

ANGUS JOURNAL 2025



THE BEEF BREED | DIE VLEISRAS

MIDLANDS

Angus Elite

SALE



35 ANGUS BULLS & 30 ANGUS FEMALES

**Netherwood Farm, Nottingham Road. KZN
Wednesday 23 July 2025**



Phox Borrowdale 079 510 6299 | Auctioneer: Andrew Miller 082 493 2362

James Kelly 071 304 5592

 **KZN ANGUS BREEDERS**

PRODUCTION SALE JOC ANGUS AND BRANGUS



20 RED & BLACK ANGUS BULLS
15 RED & BLACK BRANGUS BULLS
10 STUD ANGUS FEMALES (CIC)
20 STUD BRANGUS HEIFERS (CIC)
20 COMM ANGUS & BRANGUS
HEIFERS (CIC)

WEDNESDAY 16 JULY 2025 | 11AM
FURTH FARM, DARGLE | ASSISTED TRANSPORT

GPS: -29.521099,29.940707



FLA

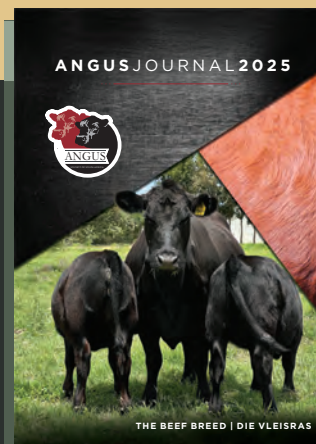
FARMERS
LIVESTOCK
AGENTS



AUCTIONEER: ANDREW MILLER 082 493 2362 | DUNCAN: 081 880 0499 | MARTIN: 071 171 7902

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Ons kan hulle met vrymoedigheid aanbeveel vir enige ontwerp- en drukdiens.

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The proof is in the progeny



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16 Sept 2025
offering
50 bulls



Foreword by the Chairman

2025

Dear members, council members, and friends of the Angus Breeders' Society,

As we reflect on the past year, I am both humbled and honoured to have been entrusted with the position of chairman of our esteemed society. I wish to express my deepest gratitude to all the members and council members for your confidence in me. It is a privilege to serve you and our beautiful breed.

I would like to extend my heartfelt thanks to the outgoing council members and our loyal staff members for their dedication, hard work and unwavering commitment. Your efforts have been invaluable in shaping the progress of our society and we are grateful for your service.

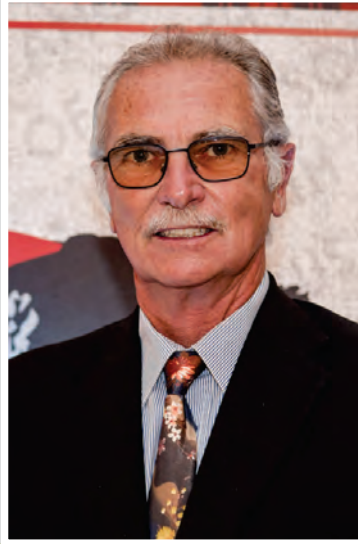
A warm welcome to the newly elected council members. I am excited to work alongside you and look forward to the continued growth and development of our breed and society in the year ahead.

We are proud to acknowledge the achievements of the society over the past year despite the many hurdles. Congratulations to Ruben Redelinghuys and Piet Delpont for their success in the World Champion Competition. This is a monumental accomplishment and their success is a testament to the quality and potential of the Angus breed.

Ons gelukwense ook aan Piet Delpont vir die nuwe nasionale rekordprys wat hy vir 'n bul behaal het. Dit is 'n merkwaardige prestasie waarop die hele genootskap trots is. Terwyl ons erken dat pryse hierdie jaar by veilings onder druk was, is dit belangrik om te besef dat die Angus-ras steeds veerkragtigheid demonstreer. Ons kan trots wees op die veilings wat in 2024 gebou is en ons glo en vertrou dat 2025 meer gunstige omstandighede vir die landbou sal inhou.

One of the highlights of this year was the National Show in Bloemfontein in May 2024. A sincere thank you to everyone involved in organising and supporting this prestigious event. The level of quality exhibited by participants was exceptional and congratulations to all who took part. Your dedication and passion for the breed are evident and I am confident that our future shows will continue to elevate our society.

The next National Show will take place in September 2026 at Moorreesburg and I encourage all members to participate and



Basie Bezuidenhout

Woord deur die Voorsitter

make it a resounding success. In line with our goal of strengthening the breed, I urge all members to actively participate in the BGP2-project and embrace genomic testing wherever possible. These advancements are vital for the future of the breed and together, we can ensure that our cattle continue to excel. Worldwide, the use of micro-satellite testing for parentage verification has declined, with some countries already not recognise micro-satellite tests for parentage testing anymore.

Genomiese toetse gaan in die nabye toekoms bykans 'n vereiste word vir die nuwe bemarking en bemarkingsstelsels van veral beeste en skape. Dit gaan ook 'n baie belangrike rol speel in naspeurbaarheid en die seleksie van diere vir die komersiële boer en voerkrale.

Die omgewing en omstandighede in landbou gaan ons Suid-Afrikaanse boere noodsaak om diere te teel wat vrugbaar, aanpasbaar en winsgewend is. Daarom is die akkurate verskaffing van data aan Stamboek uiters belangrik, waarvan stamboom (ouerskapverifikasie) en prestasiedata steeds die boekstene bly. Genomiese data sal die stamboom-boeksteen versterk waar inligting mag ontbreek of onbekend mag wees.

Dit is belangrik om in gedagte te hou dat genomiese toetsing nie prestasie meting kán of gaan vervang nie, maar dat dit definitief gaan help met ouerskappe en genetiese verwantskappe tussen verskillende individue. Genomiese inligting gaan ook 'n meer prominente rol begin speel in ras-egtheid.

Die Angus Genootskap en georganiseerde landbou sal moet investeer in jong boere en in die samewerking met owerbiede. Daarsonder sal die toekoms van opkomende boere nie goed en maklik wees nie. Ons weet dat die owerbiede dit nie sonder ons leierskap kan doen nie!

As we embark on another year, I encourage each member to become more involved in the society. Your participation and contributions are the lifeblood of this organisation and together, we can achieve even greater things in the years ahead. Together, we will continue to grow and prosper as a society and as breeders of the finest Angus cattle in the world.

Thank you once again for your continued support.

Warm regards

Basie Bezuidenhout



The Angus Society of South Africa is hosting a platinum heifer sale - *only the very best heifers will be offered!*

Platinum

1 OCTOBER 2025 IN THE NORTH WEST

HEIFER SALE



For more information contact Danie Dames: 082 306 9358

Our Breed Advisor

2025

The Angus Society of South Africa is in a privileged position of strength. Despite 2024 being a challenging year for cattle farmers, we saw a significant increase in new breeders, highlighting the growing appeal of the Angus breed. Known for its ease of farming, Angus cattle are increasingly becoming the breed of choice in South Africa amid the challenges facing the agricultural sector.

The year 2025 promises to be filled with exciting highlights for the Angus Society, and we invite you to be part of the action! Several farmers' days will be hosted across South Africa by our respected clubs. Following last year's success, the North West Province will once again host a Judging Course.

Angus Shows will be held throughout the country, and we encourage all cattle enthusiasts to attend. Additionally, several new Angus Auctions will take place, including a prestigious **Platinum Heifer Sale** in the North West Province, held in conjunction with our annual AGM. This sale will provide breeders with the opportunity to showcase their finest heifers, while both new and existing breeders can acquire top-tier genetics from across South Africa—an event not to be missed!



Danie Dames

The **Angus Beef Panel** has held productive discussions with key industry stakeholders to shape the future of beef in South Africa. We have a unique opportunity to redefine how consumers perceive and experience beef.

At **Nampo Harvest Day**, we will once again partner with the Syngenta Plaaskombuis, offering visitors the chance to taste and understand why Angus Beef is the **biggest beef brand in the world**.

To all our Angus breeders—thank you for your support in 2024. Let's stand together, build strong relationships, promote our exceptional breed, and continue delivering outstanding cattle to the South African market.



HIDE-A-WAY'S

angus

OUR NEXT SALE 17 July 2025



Our Credo

We only keep and breed the Best!

Ons koeie is en bly die hoeksteen van ons stoet

Piet en Hendrik Delport, Hide-A-Ways, Migdol
Piet: 082 550 7847
Hendrik: 082 222 6269
E-pos: pietdelport47@gmail.com

Note by the Editor

2025

We want to take a moment to express our heartfelt thanks to all of our members who have contributed, engaged, and made 2024 a year to remember. It has been a year of both growth and challenges, and we are deeply grateful for your unwavering support and participation.

For those of you who have actively participated in this year's publication, we extend a special thank you. Your stories, insights, and contributions have made this publication richer, more diverse, and meaningful. You've helped create a platform where we can all connect, share, and grow together. Your involvement truly makes a difference, and we hope you continue to be a vital part of this society in the year to come.

However, we also recognize that there are many members who have yet to engage or contribute to this publication. We encourage you to take a more proactive role in the coming year. Your voice is valuable, and your perspective matters. Whether it's through submitting an article, sharing your expertise, or simply being more involved in the society. We believe that together we can accomplish even more. The strength of our society lies in the diverse voices and experiences that each of you brings, and we want to hear from all of you.

2024 has been a year marked by significant challenges, and for some of our members, it has been a year of major change. Whether you've faced personal or professional transitions, or experienced shifts in your circumstances, we recognize the strength and resilience that has carried you through. Change can be difficult, but it also opens doors to new opportunities, new growth, and new beginnings.



Linette Cloete

As we look ahead to 2025, let us carry forward the lessons of last year with renewed energy and optimism. Together, we've shown time and again that even in the face of adversity, we are capable of coming together, supporting one another, and emerging stronger. The new year brings with it fresh opportunities, and we encourage you to embrace them with enthusiasm, curiosity, and determination.

Let's continue to build a society where every voice is heard, where challenges are met with courage, and where the future is one of collective growth and success. We are excited to see what the new year holds, and we look forward to continuing this journey with all of you.

Wishing you all a prosperous, fulfilling, and successful 2025.

"True success lies in the joy of what we do. When passion drives our actions, success naturally follows."



WENSPAN ANGUS

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**Landbouweekblad | SA Stamboek
Elite-Platinumkoei 2023
CBC 10 656 met verskalf JK 22 34.**

Wenspan JK 21 31, verkoop aan
Borderland Angus vir R250 000.



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

ANGUS Raad | Council 2024/2025



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Chairman & Additional
Council member



Nick Pentz
Vice-Chairman



Johannes Botha
Council member for
Free State



James Kelly
Council member
for KZN



Warwick Evans
Council member for
Eastern Cape



Mari Roets
Council member: North
West & Northern Cape



Hoffie van Blerk
Council member for
Western & Southern Cape



Ruben Redelinghuys
Council member for
Gauteng & Mpumalanga



Kevin Miles
Additional Council
member

2024
Jong teler
van die jaar



Part of the
Mega Angus
group.



Mega Angus
Auction
30 July 2025



Kombuisland

Adapted, Durable, Grass "vet"



Breeding Values for Angus Fertility

Helena Theron, SA Stud Book, Pretoria office



Fertility is a critically important trait in beef cattle herds. However, fertility is influenced by many environmental and managerial factors that overshadow the genetic component and complicate the estimation of breeding values. Fertility is generally defined by indicator traits when estimating breeding values. For instance, age at first calving serves as a measurement of Heifer Fertility, while inter-calving period represents Cow Fertility.

Genetics

Ability relative to group average determines genetic ability, rather than phenotypic measurement: In principle, in a group of heifers that were born together and calve on average at 30 months of age, the heifer calving at 28 months for example will exhibit above-average genetic potential, while the one calving at 32 months will be below average. However, a heifer calving at 32 months in another group with an average calving age of 34 months, will be genetically superior.

Heifer Fertility: How soon does she start calving?

