively low thermal conductivity (0.43 W/(m K)), presenting a limit to the effective chilling of large carcasses. On the harvesting and processing side, the abattoir operators are at fault. Many abattoirs have old infrastructure. In addition, abattoir owners fail to adjust in line with a changing product: a chiller rooms with a capacity of 10 carcasses was effective to cool down roughly 2100 kg of carcass in the required time in 1993 (210 kg carcass). Now the same chillers loaded with 10 carcasses have the task of cooling down 3000 kg of carcass with parts of the carcass becoming bulkier. Likewise, in unofficial surveys it was found that chillers are often overloaded, thereby adding to the lack of chilling capacity. Even modern or upgraded chillers lack the capacity to chill larger carcasses effectively either due to poor design or ineffective management of chilling cycles – this is a personal observation after a recent survey of 15 medium and large abattoirs across the country. Thirdly, processes in the abattoir such as electrical stimulation used to improve tenderness are often poorly understood and abused (applied to rigorously) causing more carcasses to fall into the HRT category. In many overseas meat plants modern chilling procedures, include blast chilling of carcasses at -30°C for the first few hours after slaughter to enhance initial cooling to reach acceptable muscle temperatures compatible to best rigor practices. However, due to the poor thermal conductivity of meat, even rigorous chilling has limitations.

When considering that sustainable production of red meat means that increased efficiency should run parallel to affordable good quality meat, it is essential to realize that size of the animal may pose a threat to the final product quality and value. Therefore, on the production side of the value chain, breeders for example, will have to consider that genetics in relation to mature size in breeding animals, weaning weights and phase C final weights is the starting point of the production of slaughter animals that may become too large for production of quality beef. Angus cattle slaughtered for the Woolworths brand typically reach carcass weights of 300 kg and more. Today this is considered as the average carcass weight for grain-fed cattle while weights closer to 250 kg were the norm a decade ago and 200 kg three decades ago. We have earlier discussed the challenges to chill such carcasses effectively. Obviously, the secondary producer and processor plays an equally important role to optimize the slaughter animal's size. In this paper only one aspect of extreme size has been highlighted. While efficiency often dictates that size matters (mostly larger is better), extreme size may have detrimental effects on various aspects of animal production and in particular product quality and consumer satisfaction. We can continue to ignore this issue and argue that it is more important to aim at affordability than quality. However, with this line of thinking we may reach a point where consumers will show resistance against deteriorating quality because affordability of beef is already disputed among many consumers when other animal and plant protein sources are more affordable even though these products may not be the consumer's preferred choice.

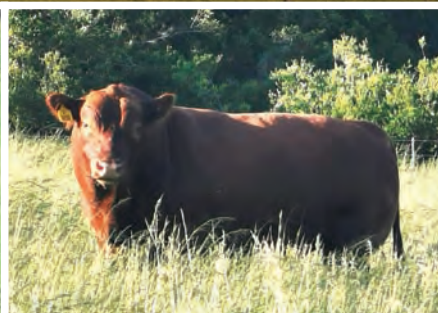
Figure 6. Weep score (higher is worse) increases as rigor temperature at $\text{pH}=6$ increases (Warner *et al.* 2014b)





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THE IMPORTANCE OF LABELLING THROUGH CONSUMERS' EYES

By Dr. W.A. Lombard, Dr. Johan van Zyl & Prof. Tanya Beelders, University of the Free State.

The foundation of research is no new concept, however, advancements in technology have made a wider range of studies possible (Smith & Albaum, 2012). One such technology is eye-tracking. Eye-tracking can be used to quantify an observer's overt visual attention and can be used to evaluate and compare visual search patterns of individuals in a variety of situations (Tonkin, et al., 2011). As the saying goes, if you want to know what people pay attention to, follow their eyes. Traditional research has mostly made use of self-reporting techniques such as questionnaires. These techniques rely on consumers' ability to remember what they looked at but also gives them the opportunity think about what they should say and therefore incorrect results may be obtained. By making use of eye-tracking devices participants are not given the opportunity to say what they look at, or should look at, they just show you what they actually look at and the device captures the data. The device makes use of infrared LED light that is reflected of the cornea of the eye and can then be used to determine the location of a participant's attestation on the tested image.

Our Consumers

South Africans are known for their love of meat, which includes red meat. Statistics show a per capita consumption in the order of 17.42kg and 3.2kg for beef and mutton/lamb meat respectively (DAFF, 2019). In recent years the power has shifted from the hands of producers to the hands of consumers in the beef value chain. Along with this change in power, consumers' demands and needs have also changed (Labuschagne et al, 2011). A study by the Department of Agricultural Economics, UFS, used eye-tracking to investigate red meat consumers' preferences. Some of the

results are presented in this article.

The study area

The data for this study was collected from 350 participants in the Mangaung Metropolitan Municipality. The majority of the people in the municipal area reside in Bloemfontein, Botshabelo, and Thaba Nchu. During the field survey, nine different locations were visited for data collection; these locations are spread out across the metropolitan to ensure that the data that was collected is representative of the population.

Red meat aspects

To test consumers' preferences and attention levels towards red meat products, different packets of red meat were made-up and photographed after which it was shown to consumers on the eye-tracking devices during the test. Aspects that were tested in the study include: meat aspects (colour of the meat, fat on the meat, marbling), meat packaging and price label information (packaging, classification, price per kg, price per pack, weight of the pack and freshness indicators) and quality indicating labelling (nutritional information, brand of meat, breed of animal, after-slaughter practices, traceability measures and production practices).

Once consumers completed the eye-tracking test they were also asked to complete a post-test questionnaire. The questionnaire contained questions regarding participants' meat purchases, cut preferences, the aspects which they regard as important when selecting their pack of meat etc. This would allow the comparison of what consumers say they pay attention to when selecting their red meat products to what they actually pay attention to when the packs of meat are shown to them.

Results obtained from the eye-tracker consist of heat maps, gaze plots and metrics of eye fixation and visit data. Heat maps indicate which areas of the image enjoyed attention from participants for longer periods of time. Darker or redder areas captured consumers' attention for a longer period. Gaze plots show the sequence in which consumers paid attention to the different aspects on the tested image. The metrics contain information regarding the percentage of consumers paying attention to the individual aspects tested, the total duration of the fixations on each aspect, the time to first fixation on the aspect and the number of fixations before fixating on an individual aspect. In the study, the gaze plots that contained the information of all the participants, on one image, were difficult to analyse and it was decided to rather make use of the metrics data and heat maps.

Consumer behaviour

Data from the participants showed that the average monthly budget for meat per household is R 927. Of this amount, R 379 is spent on beef products and R 314 is spent on mutton/lamb products. Consumption patterns of consumers indicated that 22% of consumers eat red meat once a day and another 22% of the consumers indicated that they eat red meat 4 times or less per month. Buying red meat directly from butcherries was the preferred choice from 66% of consumers followed by 28% who preferred supermarkets. Supermarkets were, however, visited more times per month on average (2.6) than butcherries (2.2). This suggests that consumers visit butcherries less often but buy larger quantities of meat per visit while supermarkets are visited more frequently, maybe for general grocery shopping, but consumers buy smaller

amounts of meat per supermarket purchase. Furthermore, the majority of the consumers indicated that they prefer to buy bright (cherry) red beef and mutton products which has a medium amount of fat on them. A rating scale 1 to 5 was used where consumers had to rate aspect from not important (1) to very important (5). These ratings were analysed and compared to eye-tracking results for the aspects that enjoyed attention from the consumers.