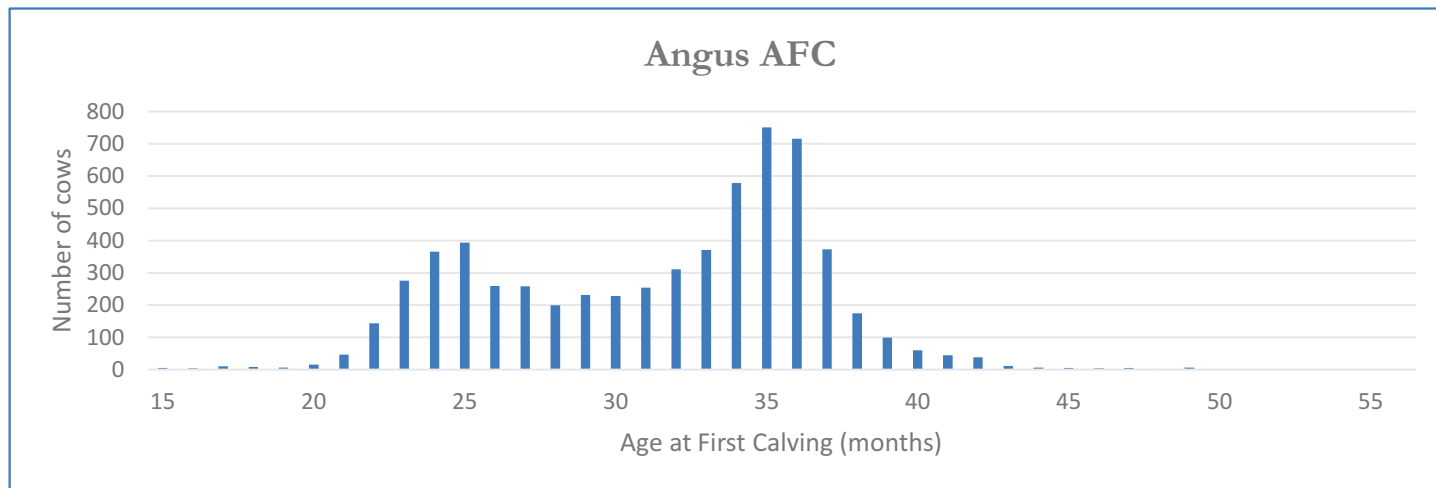


Figure 1: Age at first calving of currently active Angus cows.

From the histogram of age at first calving of currently active Angus cows (Figure 1), most cows calved at 35 to 36 months for the first time. However, there is also a peak at 24 months and a small peak at 29 months. Management determines the phenotypic age at first calving of the herd. Weaning weight breeding values are estimated regardless of the favourable or unfavourable environment in which the calf was weaned. Fertility breeding values are therefore also estimated irrespective of the breeder's management practices. The crucial factor is the contemporary group: if all animals within the same contemporary group (heifers born in the same group) are treated equally, those calving earlier within the group are considered genetically more fertile, while those calving later or not at all are considered less fertile or infertile. The definition of the contemporary group for Heifer Fertility accommodates significant management differences between herds, e.g. whether the heifers calve at 2 years or 3 years.

When phenotypic herd averages for Age at First Calving (AFC) are plotted against the herd average for the breeding value index for Heifer Fertility, it can be seen that earlier calving herds do not have the higher EBVs, showing that the herd management effect of calving age has effectively been removed from the breeding values.

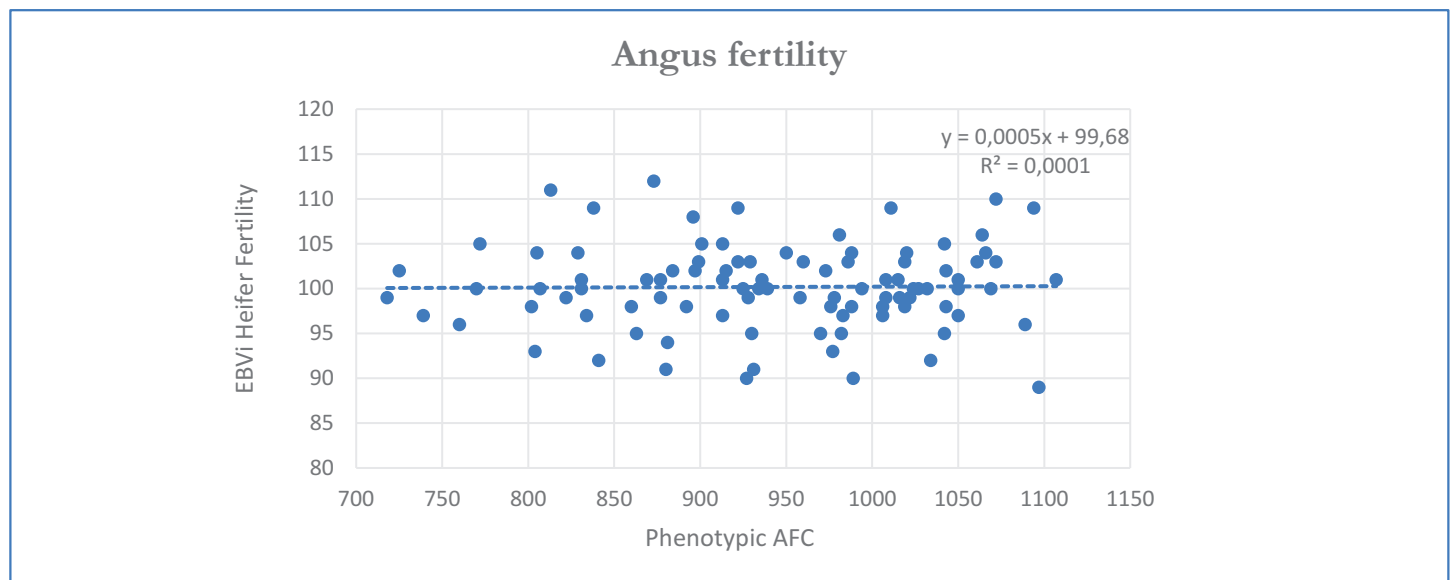


Figure 2: The relationship between phenotypic herd average for age at first calving and the herd average breeding value for Heifer Fertility.

To compare heifers fairly and to accommodate different ages when the heifers are put to the bull, calving in a contemporary group starts at day 0 when the first heifer calves, with a standard age. The number of days that each heifer calves is added to the standard age of the contemporary group. The variances between different contemporary groups are also standardized. These adapted values then become the measurement for Heifer Fertility.

When estimating breeding values, it is also important to include less fertile and infertile heifers, i.e. those who skipped a calving, or never calved, otherwise breeding values will be biased. It is also important to include the data of infertile daughters in the estimation of breeding values for sires. Following international practices, females still alive in the herd at a late stage, without having calved, is penalized by allocating an extreme age at first calving value. It is accepted that a heifer is infertile if a breeder cancelled her at 3 years of age or older without a calving being recorded, or if she was included on a mating list but did not produce a calf. An Age of First Calving of more than 4.5 years is then allocated to her, which makes it possible to compare her with heifers that did calve. Additional adjustments to level the playing ground between heifers and to take care of environmental aspects also include standardizing the variances of the contemporary groups. Genomic information will also increase the accuracy of prediction.

Cow fertility: How regularly does she calf?

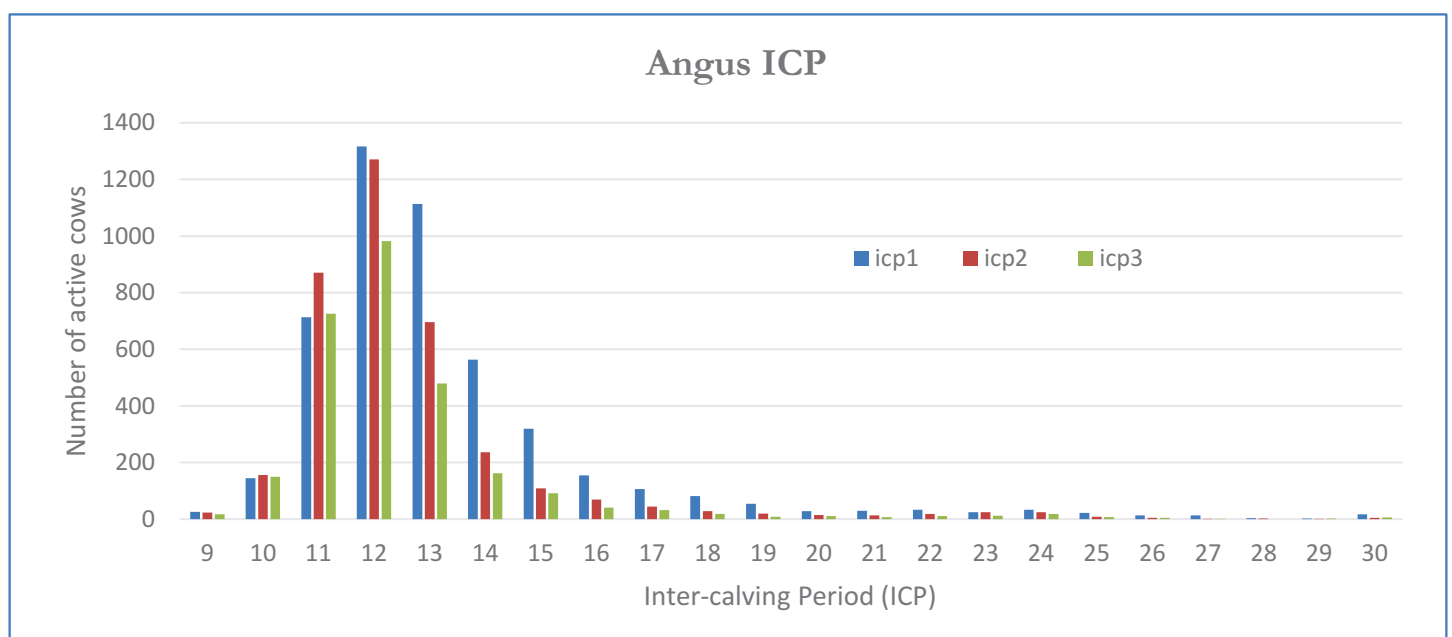


Figure 3: The inter-calving period of currently active Angus cows.

The phenotypic histogram in Figure 3 shows that once the cows start calving, only a few cows are allowed to skip or calve in the next calving season, indicating a combination of high fertility and good management in the breed in general.

Inter-calving period (ICP) is the measure of cow fertility used by SA Stud Book for estimating breeding values. ICP1 (between the first and second calf), ICP2 (between the second and third calf), and ICP3 (between the third and fourth calf) are included in breeding value estimation. Contemporary groups become too small after the 4th calf, and only the most fertile cows are left, so there is much less variation making it difficult to pick up genetic differences. A cow with three short inter-calving periods (ICPs), will be considered highly fertile compared to cows with only one or two short ICPs, as measured within their respective contemporary groups. Genetic correlations between the different ICPs and genomic information are also included to increase the accuracy of breeding value estimation.

The contemporary group for Cow Fertility follows a similar approach to Heifer Fertility. It consists of at least three cows that have calved together on the same farm, in the same year-season, and calve their next calf on the same farm, even if some calve in the following breeding season. Cows that have an ICP of more than 900 days, or did not wean their previous calf, are penalized in the estimation of breeding values. Measurements of animals that gave birth to embryo calves, and their subsequent calvings are excluded. Breeding values are released once 60% of cows in a contemporary group have calved. Bulls and animals without measurements receive breeding values based on pedigree information. The breeding value for Cow Fertility is, therefore, a weighted measure of the breeding values based on the first three ICPs, namely ICP1 (between first and second calf), ICP2 (between second and third calf) and ICP3 (third and fourth calf). These 3 breeding values are weighted equally and combined into one Cow Fertility breeding value.

Longevity: Are her calves retained in the stud herd?

Initially, the selection of young animals is based on various factors, including performance, likability, and even the price paid for the sire. However, over time, high fertility will ensure the retention of cows in the herd. Longevity is measured by marking each calf within a birth contemporary group as present or absent at specific milestones, such as weaning age and one to 10 years of age. This information is used in breeding value estimation. A cow that has reached old age, but none of her calves were retained, will have a lower longevity breeding value than a cow of the same age of which several of her calves were retained and produced calves themselves. Since Longevity is a breeding value, the performance of family members is also taken into account through the pedigree. This breeding value measures fertility, as well as retention of calves for stud breeding.