Results

In terms of the price label information, consumers rated the price per kg higher than the price per pack followed by the weight of the pack, classification and freshness indicators. Eye-tracking results showed a slightly different rank where price per pack enjoyed the highest level of attention for consumers followed by weight of the pack, classification of the meat, price per pack and freshness indicators. The two sets of data for these tested aspects indicate that consumers might indicate that price per kg is the most important aspect shown on the price label, however, they actually pay more attention to the price of the pack with price per kg being second to last place in terms of eye-tracking data. Freshness indicators were ranked the least important in both the questionnaire and eye-tracking data. Here it should be mentioned that the images used for these analyses all contained meat that was bright red. In images where paler and darker cuts of meat were shown to participants they tended to fixate less on the paler meat while the price label information of the paler meat received much higher level of attention from consumers. It seems that consumers in these cases will make use of the freshness indicators to determine why the meat appears paler and then make their purchase decision based on that.

One of the types of quality indicator labelling that was tested included breed certification labelling. With regard to the Angus beef labelling that was tested, 51% of the consumers paid attention to the label for roughly 0.81 seconds during the eye-tracking test.

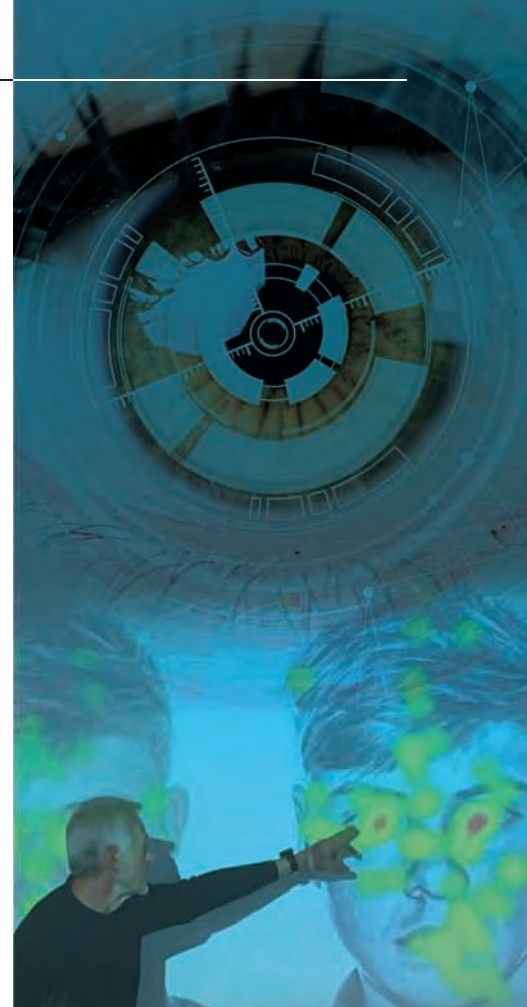
Men were more likely (56%) to fixate their attention on the labelling than women (49%). Just more than 9% of the consumers were able to recall that they saw the Angus beef label during the test. Amongst all the consumers, 11% indicated that they prefer to buy beef from a certain breed of cattle. However, the breeds of cattle that is preferred was diverse in nature amongst participants. On images where beef brands were shown to the consumers, it led to less attention being paid to the name of the butchery. This could indicate that consumers know what to expect from the brand of beef shown and are less concerned with the butchery selling the brand. Men were more likely to pay attention to the brands of beef and higher educated consumers were more likely to fixate their attention on beef brands less familiar in the area.

Food for thought

The study identified certain differences between what consumers say they pay attention to when purchasing red meat and what consumers actually pay attention to. In the study, different aspects such as the breed certification labelling was investigated and also proved to be important for some of the tested red meat consumers. It should be worthwhile for producers to also conduct a willingness-to-pay assessment on the identified aspects before pursuing the marketing of these types of products. This will allow producers to determine whether they will be able to earn a premium on such a product and if it will make it worth their while to pursue such a product.



For more information please contact
W.A. Lombard: LombardWA@ufs.ac.za.



Heat map results for Angus beef certifying label.



Heat map results where one of the brands of beef was tested.

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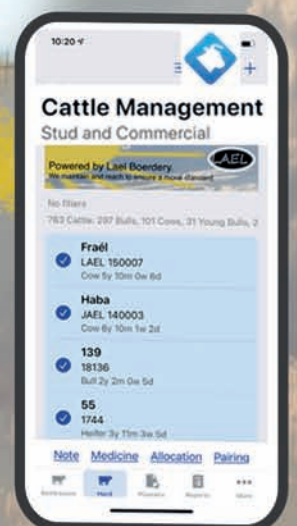
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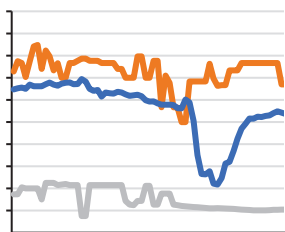
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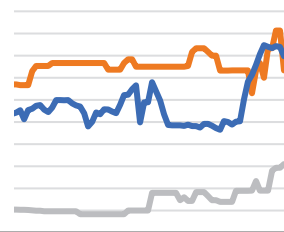
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Beef shelf price trends:

A case of Bloemfontein South Africa



By Niel De Kock & Mario van den Heever, Department of Agriculture Economics, University of the Free State

Livestock prices are easily influenced by external factors and are therefore very volatile in nature. These changes are caused by unforeseen circumstances and can influence downstream meat markets. In the beginning of 2018, South Africa experienced the largest outbreak of listeriosis in the world. The outbreak lasted for 70 days and resulted in the loss of 183 human lives. Processed meat was the main cause for this outbreak and influenced meat prices negatively, especially the price of pork. Consumers' perceptions regarding meat also changed. The livestock industry suffered another shock with the outbreak of foot and mouth disease in January 2019. All exports of red meat and wool from South Africa was suspended by the World Organisation of Animal Health, which led to an increase in the local supply of meat and consequently lowered livestock prices for farmers. Animal diseases are unfortunately not the only factor influencing livestock prices in South Africa. With the outbreak of Covid-19 in 2020, livestock markets were affected again, due to level five of national lockdown which prohibited physical auctions.

It is however important to remember that external influences such as listeriosis, foot and mouth disease and Covid-19 does not only have an influence on the livestock farmers themselves but on the whole meat value chain. This article presents the shelf prices of rump steak and stew beef along with the beef carcass price as recorded between 2018 and 2020.

Study area and data collection:

Meat retail prices were gathered in the Langenhoven Park

suburb, which is situated in Bloemfontein, South Africa. Four of the major retailers in South Africa and one of the local butcher shops were visited on a weekly basis for the collection of the meat prices. The prices were collected over a period of three years from January 2018 to December 2020.