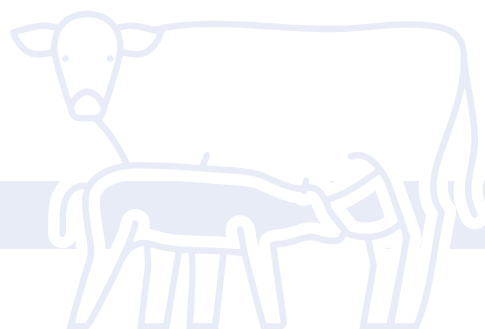
Fertility Value

The Fertility Value is a selection value that measures Calf Quantity and Calf Quality:

1. Calf Quantity: How soon do heifers in the family start calving (GEBV Heifer Fertility) and how regular do cows calve (GEBV Cow Fertility)?
2. Calf Quality: Do cows and calves in the family tend to remain as stud animals (EBV Longevity)?

Summary

Fertility is generally regarded as lowly heritable and therefore not worth the effort of selecting for it. However fertility has a genetic base, and some animals are genetically more fertile than others. Successful selection for fertility in a beef herd is achievable by using the Selection Value for Fertility, which combines breeding values for Heifer Fertility, Cow Fertility, and Longevity.



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Vansia Access



Angus Alliance Veiling,
Kroon Boma, 27 Augustus 2025

Epigenetics

from the second world war to modern animal breeding

Michiel Scholtz, Bhaveni Kooverjee and Georgette Pyoos
ARC-Animal Production, Irene, South Africa



Prof Michiel Scholtz



Miss Bhaveni Kooverjee



Dr Georgette Pyoos

With the new genetic technology and its use in modern animal breeding, it is important that we as animal breeders and livestock farmers take note of the principle of epigenetics. It has been described as something we do not have in our genes, but which we can still pass on to our children. Epigenetics is associated with the expression of genes and therefore different phenotypes (appearance or performance). These modifications are influenced by environmental factors and can be passed on to the offspring of complex organisms, including humans and our livestock.

The concept of epigenetics is about the fact that the environment can change an animal's genetics, but not its DNA. The DNA is the building blocks of all life, so epigenetics means that there have been changes in the function of the DNA, without the DNA sequence changing.

The famine in the Netherlands in 1944 during the second world war, brought forth the first evidence of epigenetics in humans. Children of pregnant women, who were exposed to the famine during the war, were smaller and more susceptible to certain

diseases. Poor nutrition of the foetus during pregnancy resulted in restricted growth of the foetus and increased susceptibility to diseases later in life. Amazingly, these effects were also passed on to the children of these children, for up to three generations. It has since become clear that epigenetic modifications are not erased at fertilization of the affected human or animal offspring, and that the development of the embryo is influenced by a set of epigenetic modifications that can be passed on from both parents. These epigenetic modifications can therefore occur for more than one generation.

Epigenetics is an emerging area of research in animal nutrition, genetics and breeding. The modifications that occur in the epigenome (without changing the DNA sequence) contribute to phenotypic variation of the population. These modifications may have a genetic or environmental origin (e.g., diet, stress, disease), and many of them occur during embryonic development.

What is epigenetics?

Epigenetics occurs through a process known as DNA methylation which involves the addition of a methyl group to a DNA molecule. This can lead to the expression of a gene being turned on or off. When a gene is methylated, its expression is suppressed or turned off. But when the gene is unmethylated, the gene can be expressed or turned on.

The change in the function of the DNA results in a different phenotype (appearance / performance) without the DNA being changed. These changes are influenced by environmental factors and can also be passed on to the offspring. The environmentally induced epigenetic information is transmitted via the egg and sperm. This then serves as a form of pre-programming in the offspring. If the survival of the parents is affected or limited by environmental factors, the offspring are now pre-programmed with the necessary information to survive in a similarly adverse environment. However, if the

environment differs from the predicted environment, this can lead to maladaptation (in the case of humans, for example, it leads to obesity or certain other diseases).

An interesting example of the effect of imprinted genes in farm animals that has been known for hundreds of years is the two types of offspring with different appearance and characteristics in crosses between horses and donkeys, depending on which species is the stallion. The foal of a horse mare and a donkey stallion is known as a mule. The foal of a donkey mare and a horse stallion is called a hinny. The characteristics of these two crosses are totally different. A hinny looks more like a donkey than a horse. It is smaller and does not possess the virtues and draft qualities of the mule. A plausible explanation for this effect of sire species is that there are differences in genomic imprinting in horses.

Epigenetics and animal production

Since both milk and meat production can be influenced by environmental factors, it may be possible to use epigenetics to manipulate production. It may therefore be possible to use epigenetics to adapt the next generation of animals to specific environments. This process is going to be faster than conventional Mendelian genetics (or selection), which is a slow process, because it can happen within one generation. This concept also forms the basis of nutrigenomics, which is the interaction between nutrition, epigenetics and the genotype in animals.

Epigenetics is already being used to make poultry more heat resistant and in New Zealand they have already made progress in applying it to dairy cattle. However, most breeding programs do not yet take epigenetics into account, because this is still a very new field.

Overall, the results suggest that nutrition can have a significant impact on the epigenetic regulation or gene expression in dairy cows. By

optimizing the ration of dairy cows, it is possible to improve their health (mastitis), milk production and composition by promoting beneficial epigenetic modifications, which will then be passed on to the offspring.

In poultry, there are initiatives to use epigenetics for improved heat tolerance and the utilization of alternative feeding practices for optimizing future broiler production by exposing the broiler parent lines to heat. There is evidence that when chickens or turkeys are exposed to high temperatures within the first few days of life, they have a much greater tolerance for heat stress experienced later in life. If this increased heat tolerance in poultry is caused by epigenetics, it can be passed on to the offspring. With evidence that epigenetics works in chickens, it will also be possible to adjust feed rations or feeding programs for chickens in such a way that they can change the gene expression to benefit the performance of broilers. For example, it may be possible to change feeds for parents or grandparents to benefit the performance of broiler offspring.

But what are the implications for the Angus breed in South Africa. If the Angus wants to maintain and even increase its market share, Angus stud animals must be treated in the same way, that the commercial progeny will be treated. This implies that stud cows must be kept on natural pastures, with

lick supplementation, and young stud bulls must be tested under feedlot conditions, since almost 80% of South Africa's beef cattle are marketed through feedlots. Commercial producers should also buy Angus breeding bulls from a similar environment to theirs.

Examples of epigenetics in South Africa

In a crossbreeding project conducted at the Vaalharts Research Station in the Northern Cape, the average 205-day weight of the Angus x Nguni calves was 177 kg and that of the pure Nguni calves 145 kg. Although the 205-day weight of the Angus x Nguni calves was 32 kg (22%) higher than that of pure Nguni calves, the difference was not significant. This can be attributed to the large variation in weaning weights, with that of the pure Nguni calves ranging from 56 to 230 kg and that of the Angus x Nguni calves from 105 to 303 kg.

If cow efficiency is expressed as kilogram calf weaned per Large Stock Unit, the cow efficiency of cows with Angus x Nguni calves improved by 26 kg or 22.4%. It was found that 205-day weight of the calves was affected by factors like the sex of the calf, age of the dam, year of weaning and month of birth of a calf and the herd of origin of the Nguni dam. It was also found that cow weight of the Nguni dam had no effect on the weaning



Nguni cow with Angus x Nguni calf

weight of the calves. However, the herd of origin did have an effect on weaning weight. This may possibly be the result of differences in the genetic merit between the different herds from where the Nguni cows originated, but epigenetics cannot be ruled out.

More than epigenetics

In the crossbreeding project at Vaalharts, Bonsmara bulls was also crossed with Nguni cows and Nguni bulls with Bonsmara cows. The offspring of Bonsmara bulls were found to perform better than those of Nguni bulls. We initially thought that the difference was due to the maternal characteristics of the Nguni cow. However, the study of Bhaveni Kooverjee produced interesting results. Genes were found in the offspring of Bonsmara bulls that did not occur in the offspring of Nguni bulls. Some of these genes were related lipid metabolism (linked to energy storage, hormone regulation and fat-soluble nutrient transport), body size

and immunity. This may be one of the reasons for differences in performance between the reciprocal crosses.

The good performance of Angus sired calves from the crossbreeding project can also be ascribed to genes originating from the Angus bull. For example, crossbred calves produced by Angus sires had the highest methane efficiency (up to 16% heterosis). This implies that less methane is produced per kilogram of live weight leaving the farm by Angus sired calves.

The value of epigenetics

This type of technology can hopefully lead to precision farming where specific rations can be formulated for specific breeds or specific production systems. For example, the genes for muscle growth or fat deposition can be switched on or off. If a ration can be formulated that results in a reduction in methane emissions by switching certain genes on or off, the animal can perform better, since less energy is lost

due to methane production. This will also result in a lower carbon footprint.

This 'soft' or epigenetic inheritance can change the next generation more quickly to adapt to new environments ("flash evolution") versus the slow process of Mendelian inheritance.

Both genetic and epigenetic principles influence genetic expression and must be considered when formulating breeding programs for changing environmental conditions. Knowledge of epigenetic principles in the diverse environments should enable more effective control and management of such effects. By understanding and using the principles of epigenetics, we can move beyond traditional breeding programs and use new tools to improve productivity in the era of climate change. One example is to purchase breeding animals that have been kept under similar conditions to the herd in which they will be used.



BREED CHANGERS

FROM WORLD WIDE SIRES



O C C JUNEAU 807J
SIRE COLEMAN ROCK 7200
 COLEMAN DONNA 714
 COLEMAN CHARLO 0256
DAM COLEMAN DONNA 7386
 COLEMAN DONNA 5309

EASY DECISION

7AN769 COLEMAN EASY DECISION 1539

With his first calf crop under his belt, EASY DECISION improved for CE and BW and also went up for WW. He is ratioing 99 for BW and 101 for WW.

EASY DECISION is destined for maternal greatness with a pedigree that includes Juneau, CHARLO and is anchored by the famous Coleman Donna 714. His dam is an impressive cow and commanded a staggering \$205,000 in the 2023 Coleman Angus Female Sale.

Few sires offer the balanced ranking for management traits that EASY DECISION offers. He ranks high for SC, HP, DOC, CLAW, ANGLE, PAP and HS.

With gender SELECTED™ female semen available and herd rebuild on the horizon, it should be an EASY DECISION to use this sire.

Registration: 20503415 Birth Weight (BW): 73
 Tattoo: 1539 Weaning Weight (WW): 638
 Born: 30/06/2021 Yearling Weight (YW): 1236
 Yearling Scrotal (SC): 39

From: Coleman Angus, MT and Southern Cattle Company, FL

Angus Sire Summary EPDs as of 21/02/25

	Production													Maternal						Carcass						\$Value					
	CED	BW	WN	YW	RADG	DMI	YH	SC	DOC	Claw	Angle	HS	PAP	HP	CEM	Milk	MW	MH	\$EN	CW	Marb	RE	Fat	\$AxH	\$AxJ	\$M	\$W	\$F	\$G	\$B	\$C
EPD	11	-1.8	72	133	0.26	1.91	0.4	1.83	35	0.28	0.39	0.33	-0.5	15.3	8	22	66	0.2	-16	51	0.09	0.77	0.042	77	59	93	74	87	25	113	240
Acc	0.56	0.77	0.54	0.59	0.35	0.35	0.52	0.69	0.63	0.47	0.53	0.3	0.26	0.22	0.28	0.3	0.42	0.4	0.43	0.31	0.31	0.28									
% Rank	15	5	30	25	45	95	65	5	1	1	10	20	15	15	55	75	50	65	50	45	95	30	80	60	60	3	20	65	95	85	60



CADILLAC

7AR112 PIE CADILLAC 3289

His dam is a beautiful FRANCHISE daughter with a picture-perfect udder and an excellent production record of 97 BW, 109 WW, 112 YW on four calves giving her a 107 MPPA.

He is massive bodied with lots of muscle and ranks near the top of the breed for REA. CADILLAC is a big spread bull with added performance excelling for WW, YW and ADG.

His now deceased sire Confidence G1410, is one of the most sought-after sires in the breed and with limited semen available.

PIE CADILLAC 3289 is sure to make an explosive impact on the Red Angus breed.

CONNELLY CONFIDENCE PLUS
SIRE BROWN CRSB CONFIDENCE G1410
 BROWN MS MISSION STMT B542
 9 MILE FRANCHISE 6305
DAM TKP BONNE BEL
 TKP BONNE BEL 110

Registration: 4865308 Birth Weight (BW): 80
 Tattoo: 3289 Weaning Weight (WW): 765
 Born: 27/02/2023 Yearling Weight (YW): 1371

From: Pieper Red Angus, NE; Feddes Red Angus, MT; Twedt Red Angus, ND

Red Angus Sire Summary as of 07/02/2025

	ProS	HB	GM	CE	BW	WW	YW	ADG	DMI	MM	ME	HPG	CEM	Stay	Marb	YG	CW	REA	BF
EPD	135	43	92	16	-3	87	146	0.37	1.5	32	23	11	9	16	0.57	.0	58	0.81	0.03
Acc				44	48	46	46	46	32	17	7		22	31	39	32	40	38	34
% Rank	11	68	2	10	28	2	1	1	98	6	99	71	19	33	22	22	1	1	66



WORLD WIDE SIRES
 SOUTH AFRICA



HERE FOR YOU.

Genomics for Beef Cattle: What are the benefits?

Jason Reding and Hannah Kruger

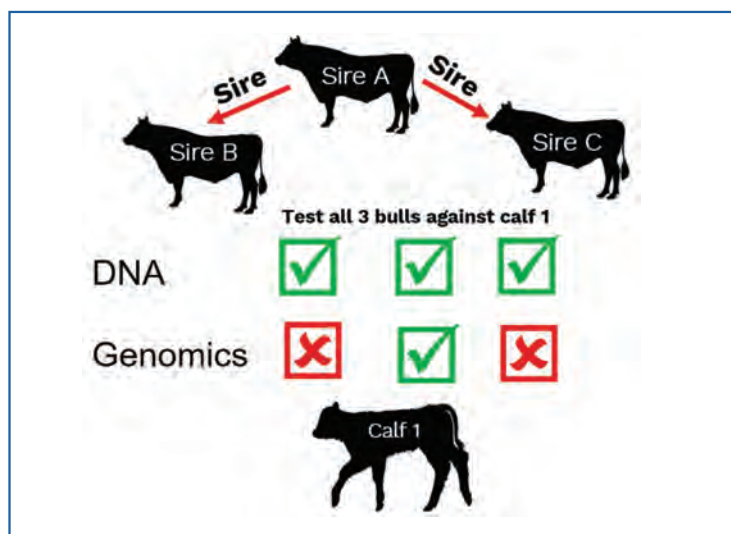
Introduction

Genomics in livestock has made tremendous advances in recent years. The ability to capture an animal's unique DNA sequence has become a cornerstone of stud breeding in the local and international community. Over 50 000 DNA markers, called single nucleotide polymorphisms (SNPs), are analysed on a genomic chip (genotype) and is sometimes referred to as an “All in One” DNA test. Genomic services provided to beef breeds associated with SA Stud Book allows breeders to take the next step in boosting the prediction of an animal's true genetic merit, ensuring pedigree integrity and unravelling the status of single genes within your herd. The use of genomic information in beef cattle has a large impact on increasing the prediction accuracy of production and fertility traits that are lowly heritable, sex-limited and are only measured later in life (Berry *et al.*, 2014; Van Marle-Köster & Visser, 2018). The American Angus population have been using genomics since as early as 2007. Breeders unfamiliar with genomics and genomically enhanced breeding values (GEBVs) must be scratching their heads and wondering what the benefit of genotyping your stud animals truly is. This short article will hopefully illustrate the impact of genotyping an animal, the effect of true parentage verification and how genomics is integrated into a genetic evaluation to enhance the accuracy of breeding values. The South African Angus population currently only has 265 animals genotyped of which 82.6% of those animals are bulls. Due to the low number of animals genotyped the Angus do not yet have a genomic reference population and do not receive GEBVs.

Parentage Verification

The use of DNA Microsatellite markers for Parentage Verification is widespread across the livestock industry in South Africa but has limitations that can result in the incorrect identification of an animal's parentage. The DNA Microsatellite test is not a true confirmation of parentage, but rather an exclusion of who is not the parent. The low number of markers used (12–20) may result in more than one animal being nominated as the possible sire of the tested progeny, especially if a breeder is using bulls that are highly related to each other due to a common ancestor in the pedigree.

Figure 1: This picture indicates the how DNA would indicate that all 3 sires could possibly be the sire of Calf 1, while only the genomics can truly confirm that Sire A is the correct sire of Calf 1.



Genomics, which is currently the most powerful commercially available tool for parentage verification, uses around 15 000 to 25 000 markers (SNPs) to correctly identify the animals that are directly related to each other. A stringent mismatch threshold of 1% is applied, where animals with less than 1% opposing homozygote differences are considered directly related. If the mismatch exceeds 1%, the parentage is flagged as a conflict, necessitating the discovery of the true sire. Accurate identification depends on the availability of genotyped data for all potential sires in the herd. When all sires are genotyped, the system can automatically resolve parentage conflicts and identify the true sire. Genomic testing enables robust parentage verification by identifying true parents when conflicts arise, provided the potential parent is also genotyped. This is particularly effective in cases involving multiple sires or unknown sires, as genotyping both offspring and sires can determine the correct lineage.

SA Stud Book is currently the only Data Interpretation Centre on the African continent accredited for Parentage Verification through the International Committee for Animal Recording (ICAR) using Genomic Information. Unfortunately, the genomic data is not backward compatible with DNA Microsatellite data, meaning that in order for Parentage to be verified with genomics, both the parent and the progeny must be genomically tested.

Genetic Relatedness using Genomics.

Apart from accurate parentage verification how does genomics benefit the breeder's ability to more accurately select his top animals? Research on genomics in beef and dairy cattle, as well as small stock breeds, indicates that genomics has the biggest impact on traits that are lowly heritable, sex-limited and are only measured later in life.

The integration of genomic data into a genomic evaluation occurs in one simple step, it fills in the gaps of the pedigree. The pedigree will at times indicate that animals within the same breed are not related, as breeders may not yet have genetically linked their herds by using other breeders' animals, which is known to be a limitation of using simple mendelian inheritance as the pattern of inheritance across generations. Animals within the same breed will be inherently related to each other, as they are the same species (in this case cattle; *Bos*), subspecies (*taurine* vs *indicine*) and of the same breed (Angus), indicating that they will indeed share a similar genetic makeup. Table 1 showcases how the pedigree matrix uses simple mendelian inheritance to estimate genetic relatedness, while Table 2 showcases the genomic matrix using the 50 000 markers in conjunction with the pedigree matrix, to refine and truly estimate the relatedness between the animals.

Table 1: Genetic relatedness between animals using the pedigree and traditional mendelian inheritance.

	AAN_1	AAN_2	AAN_3	AAN_4	AAN_5	AAN_6
AAN_1	1.00					
AAN_2	0.00	1.00				
AAN_3	0.25	0.0625	1.00			
AAN_4	0.00	0.00	0.00	1.00		
AAN_5	0.125	0.0625	0.125	0.00	1.00	
		0.0312				
AAN_6	0.50	5	0.50	0.00	0.0625	1.00

Animal 6 is the Sire of both Animal 1 and 3, which is indicated by the 50% relatedness estimated between them. This makes Animal 1 and 3 half-siblings, meaning that it is assumed they share 25% of the same genetic makeup from the sire's side. Animal 5 is a close relative to Animals 1 and 3, with the pedigree estimating they are 12.5% related. Animal 4 has no pedigree links to any of the other animals; thus, it is assumed that they are 0% related to the rest of the animals in Table 1.

Table 2: Genetic relatedness between animals combining the pedigree information and the genomics to estimate the true genetic relationships between these animals.

	AAN_1	AAN_2	AAN_3	AAN_4	AAN_5	AAN_6
AAN_1	1.00					
AAN_2	0.06	1.00				
AAN_3	0.315	0.08	1.00			
AAN_4	0.04	0.03	0.07	1.00		
AAN_5	0.146	0.05	0.095	0.01	1.00	
AAN_6	0.50	0.02	0.50	0.04	0.085	1.00

By comparing Table 1 with Table 2, the genomics has corrected the assumed genetic relationship to a realised genetic relationship. Animals 1 and 3, who are half-siblings, are now indicated to be 31.5% related, meaning they inherited more similar genetics from the sire than was originally assumed. The genomics has revealed that Animal 5 is more related to Animal 1 (14.6%) than to Animal 3 (9.5%). Most importantly Animal 4 is no longer not linked to the other animals but is between 1% - 7% related to the other animals. Genomics allows the BLUP analysis to make connections between genetically related animals that the traditional pedigrees are unable to make and thus aids in accurately predicting an animal's genetic potential not just from animals it is directly related to.

Single Genes

Genes can mutate, resulting in changes that create variations from the original or "wild type" form. While some genes exhibit multiple variants, an animal inherits only two—one from each parent. These can be identical (homozygous) or different (heterozygous). In heterozygous cases, one allele may dominate; for example, an animal with one polled and one horned allele will appear polled due to the dominance of the polled allele. However, traits are rarely determined solely by a single gene, as interactions with other genes and environmental factors often influence the phenotype. Detailed information on the mutations discussed here is available on the Online Mendelian Inheritance of Animals website (Nicholas *et al.*, 1995).

Polledness

The genetics of polledness has been of major interest to cattle breeders and livestock geneticists. With the revolution of genomics, this has allowed for the unravelling of the true genetic mechanism that controls the expression of horns or polledness. Referred to as the POLLED gene, this gene is located on Chromosome 1 of the cattle genome. The first mutation was identified in Brahman cattle and is called the Celtic variant. This is the main mutation causing polledness in beef and dairy cattle worldwide and was verified in the Bonsmara and Drakensberger breeds by (Grobler *et al.*, 2018). A few researchers noticed that some cattle breeds were still phenotypically polled but were homozygous horned (HH) for the Celtic variant. This indicated that a different mutation on the POLLED gene may be responsible. Further research has revealed three other variants within this POLLED gene such as the Friesian variant discovered in Holsteins which is now present in a few beef cattle breeds, the Mongolian variant in Kazakh breeds and more recently the Guarani variant in Nellore and Gyr breeds (Nicholas *et al.*, 2023). Currently, all four of these POLLED gene mutations can cause polledness in all cattle breeds but only the Celtic variant is currently segregating in the South African Angus population.

The Angus is known worldwide as a polled breed. Figure 2 below, indicates that the majority of Angus animals are homozygous or fixed for the Celtic POLLED variant. The occurrence of the horned mutation does occur in the South African Angus breed, with less than 2.5% of all genomically tested animals carrying at least one copy of the horned variant.

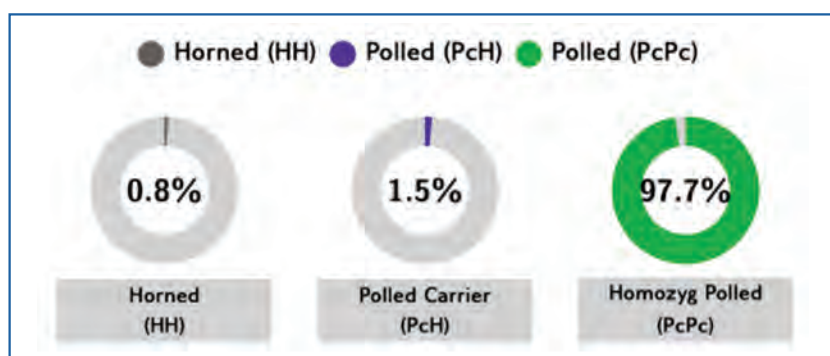


Figure 2: This circle diagrams indicate the segregation of the Celtic POLLED variant within the South African Angus breed

Double muscling

The myostatin protein regulates normal growth and development of muscle in an animal's body. A few mutations can disrupt myostatin's ability to function normally, causing muscles to grow uncontrollably, resulting in an animal being double-muscled. The Q204X and nt821 mutations cause a break in the myostatin protein, and affected animals will be double-muscled. The F94L mutation is seen as the “for profit gene” as it doesn't break the myostatin protein, but rather affects its ability to bind to muscles and ensure normal muscling. These mutations behave recessively, meaning it is almost impossible to identify carriers of double-muscling mutations, as they only appear in an affected calf, which is a result of mating two carrier animals (Csürh  s *et al.*, 2023). Due to the direct effect on heavier birth weights, dams with double-muscled calves may experience calving difficulties. Affected animals will have less fat deposition, which will lead to a lower lifetime production, fertility and longevity. It is recommended to ensure that sire bulls are “Free” from these mutations, in order to minimise and potentially eradicate incidences of double muscling in your herd.