Two price series were collected simultaneously. The price series consists of both a producer price and a retailer price. The retail price included the shelf price from different beef, sheep, and pork cuts. The carcass price as collected by ABSA\RPO was used.

Observations:

During 2018 the carcass price for beef grade A2/A3 was relatively stable throughout the year with a gradual decline towards the end of the year. One reason for the decline in the carcass price was due to a weak economy resulting in consumers not having enough money to spend on meat, temporarily creating a price ceiling (Maré, 2019). The second reason was the listeriosis outbreak earlier that year, which increased the number of pig carcasses moving through the fresh meat market and led to lower retail pork prices. This provided a cheap red meat alternative to beef for consumers. Figure 1 shows a notable decline in the average retail price for rump steak. The average price for rump meat cuts declined from R132.88/kg in January to R109.99/kg in November. Even though the average price for stewing meat declined, it did not decline as significantly as rump meat. The decline in retail meat prices can partially be attributed to the decline in the price for A-grade beef carcasses due to listeriosis.



Foto: Colette Masterson, MILAGRO

January 2019 marked the outbreak of foot-and-mouth disease in South Africa. All exports of red meat products were immediately banned which caused an oversupply of red meat in South Africa. According to Business Live (2019) this was supposed to lead to sharp decline in the shelf price of red meat products but it was, however, not the case. The average retail price for rump meat increased over the period of the outbreak, with only a marginal decline in the price of stew. Rump meat prices increased from R128.29/kg at the beginning of 2019 to R136.63/kg at the end of March 2019.

producers therefore entered a herd rebuilding phase, where the majority of heifers were reared as breeding stock. This in turn decreased the supply of beef to abattoirs and therefore put upward pressure on the producer level prices. The rising carcass price seems to have led to an increase in the shelf prices of rump and stewing beef during the latter part of 2020. The price of rump meat was more volatile than that of stewing beef during the last part of 2020; this is most probably due to special offers during the festive season.

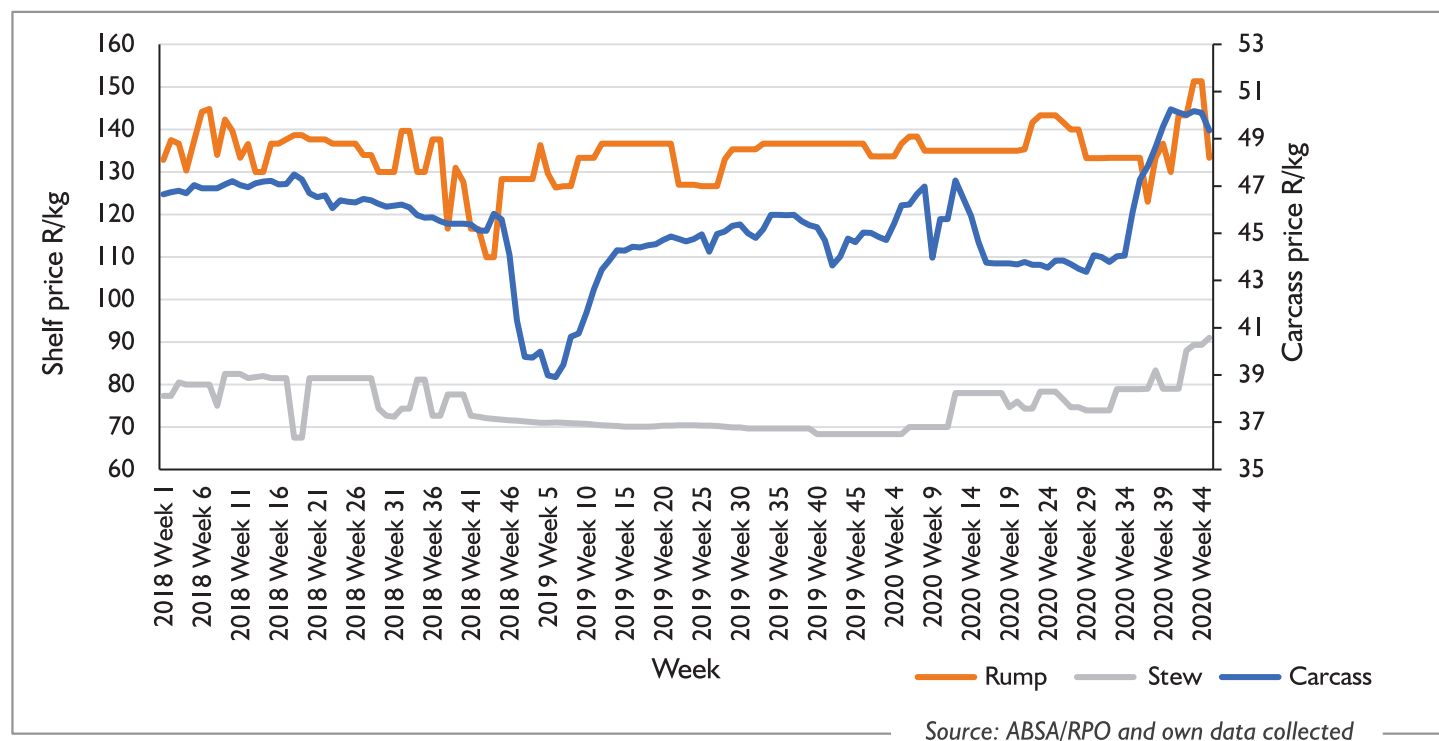


Figure 1.1: Abattoir carcass and retail prices for beef from 2018 to 2020

The volatility that Covid-19 caused in the global economy reflects in the prices producers received from abattoirs in the early part of 2020. The 2020 carcass price in Figure 1 indicates a sharp decline from week 8 in 2020. This is due to the national level 5 lockdown measure that was in place and prohibited public auctions. Prices decreased from R46.98/kg to R43.97/kg in just one week. These price changes seem not to have been carried over to the consumer level prices for rump meat at the different retailers. The price for rump meat remained relatively stable at all the retailers for the first half of 2020. The price of stew meat increased at two of the retailers two months into the pandemic. This can be attributed to the volatility of the abattoir prices as well as the increase in demand for the less expensive beef cuts. The demand for less expensive beef cuts increased as a result of the increased economic pressure on consumers in South Africa as many consumers suffered a loss of income due to the lockdown restrictions.

There is a sharp increase in the carcass price at the end of 2020. The price increased from R44.06/kg to R49.35/kg. This is partially due to the above average summer rainfall season that was experienced, which brought major relief to a large part of the agricultural sector in South Africa. Beef

Conclusion:

South Africa experienced an above average start to the summer rainfall season in 2020/2021. Grain prices are expected to remain at current levels until the third quarter of the year. The beef sector is also expected to remain in a herd rebuilding phase, and this will limit the supply of weaner calves and is likely to cause upward pressure on the carcass prices for beef.

As South Africa remains in lockdown for the early part of 2021, with limited economic activity, consumer income will continue to be under pressure and disposable income is expected to decline over the rest of the year. This could cause a weak demand in the beef market, especially for the more expensive beef cuts. Less expensive beef cuts may benefit from some levels of substitution from middle income consumers, but in general terms the demand for these cuts are also expected to be weak for the remainder of the year. The general weak demand in the beef market will limit the expansion of beef consumption and place downward pressure on the domestic retail price of beef.