Meat Tenderness

A recent study in South African beef cattle breeds revealed that a few mutations on the Calpastatin and Calpain genes affect meat tenderness, during the conversion of muscle to meat in the post-slaughter process (Basson *et al.*, 2022). Certain mutation combinations result in an animal being genetically predisposed to having more tender meat. These mutations can be combined to reveal a tenderness score, which ranges from 1 (Average) to 6 (Most Tender). Figure 3 shows the current distribution of meat tenderness scores in the Angus genotyped population. The majority of animals are sitting at a level of between 2 to 4.



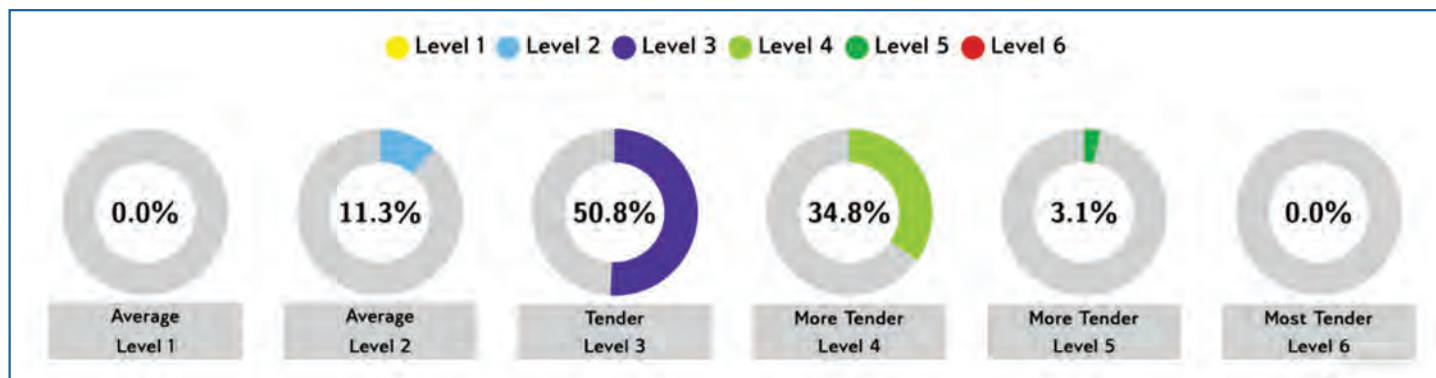


Figure 3: Distribution of meat tenderness levels in the Angus population

Milk-related mutations

Genes associated with milk traits in dairy cattle also influence these traits in beef cattle. The interplay between single-gene effects and polygenic factors impacts the quantity and quality of milk a dam produces, which in turn affects calf weaning weight. The **ABCG2** gene is known to increase milk volume while reducing milk fat content and percentage. **DGAT1**, a major gene in beef cattle, has a significant additive effect, increasing milk fat, intramuscular fat, and carcass fat. **Beta-Casein**, commonly associated with A2 milk, enhances both milk volume and protein production. Variants of **Kappa-Casein** also play a role, with the A-variant boosting milk production and the B-variant reducing milk protein percentages. Similarly, **Beta-Lactoglobulin** affects milk composition, where Haplotype A increases milk volume and Haplotype B enhances milk fat and protein content.

Detrimental Mutations

Genetic disorders such as Crooked Tail, Osteopetrosis, and Ehlers-Danlos Syndrome (a connective tissue disorder) cause distinctive phenotypic abnormalities, often mistaken for general weakness or poor health in calves. Glycogen Storage Diseases (GSD, including Pompe's disease), results from mutations that impair glycogen storage, and occur in breeds with Brahman ancestry. Mucopolysaccharidosis (NAGLU), a lysosomal storage disorder, manifests as a staggering gait, giving affected animals a "drunken" appearance. Other detrimental mutations observed genomically include Spinal Muscular Atrophy, Pseudomyotonia, Bovine Hereditary Zinc Deficiency, Maple Syrup Urine Disease, and Thrombopathia. To reduce the risk of these disorders, genetic testing of sire bulls is essential to exclude carriers and ensure herd health. In the Angus population, current genotyping has identified two carriers of Crooked Tail Syndrome and three carriers of Ehlers-Danlos Syndrome. Proactive genomic screening and selection are vital for preventing the propagation of genetic disorders in future generations.

Future applications

As research constantly innovates, genomics can assist in revealing the true underlying genetic mechanisms that influence adaptability and fertility traits. Infertility haplotypes, genes which cause embryo or foetal re-absorption, are a widely known problem in the dairy cattle industry, with recent studies revealing similar haplotypes in Limousin and Simmental beef cattle populations. The use of genomics is ushering in a new era of stud breeding, especially for those breeders who may have closed herds or are new members of the Angus society. The recording of performance and fertility traits will not be replaced by genomics, as genomics only assists in boosting the pedigree side of the BLUP equation. Phenotype will always remain King, while Genomics is the Queen the King has always been looking for. A common misconception widely stated is that "Genomics is the future", when genomics is now available in South Africa with current and relevant applications, so take advantage and advance your herd to the next level!

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Twinning in Beef Cows

An opportunity or a curse?

Cliff Lamb, Texas A&M University – **Angus Journal**  April 2024

In general, most cattle give birth to a single calf for each gestation, with the incidence of multiple offspring (twins or triplets, etc.) occurring in about 1% of beef breed births and 3-5% of dairy breed births.

Twins are usually unexpected and unplanned, with the resulting twin births tending to be a burden to cattle producers because of the associated calf survival rate, individual calf performance, calving problems (dystocia), stillbirths, retaining placentas and freemartin heifers (infertile when born twin to a male calf).

Cows giving birth to twins frequently have longer postpartum intervals to cyclicity, delaying subsequent pregnancy and also potentially increased culling rates.

Alternatively, when planning to manage twin births, producers can increase calf survival rates and manage cows effectively to reduce the negative effects of twinning. If planned for, twins may result in improved overall production efficiency in a herd.

As discussions increase associated with “sustainability” of livestock systems, there will continue to be discussions on more efficient production systems in the beef industry. Induction of twinning may be potential efficiency strategy to consider in future.

Research has demonstrated induction of twinning strategies may increase efficiency of beef operations between 20% and 30%. Although weaning weight per calf may be decreased, an overall increase in weaning weight per cow enhances production efficiency.

Research has shown that weaning weight per cow was 59% greater when the cow weaned twins.

How can twinning rates be increased?

There are generally three methods that can be used to increase twinning rates in beef cattle herds: 1) genetic selection for double ovulation, 2) hormonal induction for multiple ovulation or 3) embryo transfer (ET) of whole or split embryos.



It is possible to select cows who are genetically predisposed to have multiple ovulations that results in an increase in multiple-offspring births. The U.S. Meat Animal Research Centre (USMARC) successfully established a breeding herd of beef cows predisposed for increase twins. As a result, this research demonstrated over time and multiple generations, genetic selection for a twinning herd is possible. However, it is a lengthy process and takes time and commitment.

Hormonal treatments to increase ovulation rate are used frequently in ET programs. There is the potential for the use of follicles stimulating hormone (FSH) to be administered to increase the number of follicles that ovulate, thus increasing number of oocytes to be ovulated and increasing the potential to fertilize more than one oocyte, resulting in multiple offspring.

The drawback of this approach is that it is not a precise science and may result in more than two follicles ovulating, creating the potential for triplets or quadruplets. The use of equine chorionic gonadotropin (eCG), which has FSH and luteinizing hormone (LH)-like effects, has also been investigated.

However, the success of the developed protocol has only resulted in multiple ovulations in 30% of animals, giving a 20% twinning rate. Overall, the strategy of using hormones is not precise and response among cows differs. Therefore, this does not appear to currently be a reliable method that would be broadly used.

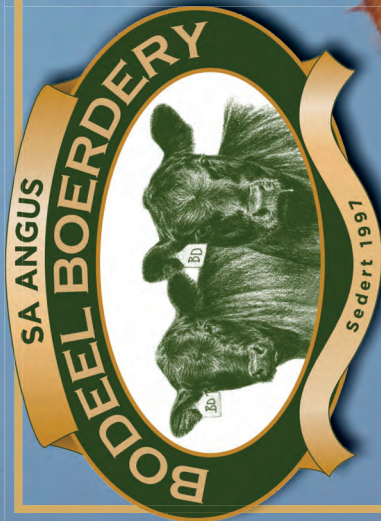
ET appears to be the most desirable method with the quickest opportunity to enhance twinning rates. Multiple variations of this technology provide opportunities for twinning. Transferring two *in vivo* or *in vitro* embryos into a cow or transferring a single embryo into a cow seven days after she was inseminated are methods that have resulted in increased twinning rates. The drawback of this method is the potential for freemartin births. A strategy to eliminate the incidence of freemartins is to transfer split, or demi-embryos, into cows. This method generates identical twins of the same sex.

Twinning may provide an opportunity to increase both reproductive and economic efficiency, although some of the potential economic gain will be compromised by the factors negatively associated with twinning, as previously described. Some of these problems may be overcome with change in management, such as including pregnant status checks to determine twin vs. single gestations, appropriate nutrition for twin gestations, suitable calving facilities, and early weaning of twin calves to facilitate rebreeding of the dam. Pre-calving diagnosis of twin pregnancies will enable better management at calving and allow for obstetrical assistance to be ready if required.

Twinning in beef cattle is a potential means of dramatically improving efficiency of beef production. However, a very high level of intensive management will be required for the twinning technology in beef cattle to increase economic productivity. Improvements in genetics and/or management for dystocia, calf survival and rebreeding rate will be required to make any beef production system based on twinning economically feasible.



Red Angus cows with her twins.



HOME IS WHERE THE HERD IS

Bodeel ontvang vanjaar 'n PAT MOSSOP GOUE-meriete toekenning vir die Angus stoet met die 12de kortse TUSSENKALFPERIODE (TKP) vir 2023/2024
377 dae met 218 koeie met TKP



Johannes Botha 083 272 6338 | Marijke Botha 083 289 5913
Bodeel.botha@outlook.com | Viljoenskroon



Johannes Botha, Bodeel Boerdery

Volgens gedokumenteerte data is die voorkoms van tweeling-kalwers in vleisbeeste minder as 2%, terwyl dit in melkbeesrasse tot 5% kan styg.

Daar heers 'n debat oor die haalbaarheid om die voorkoms van tweelinge in beeste as 'n seleksiedoelwit te gebruik. Die erfdwang van tweelinge in beeste word egter as baie laag beskou, met 'n variasie tussen 0.01% en 0.09%. Nuwe seleksiemetodes, soos die identifisering van kwantitatiewe eienskapsloki, wat spesifieke merkers op chromosome kan identifiseer, mag dalk in die toekoms meer effektiewe seleksie vir tweelinge moontlik maak.

By Bodeel het ons in 2024 sestion tweeling-kalwers aangekry. Die twee vorige jare het aansienlik meer tweelinge per jaar opgelewer. Tweelinge het 3% van die kalwings van 2022 af uitgemaak, wat beduidend hoër is as die gemiddelde voorkoms van tweeling-kalwers in vleisbeeste. In sommige gevalle het ons selfs meer as een tweeling per koei oor 'n tydperk van tien jaar gekry. Vanjaar (2024) het een van ons koeie haar derde tweeling in vier jaar gehad. Dit bly egter steeds die uitsondering.

Alhoewel die voorkoms van tweeling-kalwers nie 'n seleksie-maatstaf vir ons is nie, selekteer ons vir vrugbaarheid en glo ek dat vrugbaarheid 'n rol speel in die voorkoms van tweelinge. Ons word dikwels gevra of die voorkoms van tweeling-kalwers hoër is by koeie wat in 'n KI-program is en hormoonbehandeling kry. By Bodeel is dit egter nie die geval

nie, aangesien byna al die tweelinge voorkom waar koeie en verse natuurlik deur bulle gedek word. Die koei- en vers-troppe deurloop wel 'n program waar hulle voor dektyd vitamien- en minerale aangevullings kry. Gedurende die vier siklusse wat ons koeie by bulle laat loop, kry hulle 'n produksie-lek met Molatek-konsentrate wat ons self meng. Dit is 'n normale praktyk by Bodeel wat oor die jare goeie dragtigheidspersentasies verseker het.