For more information on the article please contact: DeKockDJ@ufs.ac.za

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What we know about Marbling



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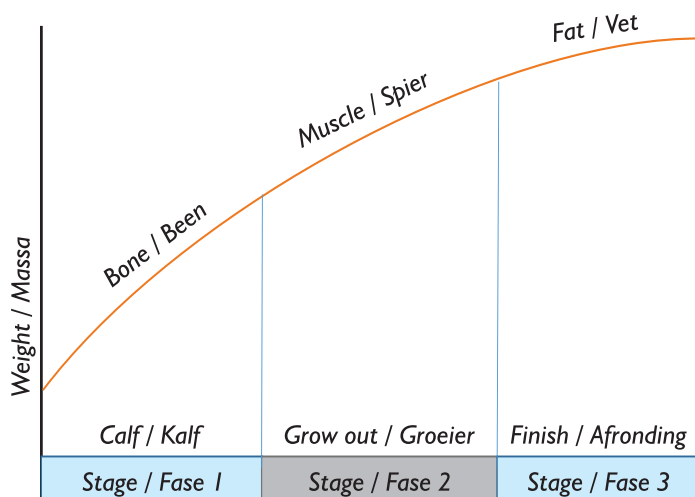
Marmering Wat jy moet weet.

ARC, Bull Testing Centre, Cedara

LNR, Bultoetssentrum, Cedara.

Research have shown that marbling adds significantly to the palatability of beef due to its specific contribution to juiciness and flavour. Beef with low levels of marbling will lead to meat that is perceived to be dry and less tasty. This has led to a renewed interest by beef producers farming with traditional beef breeds to increase the marbling scores of their seed stock. Since RTU scanning give breeder's data about the marbling content of their breeding stock, more and more cattle breeders request RTU scanning for marbling. The following points need to be kept in mind when requesting RTU scanning for marbling scores for selection purposes.

1. Intramuscular fat content (% fat) or marbling score is late maturing. Fat is deposited after bone and muscle, and then fat is firstly deposited abdominally, then inter muscular, then subcutaneous and then intramuscular.



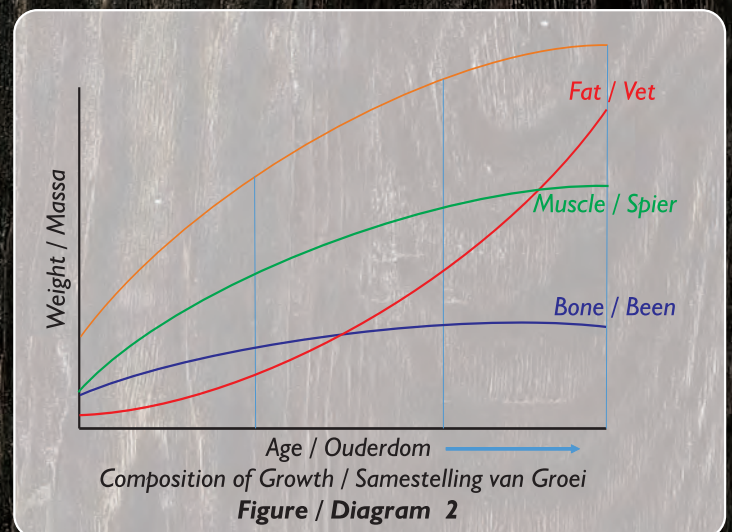
General Growth Curve / Algemene Groei Kurwe
Figure / Diagram 1

Figures 1 and 2 shows graphically that fat is deposited at a greater rate than lean tissue later in life. It means that the concentration of fat in muscle will inevitably increase later in an animal's life. Depending on type and breed, 12-18 month old cattle might be too young to show sufficient marbling development.

2. The major nutritional and/or management tool for increasing the development of marbling is to maximise the availability of net energy (and glucose) for fat synthesis

Navorsing het getoon dat marmering aansienlik bydra tot die smaakervaring van beesvleis as gevolg van die spesifieke invloed daarvan op sappigheid en die smaak van vleis. Lae marmeringsvlakke lei tot vleis wat as droog en minder smaaklik ervaar word. Dit het gelei tot 'n hernieude belangstelling by beesvleisprodusente wat met tradisionele vleisbeesrasse boer om die marmering persentasie van hul teeldiere te verhoog. Aangesien ultrasoniese skandering of te wel Real Time Ultrasound (RTU) skandering data inligting aan die teler verskaf oor die marmerinhoud van hul teeldiere, vra al hoe meer produsente RTU skandering syfers aan wanneer hulle teeldiere aankoop. Die volgende punte moet in gedagte gehou word wanneer RTU skandering versoek word om die marmering inhoud van teeldiere vir seleksiedoeleindes te bepaal.

1. Binnespiers vetinhoud (% vet) of marmering is 'n eienskap wat laat ontwikkel in beeste. In die normale groeiproses word been en spier eerste ontwikkel en daarna word vet neergelê. Vet ontwikkel eerstens abdominaal, daarna tussen die spiere, dan onderhuids en laastens word vet binnespiers neergelê.



Composition of Growth / Samestelling van Groei
Figure / Diagram 2

Diagram 1 en 2 toon grafies dat vet op 'n later stadium in die lewe van 'n dier en teen 'n hoër tempo as vleis en been neergelê word. Dit beteken dat die konsentrasie vet in spiere noodwendig op 'n later stadium in die ontwikkeling van 'n dier sal toeneem. Afhangend van ras en tipe, kan diere van 12-18 maande te jonk wees om voldoende marmering te toon tydens RTU skandering.

2. Die belangrikste bestuurs- en voedings meganisme om die ontwikkeling van marmering te bevorder, is om die beskikbaarheid van netto energie (insluitend glukose) vir



during the finishing phase. Figure 3 develops the point that net energy available for fattening is the most likely reason why grain feeding (compared to grass) results in a higher marbling score at equal carcass weights. The same principle applies, although much less so between high energy versus high protein diets. A logical conclusion is therefore that any diet that does not result in excess energy for fat deposition will be insufficient for accurate marbling scores.

vetsintese tydens die afrondingsfase te optimaliseer. Diagram 3 beskryf die punt dat netto-energie beskikbaar vir vetneerlegging die waarskynlikste rede is waarom graanvoeding (in vergelyking met gras) 'n hoër marmeringsyfer op dieselfde karkasgewigte tot gevolg het. Dieselfde beginsel is van toepassing, hoewel dit baie minder is tussen hoë energie teenoor hoë proteïen diëte. 'n Logiese gevolgtrekking is dus dat enige dieet wat nie 'n oormaat energie beskikbaar stel vir vetneerlegging nie, nie voldoende sal wees vir die akkurate meting van marmering nie.