Die voorkoms van tweeling-kalwers vereis aanpassing in bestuur. By Bodeel word dit soos volg bestuur: Nadat die koei gekalf het, word sy en haar tweeling na 'n 2ha kamp verskuif, waar ons sorg dat sy in staat is om haar kalwers groot te maak. Sy moet 'n goeie uier hê en genoeg melk hê om haar kalwers te versorg. Sy word gehelp met 'n daaglikse rantsoen wat haar in staat stel om haar kalwers sterk groot te maak en haar eie gesondheid en kondisie te behou, sodat sy binne 60 dae weer gereed sal wees om beset te raak. Die bul word sommer by haar geplaas. By Bodeel het ons soveel koeie wat tweelinge gekalf het, dat hulle hulle eie bul regverdig! Die dragtigheid van ons koeie is uitstekend, en ons skryf dit toe aan die kleiner kamp en goeie voeding. Die ekstra koste wat daaraan verbonde is, word deur die ekstra kalf geregverdig. Volgens bronne kan tweelinge tussen 108kg en 190kg meer speengewig per koei produseer in ekstensiewe omstandighede. In ons geval, met die ekstra sorg wat gegee word, word daar op 250kg speengewig per koei gereken – 'n ekstra speenkalf!

Koeie wat tweeling-kalwers het, bly tussen ses en sewe maande in die kleiner kamp, totdat die kalwers gespeen word. Tweelinge van dieselfde geslag is baie skaars, maar dit is 'n bonus aangesien die inkomste-potensiaal groter is. Wanneer 'n tweeling uit 'n bul en 'n vers bestaan, is die vers 99% van die gevalle onvrugbaar. Die potensiaal van die onvrugbare vers word benut deurdat sy gevoer word totdat sy gereed is om geslag te word. Bodeel se "queens" is gesog, en die kwaliteit van hul vleis is van uitmuntende gehalte.

Die mermering van onvrugbare verse lyk beter te wees as dié van vrugbare verse of osse wat as super-gradering aangebied word. 'n Ander positiewe aspek van tweeling-kalwers is dat wanneer 'n koei haar kalf verloor, een van die tweeling-kalwers aan haar oorgedra kan word, en sy kan die kalf as haar eie aanneem en grootmaak. Angus-koeie sal met min moeite 'n ander koei se kalf aanneem en dit soos haar eie grootmaak. Dit verhoog nie net die trop se speenpersentasie nie, maar gee ook die koei wat haar kalf verloor het die kans om 'n kalf groot te maak en in produksie te bly. Dit is belangrik om akkuraat rekords te hou, sodat die geskiedenis en produksie van elke koei behou kan word.

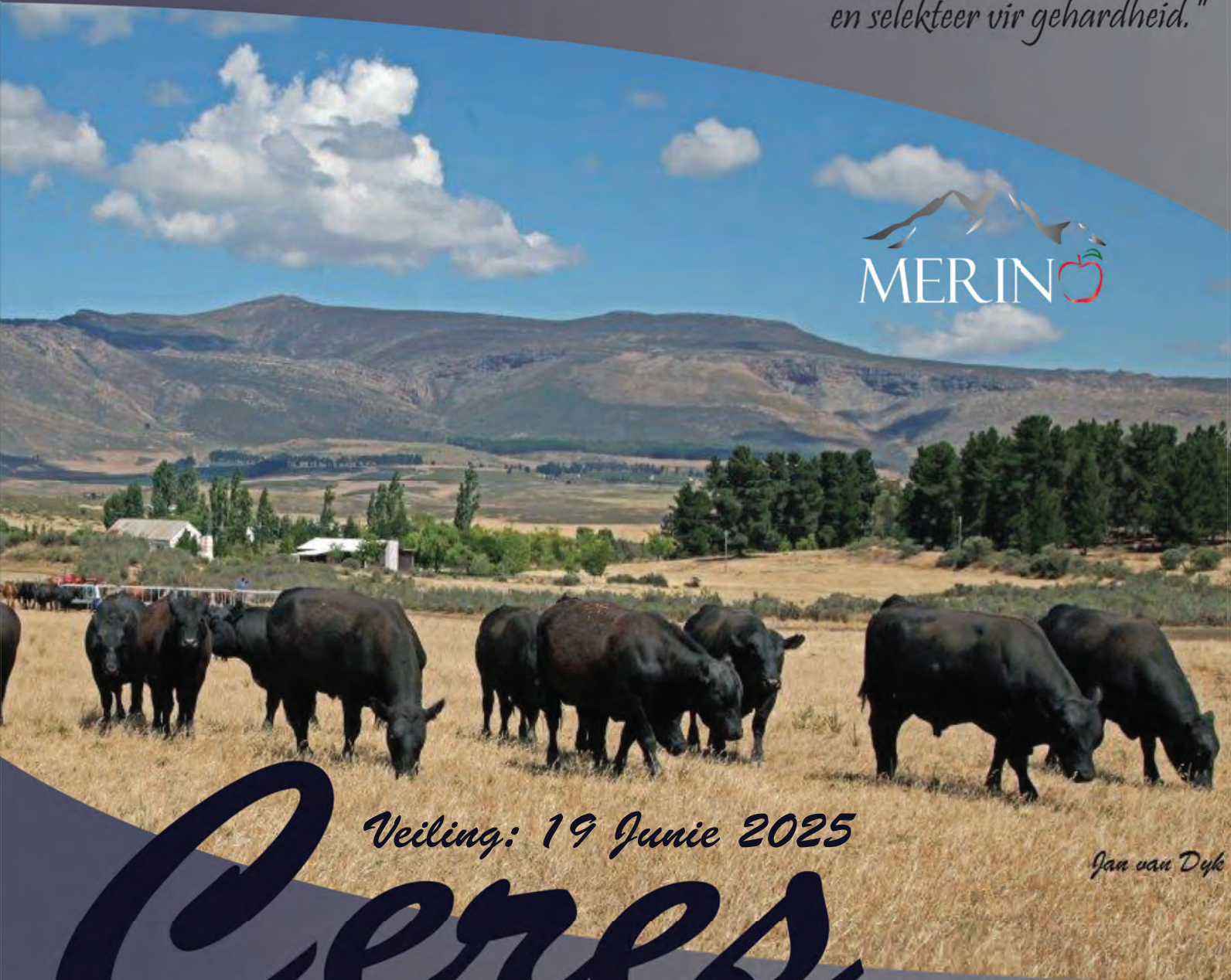
Tweeling-kalwers bly steeds 'n wonder en 'n uitsondering op die reël. Die effektiewe bestuur daarvan is noodsaaklik en kan die uitdagings van so 'n situasie omskep in 'n groot voordeel!

Fotos: Johannes Botha



Rheeboksplaat Angusstoet

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



Veiling: 19 Junie 2025

Jan van Dyk

Ceres

GIELIE GELDENHUYS

Angus Advantage from Easy Calving

The Aberdeen-Angus Cattle Society REVIEW issue no. 6 January 2024 – adapted October 2024

The Angus breed is distinguished for its reputation in facilitating calving ease, a trait of some significance in the industry.

While the debate surrounding calving ease remains contentious, its pivotal role cannot be overstated. Difficult calvings lead to several outcomes for the cow:

- Reduced milk yield
- Reduced calf weaning weight and poor calf health
- A delay in the return to normal cyclicity due to infection and stress
- Severe delay resulting in cow dropping out of the herd

Not only that, it also has effects on the breeder in time spent dealing with the resulting cow and calf problems in terms of cost and time, not to mention higher vet costs.

Calves born from a cow that has required intervention during calving are also affected by a reduction in passive transfer of immunity from the dam, leading to longer-term health implications. Indeed, veterinary lab data from post-mortems on 9- to 10-month-old cattle that have died from pneumonia, show that they did not receive sufficient colostrum early in life. This demonstrates that calf losses from calving difficulty do not just occur in the first few days of life but also much later.

Research shows that each increase in the level of intervention leads to greater problems leading to greater levels of financial loss.

The greater effect for the cow is seen in

her fertility. An average cow in a spring calving system with a 40-day delay in her rebreeding will not only eat an extra 40 days of feed in her lifetime, but her subsequent calf will be 40 days younger than the average calf in the group, leading to performance loss over more than one year.

Coupled with an increase risk of being barren, the overall effect on herd calving interval (CI or known in South Africa as ICP) (the number of days the average cow has between calves) can be significantly increased.

The inherent characteristics of easy

calving and a proven track record in minimizing calving difficulties stand as a testament to the value of the Angus. Our breed has the ability to contribute significantly to improving CI, enhancing both cow and calf welfare while positively impact overall herd productivity. The Angus breed seeks to elevate standards and foster sustainable practices within the industry, it is evident that leveraging the breed's advantages can yield substantial benefits.

Are you making the most of the Angus advantage?



Red Angus cow with new born calf. Photo by Wilru Campher

ASTRO ANGUS

KWALITEIT DOELTREFFENDHEID AANSKOULIKHEID

Produkseveniling: 19 Augustus 2025



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33



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Traits that turn into *Profit*

Angus cattle are known for several key qualities, primarily their beef quality and adaptability. Here are some of the most notable characteristics:

- 1. High-Quality Beef:** Angus cattle are most renowned for the quality of their beef. The meat is well-marbled, tender, and flavourful, making it highly prized by consumers and chefs. In fact, Angus beef is often associated with premium cuts and is a popular choice for high-end steakhouses.
- 2. Marbling:** The breed is especially known for its excellent marbling, which refers to the small streaks of fat within the muscle. This marbling contributes to the meat's tenderness and juiciness, enhancing its overall flavour and texture.
- 3. Solid Coat Colour:** Angus cattle are Black or Red. The breed is easily identifiable by its solid black or red colouring, with smooth coats that are typically short-haired- depending on the season.
- 4. Polled (No Horns):** Angus cattle are polled, meaning they are naturally without horns. This makes them easier to handle and safer for both cattle and farmers compared to horned breeds.
- 5. Adaptability:** Angus cattle are known for their ability to thrive in a wide range of environments, from cooler northern climates to warmer southern regions. They are hardy animals that can withstand various weather conditions and are also resistant to many common cattle diseases.
- 6. Efficient Feed Conversion:** Angus cattle are efficient feeders, meaning they can convert feed into weight gain effectively. This trait makes them highly economical to raise for beef production.
- 7. Reproductive Traits:** Angus cattle are also known for their good reproductive performance and maternal qualities, making them reliable for breeding programs.

Due to these characteristics, Angus cattle have become one of the most popular and widely raised beef breeds in the world.



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Vitamin A

Bob Larson, Kansas State University – **Angus Journal**  December 2022

Vitamin A is important for vision, bone formation, growth, reproduction, skin and the health of many body tissues.

Cattle convert the carotene that is present in all green plants into vitamin A. Although carotene is plentiful in growing forage, it is not present to any extent in grains and oilseeds (yellow corn is the exception). Growing cattle, lactating cows and bulls require higher levels of vitamin A than mature dry cows.

Vitamin A deficiency is a concern when cattle are eating a high-concentrate diet, being fed a heavily processed diet (mixed with oxidizing minerals) or when eating feeds that have been stored for long periods of time. For cow-calf herds, a common problem is that vitamin A can be deficient in winter diets based on dormant winter forage or hay.

Carotene degrades in the curing and storage of roughages. Hay cut in the bloom stage or earlier and cured without exposure to rain or excessive sunlight retain most of their original carotene content. Hay cut in the seed stage and exposed to rain or to extended periods of sunlight lose most carotene content.

The degree of greenness in roughage is a fairly good indicator of its carotene content. Fortunately, the liver can store enough vitamin A to protect cattle from long periods of dietary scarcity (two to four months), so animals on green pasture can often store sufficient reserves to help meet their needs the winter-feeding period. However, drought conditions can cause grass to become dormant early in the grazing season and prolong the period of time cattle consume vitamin A-deficient forage.