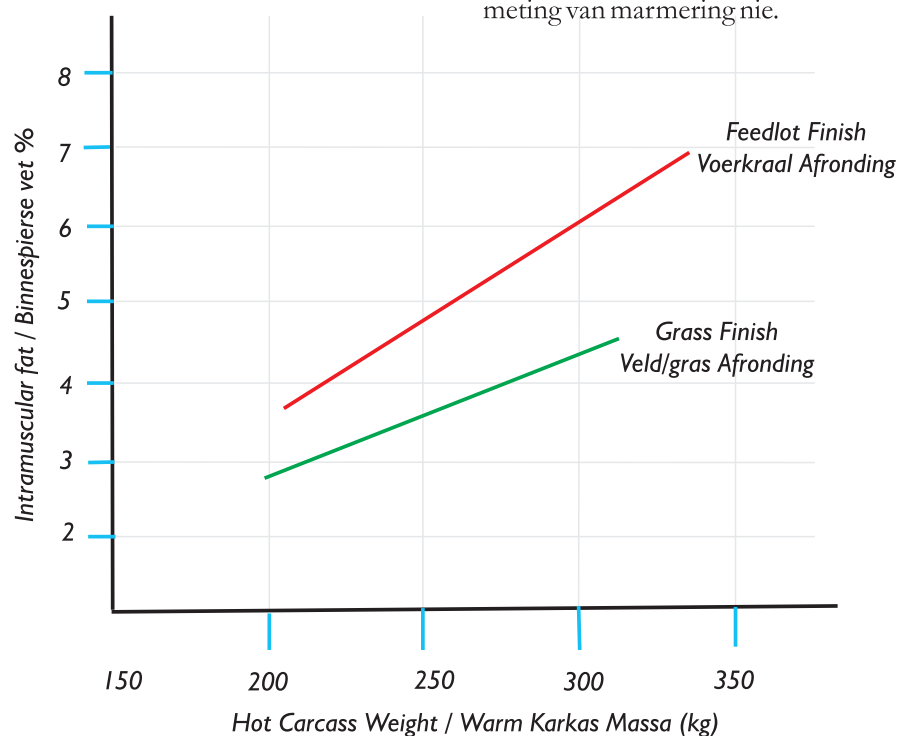


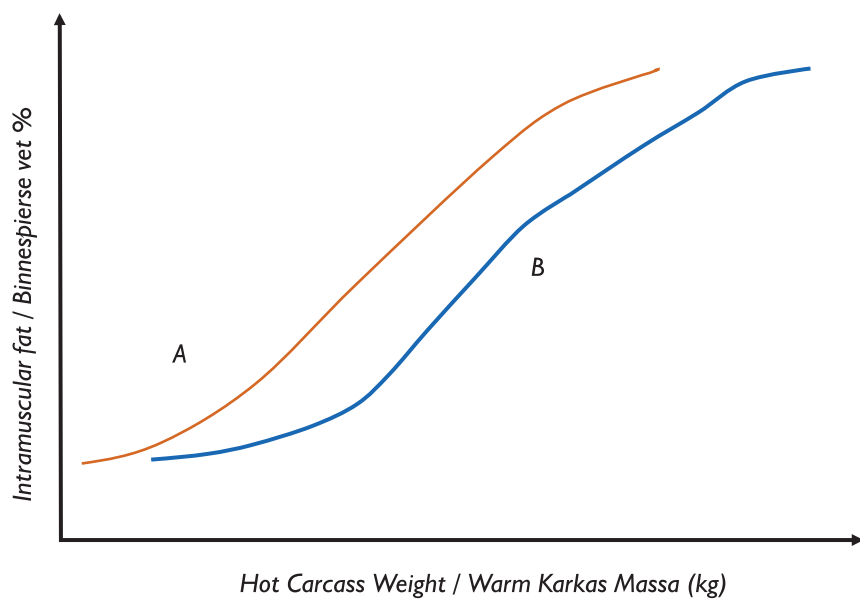
Figure / Diagram 3

3. Selection for high levels of muscularity is known to reduce both fat percentage and intramuscular fat at a given carcass weight.

3. Dit is bekend dat seleksie vir hoë bESPiering die voorkoms van beide vetpersentasie en binnespierre vet by 'n gegewe karkasgewig verminder.

Figure 4, which is a hypothetical graph showing the development of intramuscular fat in cattle of different mature body weight and or muscle development. The developmental curve for intramuscular fat will be shifted to the right in animals with a high propensity to grow muscle or with a greater mature body size. Later maturing animals will therefore show marbling at an older age than early maturing animals.

Diagram 4 is 'n hipotetiese grafiek wat die ontwikkeling van binnespierre vet by beeste met verskillende volwasse liggaamsgewigte en / of spierontwikkelings toon. Die ontwikkelingskurwe vir binnespierre vet word na regs geskuif by diere met 'n hoër geneigdheid om spier te groei of met 'n groter volwasse liggaamsgrootte. Latere volwasse diere sal dus op 'n ouer ouderdom marmering toon as diere wat vroeg volwasse is.



Summary

The best time therefore to scan for marbling is later in life, about the time the animal is rounding off for slaughter on a diet that supplies surplus energy for intramuscular fat deposition! When the conditions discussed in this article are not met, coupled with the fact that marbling scores are the least accurate of all the RTU scores taken, then marbling scores should be used very conservatively for selection purposes!

Keep in mind that the Breedplan manual advises that animals need to be scanned between 300-800 days of age. It is also specified that a minimum rib fat depth of 5mm is required for animal classes to ensure that sufficient variation is present for genetic differences in fat depth and marbling to be expressed. It is also advised that groups do not have an average weight of less than 300 kg, as animals smaller than that might not be large enough to collect analysable marbling images from.

Based on points 1, 2 and 3 discussed above, it is critically important to indicate different contemporary groups especially when the different contemporary groups are based on different feeding regimes.

Opsomming

Die beste tyd om RTU skandering vir marmering te doen is later in die ontwikkeling van die dier, ongeveer in die afrondingsfase en op 'n dieet wat genoeg surplus energie vir binnespiersse vetneerlegging lewer! As daar nie aan die voorwaardes wat in hierdie artikel bespreek word voldoen word nie, tesame met die feit dat marmering metings die minste akkuraat is van al die RTU metings, moet marmeringtellings baie konserwatief gebruik word vir seleksie doeleindes!

Hou ook in gedagte dat die Breedplan handleiding byvoorbeeld aanbeveel dat diere tussen 300 en 800 dae ouderdom geskandeer moet word. Daar word ook gespesifiseer dat 'n minimum ribvet diepte van 5 mm aanbeveel word om te verseker dat voldoende variasie aanwesig is om genetiese verskille in vetdiepte en marmering uit te druk. Dit word ook aanbeveel dat die gemiddelde massa van die groep nie minder as 300 kg sal wees nie omdat ligter diere nie groot genoeg is om ontleedbare marmerings mates te versamel nie.

Op grond van die punte 1, 2 en 3 wat hierbo bespreek is, is dit ook baie belangrik om verskillende kontemporêre groepe aan te dui, veral as die verskillende kontemporêre groepe gebaseer is op verskillende voedingsstelsels.





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Waarom huiwer ons om bevrore vleis te koop?