Effects of vitamin A deficiency

While blindness is possible in cases of severe vitamin A deficiency, excessive tearing (watery eyes) in cattle also occur. Vitamin A can also be identified in animals with rough, dry, faded and shaggy coats; overgrown hooves that are dry and brittle; and hooves with multiple vertical cracks.

Vitamin A deficiency has also been identified as a cause of weak calves at birth and infertility in both females (delayed or lack of ovulation, silent heat and early fetal loss) and bulls (abnormal semen). In addition, because vitamin A is important for the normal function of the tissues lining the respiratory tract, digestive tract and urinary tract, pneumonia, diarrhea and urinary tract stones are also seen in cattle with vitamin A deficiency.

It should be noted however, that although clearly identifiable cases of vitamin A deficiency are not particularly common, it is possible for herds to not reach their potential reproductive performance, growth rate and health if the diet does not supply enough vitamin A.

As we move into the winter months when most cow herds will receive rations composed of dormant or stored forages, vitamin A supplementation should receive attention. Deficiencies can be corrected by increasing carotene intake by adding fresh, leafy, high-quality forages to the diet, by supplying vitamin A supplements in the feed or mineral or by injection of vitamin A preparations.

It is important to recognize vitamin A degrades fairly rapidly in feed and especially when mixed with minerals. Therefore, it is important to avoid relying on a mineral-vitamin mix that has been stored for many months to supply efficient vitamin A.

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It all starts with the **Angus cow**



It all starts with the Angus cow's strong maternal instincts, superior milking capabilities and **high fertility rates**. The breed's docility, coupled with moderate size and fleshing ability, creates ideal mothers. Angus females also mature early, breed back quickly and have comparatively short gestation periods.

ROECHAMA



Veilings: **ANGUS ALLIANCE:** 27 Augustus 2025, Kroon Boma
MALHERBE & ROBERTS: 24 September 2025, Hertzogville



Gert, RC & Andrè Malherbe | RC: 084 851 8262 | malherberc8@gmail.com

Contemporary Groups Made Easy

Dr Helena Theron, SA Stud Book

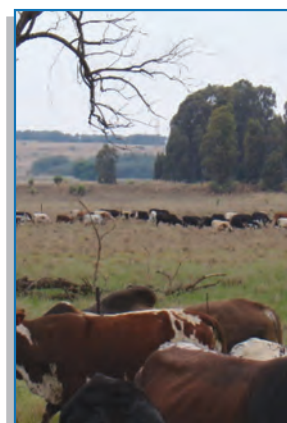


Breeding value estimation is based on measurements taken in contemporary groups and the information from pedigrees. Creating accurate contemporary groups is vital for obtaining stable breeding values. A comparable group of animals measured in the same place at the same time is called a contemporary group. Within these groups, any differences in measurements between animals are attributed to genetics, as all animals are subjected to the same environmental conditions. Therefore, it is unnecessary to correct for environmental influences such as temperature or rainfall, although adjustments for factors such as sex, age of the animal, age of the dam, and parity (whether the dam is a heifer or a cow) are still needed. The following guidelines will improve the quality of information obtained from contemporary groups.

WEAN CONTEMPORARY GROUPS:

Step 1. Set up the group correctly

- A contemporary group consists of calves that have been physically together in the same camp, such as weaning or sire groups.
- Each contemporary group should include calves from at least two different sires to effectively assess the ranking of the sires. If needed, you can artificially inseminate a few cows or mix cows from different groups that have been mated to various sires.
- The larger the number of animals in the group, the more stable the group will be, leading to better information. A minimum of five animals is required for meaningful breeding values, while Stud Book allows groups with three or more animals for breeding value estimation.
- Calves in each group should differ by less than 100 days in age. This can be achieved by the use of calving seasons.



Step 2. Weigh the calves (and the cows)

- Determine the best day of weighing with the Logix option 'Calculate weigh dates' under 'Short cuts'
- Weigh the entire camp's animals on the same day. Indicate if weighing takes place over several days, otherwise the group will be automatically divided by weighing date. Also, do not weigh each calf at exactly 205 days of age.
- Weigh all the calves and cows, including the calves that are culled, so that their parents can be penalized and the ranking of the group can be determined correctly.



Step 3. Send the data to Logix

- Send the data as soon as possible, as breeding values are regularly updated with the latest measurements.
- Always be truthful and accurate, because animals breed according to their genetic makeup, not according to incorrect or manipulated data.
- Review all data for potential errors before submission. Incorrect measurements can impact the animal, its family, and its contemporaries, especially in smaller groups.



HOW TO SUBMIT DATA

To submit weaning data via Logix, follow these steps:

1. Go to the SHORTCUTS section.
2. Click on CATTLE.
3. Select RECORD WEIGHTS (BEEF CATTLE) under the BEEF header.

This action will open a screen for creating a new weaning test. All calves whose births have been submitted before will appear on this new screen.

	ANIMAL ID NO	COMPUTER NO	BIRTH DATE	ANIMAL WEIGHT	DAM WEIGHT	WEIGHT DATE	SEX	REARING STATUS	FEEDING STATUS	DAM FEEDING STATUS	REMARK
1	AJR 240001	0096552450	10022024			25092024	F				
2	AJR 240003	0096577614	19022024			25092024	F				

** If Your cursor is on a set of values you can press CTRL + ENTER to fill the whole column with that value*

You can divide animals into groups by using a new TEST NO or by indicating their STATUS within the existing group. When submitting weaning data, it's important to remove animals whose weights are not fairly comparable to others in the group. Place these animals in their own group or record their status. If there is only one or two animals in a group, their breeding values will be assigned a mid-parent value.

REARING STATUS

- 01 - Calf suckling own dam
- 02 - Calf suckling adoptive dam
- 03 - Twins suckling own dam
- 04 - One of a twin suckling own dam
- 05 - Calf suckles dam and dam is milked
- 06 - Bottle-raised calf
- 07 - Embryo calf

FEEDING STATUS

- 01 - Ca/P lick
- 02 - Prot/Energy lick
- 03 - No lick
- 04 - Concentrate or creep feed
- 05 - Other lick
- 06 - Planted pastures
- 07 - Crop residues
- 08 - Green feed

REMARKS

- 01 - Age of animal out of limits
- 02 - Dam ill or injured
- 03 - Animal ill or injured
- 04 - Animal weight out of limits
- 05 - Animal index out of limits

EXAMPLE

A breeder's calves were weaned in two separate camps, one in the hills and another next to the river. Because of the distinct environments, the animals were divided into two contemporary groups, as these surroundings likely influenced their growth. The data is presented as follows:

Camp 1: There are 50 calves, including 10 cows and calves purchased at a sale, as well as a set of twins.	All calves are placed into one main group, while the 10 purchased calves are assigned to a separate group (identified with a new Test Number). Twins are marked with the code 03 under Rearing Status, and their weights will be excluded from the BLUP analysis as there are fewer than three animals in the group. They will receive mid-parent breeding values.
Camp 2: There are 50 calves of which five poorly performing calves had diarrhoea. Two other healthy calves have indices below 90, but they are the sons of a very expensive bull.	These calves can be assigned to their own group and will receive a new test number, or they can share the same test number as the calves in the other camp but are marked as Code 06 under the FEEDING STATUS, in which case they will also be placed in their own separate contemporary group. Calves with diarrhoea will be assigned Code 03 under REMARKS. Their weights will be marked as unreliable and excluded from all calculations, including indices and breeding values. The expensive sire's calves with low indices should remain in the group, as their parents have produced calves with poor performance and should be penalized.

This herd is divided correctly into the following 3 contemporary groups:

- **A22BRD202401:** 38 animals (Camp 1)
- **A22BRD202402:** 10 animals (Purchased calves)
- **A22BRD202403:** 45 animals (Camp 2).

MANIPULATION OF GROUPS

Invalid reasons for splitting groups include the following:

- To make the animals with indices lower than 90 look better (they and their parents are genetically poor)
- To make your expensive bull's calves look better (he breeds according to his genes, not according to his price)
- Factors already considered during evaluation, such as sex, heifers/cows etc. This makes the group unnecessarily small.
- Manipulating groups by, for example, dividing the group so that the calves with low indices can pass inspection, cause unstable and unusable breeding values. See the example below.
- If you sell a bull you made to look 'better', his breeding values will change as the truth from his offspring's poor performances becomes part of how he breeds.
- Incorrect contemporary groups may also affect the breeding values of animals in the herds of whom and to whom you sell.



Don't cook your data,
you will shoot
yourself in the foot

EXAMPLE OF A CORRECT GROUP

An animal's measurement, when compared to the average measurement of its contemporary group, indicates its genetic potential. This example of a contemporary group shows that:

- Calves' weights vary between 230kg and 170kg; average 200kg.
- Lots of variation because within-herd indices vary between 115 and 85 - it is therefore easy to distinguish between the better and the poorer calves.
- Breeding value estimation: Calves 1, 2 & 3 are above average and calves 4, 5 & 6 are below average

Advantages of LARGE GROUPS

Accurate, stable and correct breeding values are obtained within one generation.

Animal no	Corrected wt	Group Index	Grp avg Deviation
 1	230kg	115	+30kg
 2	220kg	110	+20kg
 3	210kg	105	+10kg
 4	190kg	95	-10kg
 5	180kg	90	-20kg
 6	170kg	85	-30kg

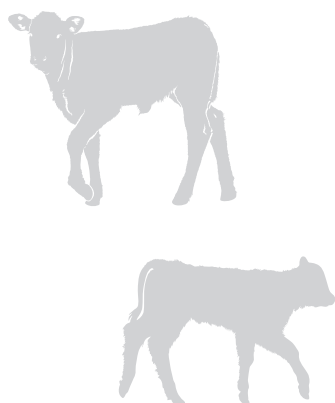
IF THE EXAMPLE GROUP IS (INCORRECTLY) DIVIDED INTO 3 GROUPS:

- All indices change: While the poorer calves are favoured, the best calves are at a disadvantage.
- There is less variation among the calves; they are all close to average.
- Rankings can change, for example, Calf 2 (+20kg) is currently below average, while Calf 5, which weighs -20 kg, has improved to above average.
- Wrong information is used for Breeding Value estimation.

102 	105 	103 
98 	95 	97 

SUMMARY

Accurate and stable breeding values within one generation depend on correct pedigrees and contemporary groups.



Wean Contemporary Group:

- Include as many animals as possible.
- Calves should be offspring of at least two bulls.
- Calves must be born within a 100-day window of each other.

Weighing Procedures:

- Establish the correct weighing date using Logix.
- Weigh all cows and calves on the same day, including the culled calves

Submitting data:

- Ensure that you submit accurate data promptly.
- Group animals that share the same environment together.
- Place animals with weights that are not comparable to the rest of their group in a separate group.
- Avoid altering groups to favour lower-performing animals, as this can disadvantage higher-performing animals and lead to unstable breeding values in your herd.

Breed the best and eat the rest!