Die slaggate tydens die bevroresing en ontdooiing van vleis

Phillip Strydom | Professor: Departement Veekunde

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Vebruikers is oor die algemeen huiwerig om bevrore rooivleis te koop. Daar is 'n paar uitsonderings soos byvoorbeeld beesstert, afval en soms massaverpakte skaapvleis wat klaarblyklik redelik suksesvol bemark word aan die publiek. Verder word ingevoerde vleis dikwels bevrore ingevoer en van die hand gesit maar dit vind meestal nie in die kleinhandel plaas nie maar eerder in die hotel of spyseniersindustrie. Dit is interessant dat die meeste verbruikers nie huiwer om bevrore vis te koop nie en bevrore hoender (die sogenaamde IQF) kry ook redelik aftrek behalwe dat die onlangse bedrog met hoë insluiting van water (40-50%) die bevrore hoendervleisemark ook 'n knou gegee het. Groente en ook vrugte wat volgens die IQF, of “Individually Quick Frozen” metode gevries word beslaan deesdae ook 'n groot deel van die uitstalruimtes in kettingwinkels. Indien 'n mens vrieskapasiteit by die huis het is hierdie produkte baie gerieflik om sonder moeite deel van 'n gereg te maak. Waarom dan die weerstand teen die aankoop van bevrore rooivleis?

Alhoewel daar na my wete geen amptelike verbruikersopname gedoen is nie is ek van mening dat verbruikers skepties is oor die oorsprong en kwaliteit van bevrore rooivleis, vandaar die kipersweerstand. Hulle is waarskynlik van mening dat defekte wat in vars snitte voorgekom het, verdoesels is deur dit te vries. Tog was daar tot 'n paar jaar gelede 'n “slaghuis”

in die oostelike voorstede van Pretoria wat slegs bevrore vleis in porsiesgrootte verkoop het – nie grootmaat. Hierdie besigheid het intussen toegemaak. Die Vleiskunde Sentrum van die LNR, Irene, het 'n paar jaar gelede 'n kwaliteitsbepaling van tipiese beesbraaisnitte (lendesnit) van verskeie kettingwinkels en slaghuise in die groter Pretoria area gedoen. Snitte is direk van winkelrakke af gekoop en getoets vir sagtheid, tipiese kleurvoorkoms en ander kwaliteitseienskappe. Die slaghuis wat bevrore vleis verkoop het was deel van die opname. Alhoewel die kwaliteit van die getoetste snitte van dié handelaar geensins besonders was nie, was dit ook nie onder swakstes van die reeks produkte (14 vleishandelaars, 21 produkte) nie. Daar was wel redelik variasie in visuele voorkoms en die snitte was soms besonder donker. Daarom weer die vraag, waarom is verbruikers skepties oor bevrore rooivleis terwyl dit blyk dat die kwaliteit daarvan nie noodwendig baie swak is nie?

Nou moet 'n mens na die ironie van die saak kyk. Hoewel daar deesdae seker 'n tendens is om kleiner hoeveelhede vars vleis te koop en dit asulks te verbruik, is ek tog oortuig dat baie verbruikers steeds vleis in grootmaat koop en dit dan in huishoudelike vrieskaste vries sodat hulle dit kan gebruik soos behoefte dikteer. Wat is dan nou die verskil? Is die verbruiker oortuig dat sy goeie kwaliteit vars vleis aangekoop het en dit nou net



preserveer vir latere gebruik? Is dit 'n korrekte aanname?

Uitgebreide navorsing het getoon dat daar basies drie faktore is wat die kwaliteit van vleis beïnvloed wanneer dit gevries, gestoor en weer ontdooi word en al drie faktore het met tyd te doen. Wanneer vleis vries vorm yskristalle binne die struktuur. Die grootte en vorm van hierdie kristalle is afhanklik van die tempo waarteen vleis vries – hoe vinniger, hoe kleiner is die kristalle en hoe stadiger, hoe groter die kristalle. Sonder om in baie tegniese detail in te gaan: groter kristalle sal meer skade aanrig aan die struktuur van die vleis en funksionele eienskappe van die spierproteïen. Gevolglik sal vleis wat stadig vries baie meer vog verloor tydens ontdooing. Dit kan meebring dat sulke snitte nie net droog is nie, maar daar gaan ook voedingstowwe en waarde (gewig) verlore gaan. Tweedens, hoe langer bevrore vleis gestoor word hoe meer herkristallisering (vorming van groter yskristalle) vind (moontlik) plaas, veral indien die bevroingsiklusse van die vriesseenheid baie varieer. Tegnies kan dit dus beteken dat vleis wat te lank bevrore word, ook van laer kwaliteit kan wees selfs al was dit onder korrekte toestande gevries. Die derde faktor is



die tempo van ontdooing voor gebruik. Verbruikers is dikwels onkundig oor die ontdooing van vleis en terwyl die wetenskap nie heeltemal eenstemmig is oor ontdooiingstye en metodes nie, lyk dit tog of die volgende geld: Vleis wat baie vinnig ontdooi deur dit byvoorbeeld in 'n mikrogolfoond te ontdooi verloor oormatig vog en word taai. Die teendeel is ook waar: Indien vleis oor 'n

lang tydperk ontdooi, is kristalle wat smelt geneig om te herkristalliseer omdat die interne temperatuur van die vleis en ook omgewingstemperatuur nie bevorderlik is vir die smelt van die yskristalle nie. Die nuwe yskristalle wat dan binne die vleis vorm is weereens groter en rig meer skade aan. Hoe is hierdie beginsel van toepassing in ons huise? Verbruikers is dikwels geneig om bevrore snitte oornag of selfs vir langer tye in die yskas te laat om stadig te ontdooi. 'n Betroubare studie het gevind dat vleis (verkieklik verpak in vakuumsak) in water van ongeveer 19°C die vinnigste en onder die beste omstandighede ontdooi – so vinnig as 15 – 30 minute. Water se geleidingsvermoë is beter as dié van lug en dus werk dit beter om 'n bv. 'n braaisnit in 'n bak water by bogenoemde temperatuur te laat ontdooi. Indien die snitte baie is of effens groot is, maak seker dat die water vervang word indien dit te koud word of begin by 'n watertemperatuur effens hoër as bg. temperatuur.

In aggenome die meganisme van bevroings en ontdooing, kan die vraag





gevera word of dit beter is om vars vleis self te vries of om bevrore vleis aan te koop en dit dan verder te stoor. Die antwoord is nie eenvoudig nie, want dit hang van die prosesse af wat gevolg word tydens bevriesting, hetsy by die huis of in die fabriek. Goed ingerigte vleisfabrieke wat bevriesting hul besigheid maak, sal die kapasiteit hê om vleissnitte vinnig te vries, die sogenaamde IQF prosesse. Hierdie toerusting is gewoonlik blaasbevriestingseenhede (Blast freezers) wat koue lug ver onder 0°C oor die vleis blaas. Vleissnitte word normaalweg in enkellae so bevries om die vinnigste bevriestingstempo te verseker. Met ander woorde, vleis wat klaar in kartonhouers verpak word kan nie so gevries word nie. In teenstelling met hierdie kommersiële prosesse, sal die verbruiker dikwels vars vleis in grootmaat koop en dan is verskeie lae in die huishoudelike vrieskas pak. Ten spyte daarvan dat huishoudelike vrieskaste die kapasiteit het om voedsel te bewaar by -20°C , het dit nie die kapasiteit om groot volumes vleis vining te vries nie. Intendeel, indien groot volumes vleis op een slag gevries

word kan sommige van die snitte selfs na 'n volle week nog half bevrore wees terwyl al die vleis in elk geval teen 'n stadige tempo gevries het en derhalwe skade opgedoen het. Dit sal aanleiding gee tot groot volumes drupverlies tydens ontdooiing, die eetkwaliteit inkort en produkverlies veroorsaak.

Dit lyk dus of die aankoop van bevrore vleis geen probleem ten opsigte van kwaliteit sal meebring nie mits die vleis korrek gevries is – en korrek deur die verbruiker ontdooi word. Boonop kan bevrore vleis effens sagter wees as vars vleis van dieselfde karkas aangesien die effense “skade” aan die tekstuur as gevolg van bevriesting, sagtheid kan bevorder. Die voordeel van kommersiële bevriesting en die handel in bevrore vleis uit die oogpunt van die vleiswaardeketting is dat die sogenaamde inventaris beter bestuur kan word. Sekere tye van die jaar is die aanbod van voerdierse hoër as ander tye en gevolglik is die aanbod van vars vleis hoër. Dit sou dus sin maak indien die ooraanbod deur middel van bevriesting en bewaring bestuur kan word sodat die aanbod van vleis versprei kan word

oor die jaar of beter bestuur kan word tydens periodes van verhoogde aanvraag.



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in Memoriam



SID KNOTT

12 August 1933 – 8 December 2020

SK Angus Stud was founded by breeder Sid Knott in the farming district of Kei Road in the Eastern Cape in 1982.

The Stud is now run on the beautiful historic farm, Wolseley Estate. The Angus breed interested Sid and he wanted to start his stud off with superior genetics. He travelled to Billings Montana, in the United States with friends, Charles Pope and John Page, to view the Leachman Cattle Company herd. He bought 5 Red Angus females and later imported a Bull – Leachman Udy. This magnificent Bull was later shown at the Border Agricultural Show in Queenstown and won Grand Champion Beef animal. Numerous Gold Merit Certificates were won at the Queenstown Bull Test station. One of the imported cows, Leachman Ann 3783JHL8IC, was awarded the Farmer's Weekly Award 1991 for her outstanding performance in Phase A of the National Beef Cattle Performance Testing scheme.

In the year 2000, Sid travelled to New Zealand with the intention of looking for new genetics. This is when he decided to include Black Angus into the Stud and bought semen from the Waihonunu Black Angus Stud. This semen was used on selected Red Angus Cows thus starting the Sid Knott Black Angus Stud.

Both Red and Black Stud continue to grow by using imported semen as well as Sires bought in. The cattle are run on Virulent Redwater, Heartwater and Gallsickness veld.

Wolseley Estate formerly Wolseley Settlement was founded in 1886, with the intention of starting a farming settlement. Settlers arrived on the Garth Castle ship from England transported by train to Berlin and finally by Ox wagon to the Wolseley Settlement. Each family received a dwelling, 6 months provisions and a few live stock. Within 6 months all the cattle had died of Redwater and the settlement came to an end with some families moving to the Gold Fields.

Wolseley is situated in the Summer rainfall belt with the grazing being predominantly sweet veld. Temperatures vary between 10 degrees and 40 degrees. The winters are mild with some frost in the low lying areas.

Sid was always a full time farmer and resided with his eldest son Donald and his family on Wolseley Estate. He is survived by his 3 Children, Donald who will continue the legacy of the S K Angus Stud, his daughter Judi who runs her own business and youngest son Robin who is in property sales and development. He was very proud and close to all of his 8 grandchildren. Sid is survived by his wife Margaret. He was a dedicated member of the Angus Society for many years and served as Chairman of the East Cape R.P.O. for several years including time on the National Executive.

Sid was passionate about his Angus and loved his cattle. He will be sorely missed.

Written by the Knott Family

An amazing, appreciative loving man who with his long-standing wife Anne (they were married 52 years) built up the farms Waterval and others outside Clocolan, Free State on the Caledon River. Lesotho was on the other side of the river.

Fikkie was passionate about his cattle and his family. A respectful, complex character who was always willing to help others. He showed an intense interest in your well-being and made you feel one of the family.

He attended school in Clocolan, followed by Grey College in Bloemfontein before finishing up in Ficksburg. He went to Stellenbosch University where he enrolled to study Economics but had to leave in his second year to run the farm, due to his father's ill health.

He had an astute and keen eye for livestock, purchasing quality animals but not at any price. During the early 1980s he would often attend the Southern Natal Dairy Sale at Donnybrook and the Natal Heifer Sale in Pietermaritzburg to obtain well-bred Friesland/Holstein heifers for his expanding dairy herd back in Clocolan.

Fluent in Sesotho, he ran an efficient dairy herd supplying Clover Dairies and several other milk distributors at some time. Not one for the politics thereof, he was never shy to voice an opinion on the price of milk and how the industry was run. Alongside the dairy, he managed a large cropping (mostly maize and soya-bean) enterprise which included cabbage as a cash crop. Waterval was also home to a large commercial beef herd.

After some years, he dispersed his dairy and acquired Gordon Mullen's Milford Red Angus stud situated in Mid Illovo, KwaZulu Natal. It was certainly a difficult transition for the herd but with his usual enthusiasm, affection and attention to detail, this herd laid the foundation of the Waterval Angus stud. Besides breeding many commercial bulls for local sale, Fikkie bred WAF 08-70 which he sold almost 10 years ago to Brian Angus of Woodview Angus, Arlington, Free State for the princely sum of R 50 000 - a significant achievement in those days. This bull made a great impact in the Woodview herd, said Brian.

Fikkie was an active attendant at most National and Free State Angus sales, not to mention the annual Mequatling Angus sale where he was a keen bidder and purchaser on some of the top cattle on offer.

As the years progressed, he wasn't shy to try his hand at embryo transfer (ET) which he successfully implemented with Clive Marwick of the Clocolan Dierekliniek.



WILLEM ADOLF (FIKKIE) FICK

1942 -2021

He had a hand in other businesses including at one stage over 2 000 exotic birds.

Fikkie was a proud religious family man and is survived by his loving wife Anne, daughters Liezel, Inez, Wi-Anne and son Bismarck.

Sala hantle

Written by JP Boule

Veilingsdatums Auction dates

May	27	Pioniers Veiling	Melkbosstrand	Seymour Currie	083 327 9186
June	3	Wes- en Suid-Kaap Klubveiling	Moorreesburg	Hoffie van Blerk	083 455 1151
	17	Rheeboksplaas Veiling	Ceres	Gielie Geldenhuys	082 460 6327
	24	Transgariëp Veiling	Trompsburg	Martiens le Roux	082 772 9472
				Fanie Lubbe	082 773 3123
				Ian MacLachlan	082 895 8188
July	14	Maluti Veiling	Clarens	André Breytenbach	082 774 6804
	15	East Cape Angus Sale	Alexandria	Anton Vermaak	082 326 8509
	20	Midlands Sale	Mooi Rivier	Graham Evans	082 900 5288
	22	Hide-A-Way's Veiling	Migdol	Piet Delpont	082 550 7847
				Hendrik Delpont	082 222 4269
August	3	Elite Black & Red Auction	Nottingham Road	Taylor Knott	072 355 2770
				Rob Kleinloog	082 575 7424
	17	Astro Veiling	Hendrina	Anton Pelsier	082 804 1796
	17	EG Bull Sale	Cedarville	David Louwrens	083 277 7933
	18	Alliance Veiling	Bothaville	RC Malherbe	084 851 8262
	19	Aucdeen Sale	Molteno	Hannes Aucamp	082 772 5323
	25	Mokojalo Veiling	Potchefstroom	Kobus Delpont	083 627 8131
	26	Waterkloof Veiling	Heidelberg	Nico Uys	082 577 2502
September	1	Knott Sale	Kei Road	Donald Knott	082 321 0673
	2	Syferpan Sale	Queenstown	Lawrence Moorcroft	072 402 2028
	7	Kroon Veiling	Viljoenskroon	Johan Kahts	082 453 9817
				Johannes Botha	083 272 6338
				Issie Liebenberg	083 987 7060
	8	VJ Sale	Cathcart	Chris Purdon	082 879 2744
	18	Vrystaat Angusklub Veiling	Bloemfontein	Rudi Claassen	082 782 8483
	21	Dunedin Sale	Dordercht	Carl Milles	073 330 5579
				Kevin Miles	083 995 7087
	29	Malherbe & Roberts Veiling	Hertzogville	RC Malherbe	084 851 8262
October	7	AGM 2021 AJV	Eastern Cape		
	20	Andrew Masterson Sale	Humansdorp	Andrew Masterson	082 320 1462
November	4	Blignaut & Van Tonder Veiling	Vryburg	Basie Blignaut	082 338 8441



ANGUS

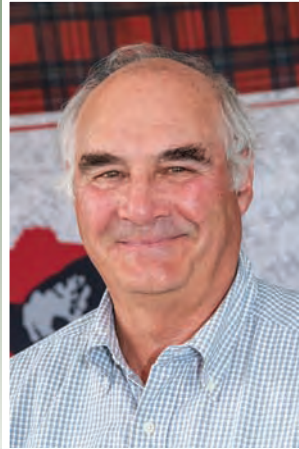
Raad | Council 2020/2021



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(Chairman)



Issie Liebenberg
(Vice-Chairman)



Kevin Miles
(Eastern Cape)



Rudi Claassen
(Free State)



Russell Marriott
(Gauteng, Limpopo & Mpumalanga)



Graham Evans
(KZN)



Piet Delport
(North West & Northern Cape)



Theuns Bruwer
(Western & Southern Cape)



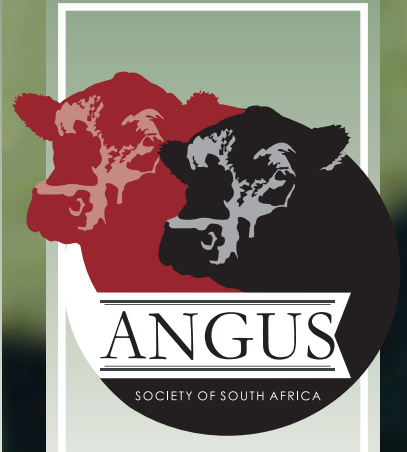
Seymour Currie
(Additional Council member)



Jannie Kotzè
(Additional Council member)



RC Malherbe
(Ex-Officio)



Raad | Council
2020/2021

Kombuiskraal



Boetniek het as jong man vele kere vir sy Nonna op hul Bosveldplaas gaan kuier. Dan het haar pa hom as ekstra plaashulp in die beeskraal aangewend maar in die proses ook vele lewens-lesse geleer.

Tydens een van sy besoeke moes hy jong kalfies vang en vasdruk sodat oom Kosie die nek-aar kon kry om hartwaterbloed in te spuit. Terwyl hy 'n kalfie stewig vaspen, moes hy hoor: "Jy moet mooi met haar werk, sien jy, dis 'n verskalfie, mens moet mooi met verskalfies werk!" Dit was seker sy manier om te sê: "Werk mooi met my dogter."

Met 'n volgende besoek word honderde jaar-oud kalwers met vangrieme platgetrek, gebrand en bulkalwers geknip en onthoring. Gedurende die vang sessies maal die koeie in die kraal rond. Hoe langer die werkery duur, hoe meer karakter ontwikkel die ouer koeie, totdat hulle later gevaarlik befoeterd raak, asof die kraal aan hulle behoort. Toé waarsku oom Kosie: "Jy moet kyk hoe sy vir jou kyk, haar oë sal wys as sy gaan storm, dan moet jy regstaan om uit die kraal te spring." Só kon Boetniek 'n paar keer gevaarlike horings systap deur betyds uit die kraal weg te spring.

Na sewe jaar se kraaldiens, staan oom Kosie vir Nonna, sy oudste verskalfie, aan Boetniek af. Vandag, vyftig

jaar later, is sy geen verskalfie meer nie. Sy het verouder, karakter ontwikkel en raak soms ernstig befoeterd. Die parmantigheid kan gevaarlik wees, veral as Boetniek in haar "kombuis-kraal" begin rondkarring. Oom Kosie se goeie raad was destyds: "Jy sal in haar oë sien as sy wil storm, dan moet jy regmaak om uit die kraal te spring." Maar, Boetniek het intussen verouder, hy kan nie meer so lekker spring om uit die gevaargebied weg te kom as daardie gevaarlike "kyk" gekyk word nie.

Soos manna uit die hemel, ontvang hy onlangs die volgende goeie wenk by swaer Ouboet: "Jy hoef nie uit die kraal te spring as jy gevaar in haar oë sien nie, broer. Jy moet net musiek maak! Nie kitaar nie, vroumense slaan die kitaar in die kombuis. Ook nie viool nie, jy sal op jou beste tweede viool in die huis speel. Wat jy nodig het, is 'n horing." 'n Horing is voorwaar 'n tower instrument. Dit kan klipmure laat intuïmel, soos die Israëliete met hulle ramshorings by Jerigo gemaak het.

Na 'n ernstige soektog tel Boetniek 'n stuk seebamboes by Sandbaai op. Hy maak 'n ordentlike horing daarvan met 'n diep klank ... amper soos dié van 'n Alpe-horing. Dit was net-net betyds want pas tuis, vervies Nonna haar gruwelik vir hom omdat hy haar glo ignoreer. Sy besef nie dat sy ore erg fluit as hulle aan die frekwensie van 'n kwaai vrou se stem blootgestel word nie. Nonna soek steeds reaksie: "Jy maak of jy doof is, maar jy het goed gehoor wat ek vra ... jy is besig om my bloot te ignoreer!" Boetniek sien hoe sy vir hom kyk; hy herken dadelik daardie kwaai "kraal-kyk" en gryp sy horing stewig vas. Hy blaas met oorgawe 'n diep basnoot maar net vir ingeval dit nie die gewenste resultaat oplewer nie, staan hy vir sy eie veiligheid 'n paar treë tru en hou vir Nonna fyn dop. Hy sien hoe haar moer begin sak; sy glimlag liefies ... dit werk ... dit werk sowaar!

Nic Combrink
Stellenbosch



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