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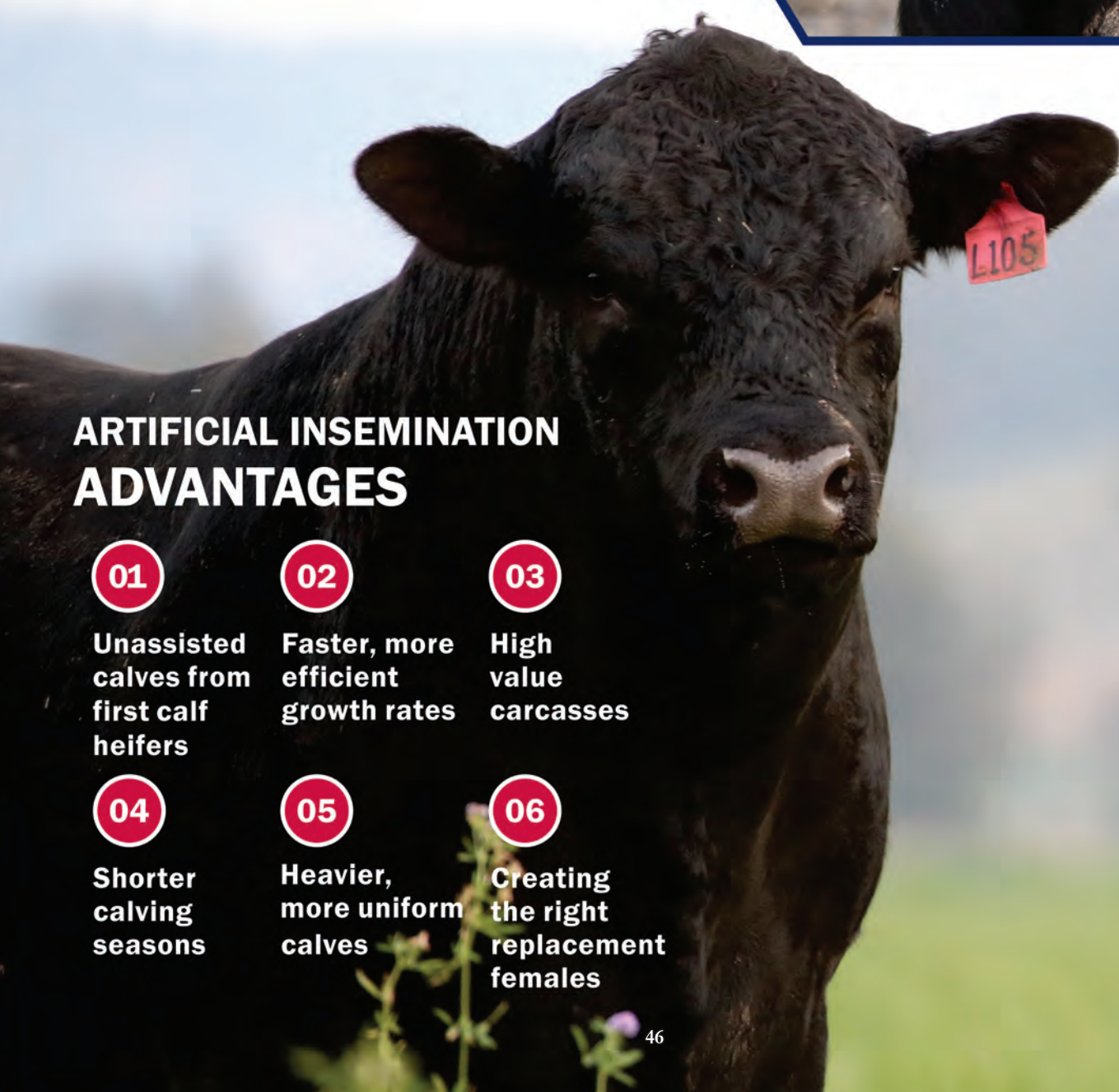


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Angus cows exhibit calving ease



Angus cows exhibit calving ease, meaning they can **give birth quickly and easily with minimal human assistance**. This is partly due to the smaller calf size of Angus cattle. Angus mothers are also attentive and protective of their newborn calves, demonstrating strong maternal instincts.

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Management of Breeding Bulls to Achieve Optimal Herd Fertility

Prof. Dietmar Holm – Specialist Veterinarian, Beef Herd Health



Photo: RC Malherbe

It is a proven fact that the reproductive outcomes of a beef cattle herd have the greatest economic impact on the management system. Therefore, it makes sense from an economic perspective to first ensure that the reproductive potential of a herd is realized before money is spent on other aspects. It is important to keep in mind that some other traits are "in competition" with reproduction. The classic example is milk production, where there is a direct negative correlation between milk production capacity and reproductive capacity. Only when reproduction levels are optimal within a herd should the farmer consider making changes that will promote other traits.

The same principle applies to the management of breeding bulls. First, reproduction management must be correct, and then attention can be given to other aspects. The factors that ultimately affect the reproductive ability of bulls are broad and should be addressed indirectly at various levels. For example, bulls must be clinically healthy and have good mobility to be sexually active during the breeding season.

Factors Influencing Bull Reproductive Outcomes

Factors that play a role in a bull's ability to achieve optimal reproduction outcomes cover a wide range—from their genetic potential and traits to their clinical health, which can be affected by pathogenic organisms as well as non-infectious diseases. Other factors such as the management of the production system, decisions made by the farmer, nutrition, and environmental factors also contribute.

Genetic potential for reproduction is determined by a variety of genetic traits, some of which are directly related to reproduction, such as the genetic ability to develop larger testicles, the ability to have a strong, healthy hormone system, and the genetic potential for good libido. Other genetic factors that contribute to reproductive outcomes include adaptability to specific environments (particularly adaptability to limited nutrition and high temperatures in Southern Africa) and conformation, which can influence mobility, mating capacity, and breeding ability. Clinical health includes general health, as bulls suffering from any chronic diseases cannot perform at their full potential, as well as more specific diseases that can negatively affect reproduction, such as Trichomoniasis and Vibrio.

Management of Bulls During the “Off-Season”

Bulls are often neglected during the period when they are not used for breeding, especially on farms where cattle farming is not the only or main activity. In many cases, plans are made only a few weeks before the breeding season to prepare the bulls, which is often too late. It is important to understand that the process of sperm development takes 60–65 days, so any issues that occur today in the bull's life will affect his fertility for the next two months. A common mistake is to remove bulls directly from the field and place them in a feedlot to fatten them up before the breeding season. While the bulls may appear healthy, the disruptions caused to the rumen during the transition to the feedlot will have negative effects, and the limited space in the pen is also not conducive to keeping bulls fit and healthy. It is preferable to manage bulls continuously in a uniform, good manner. Strategic administration of certain supplements, such as vitamins and minerals, can improve bull reproductive outcomes. For example, there is strong evidence that certain mineral supplements can increase semen production.

Breeding Soundness Examination and Selection of Bulls

One of the most impactful actions to ensure a successful breeding season is to have bulls examined for breeding soundness by a veterinarian. This ensures that bulls at risk of

poor performance in the upcoming season are removed from the breeding herd. Good planning is necessary because bulls should ideally be examined a month before the start of the breeding season. If the examination is done much earlier than a month before, there is a risk that something may go wrong with the bull before the end of the season. On the other hand, if the examination is done only a few days before the season and there is a problem, there may not be enough time to consider alternatives without delaying the start of the breeding season. Delaying the start of the season can have serious financial implications. Another important reason why the examination should not be done too late is to ensure that there is enough time for the veterinarian to receive all the relevant lab results and produce a meaningful report.

It is important to clarify what is meant by a breeding soundness examination. In farmer's terms, this is often referred to as a fertility exam, but this term is incorrect and misleading. For a bull to be fertile, he must be able to impregnate a cow or heifer. However, to be considered breeding sound, we must determine if the bull, as a whole, is suitable for the task. This means that the bull must be able to perform his job with ease and success during the breeding season in the field. This involves much more than just testing the bull's semen.

The Ruminant Veterinary Association of South Africa (RuVASA) uses a system in which more than 250 veterinarians across South Africa participate (RuVASA Bull Power) to assess the breeding soundness of bulls.



Photo: Astro breeding bulls, Anton Pelsner

This system is based on robust clinical tests with scientifically proven results and is applied uniformly by all veterinarians. RuVASA's new categorization of bulls, according to these tests, is as follows:

RuVASA *		
Bull Power	Meaning:	Interpretation for the user:
Category A:	The bull's breeding soundness is certifiable according to RuVASA's standards.	Can be used with confidence.
Category B:	These bulls are not certifiable; their breeding soundness prognosis is uncertain.	There is a risk with using these bulls, they should preferably be re-examined.
Category C:	The bull's breeding soundness prognosis is currently poor.	Should not be used at present, may be reconsidered later.
Category D:	These bulls have abnormalities (reproductive and others) that could negatively affect the performance of the entire herd.	Slaughter clause.

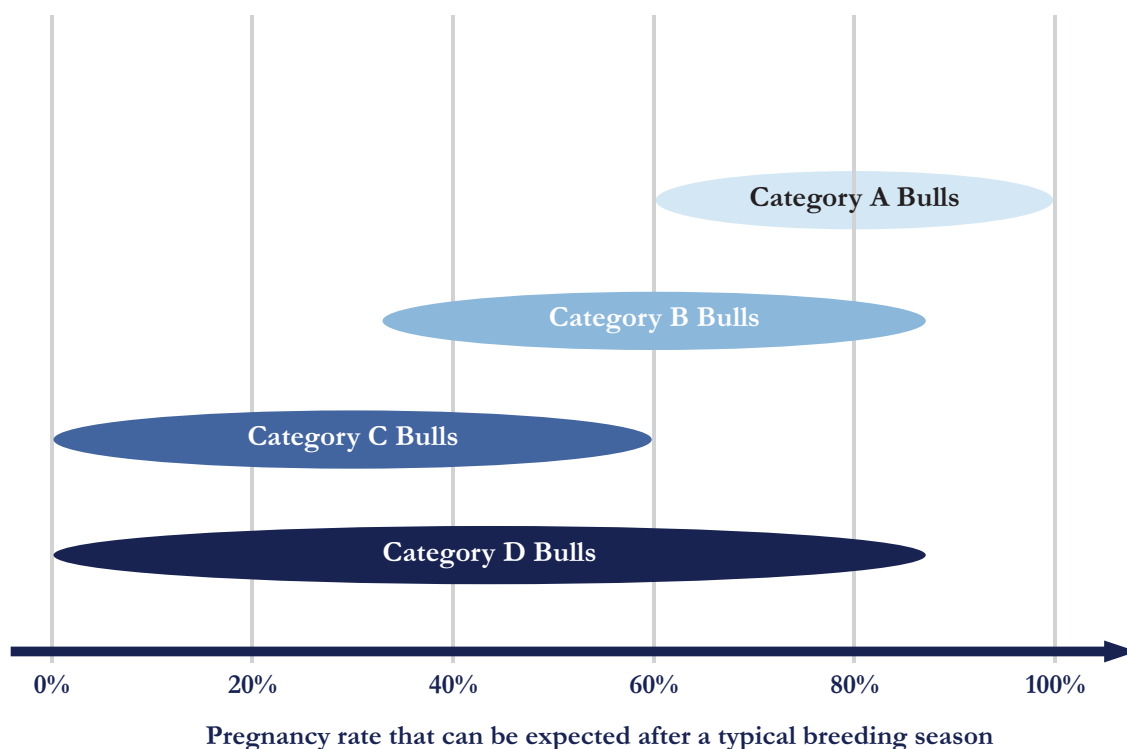
* Ruminant Veterinary Association of South Africa

It is impossible to accurately predict the outcome of a breeding season based solely on the breeding soundness of the bulls, as the pregnancy percentage depends on many other factors. Therefore, we look at the prognosis for breeding soundness based on the veterinarian's full examination, and based on that, we can say that a certifiable bull can be used

with confidence. However, it remains the responsibility of the bull's user to observe the bull's performance and confirm that he successfully mates the cows. The following diagram shows the possible expectations with bulls from different categories and confirms that bulls that are not certifiable (specifically category B) may sometimes perform well, but there is a risk in using these bulls.



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MPS Learners Shine in the Show Ring

Agricultural Management Practices is more than just a subject at Melkbosstrand Private School (MPS)—it's a passion that drives hands-on learning and real-world experience.

Since the introduction of Agricultural Management Practices as a subject in 2020, MPS has been dedicated to providing learners with opportunities to develop their skills beyond the classroom. One of the most exciting experiences to date has been the partnership with Joyce's Angus Stud, a premier Angus breeder, led by Mr. Seymour Currie.



In September 2024 MPS again had the opportunity to showcase their cattle handling skills and showmanship when four learners competed at the Moorreesburg Agri Youth show. Under the guidance of Mr. Currie, along with expert mentorship from Mr. Basie Erasmus, a seasoned show handling champion, and Mr. Willem Swart, manager of Joyce's Angus Stud, the learners stepped confidently into the show ring, representing both their school and the prestigious Angus breed.



"For us, as MPS learners, it unlocked a new understanding of the Angus breed and working with cattle," shares Grade 11 agricultural student Karoline Watson. "Cattle showmanship is literally a case of putting the best foot (and hoof) forward. It also takes practice and patience from the bull, trainer, and stock handler to develop the critical skills to do so."



The Moorreesburg Agri Youth Show is more than just a parade of fine cattle; it is a platform where young handlers are tested on their showmanship and breed knowledge. For Isabella Rabie and Lulibo Dyani, this was their second time competing, while Karoline Watson and Elgar Stolz joined them for the first time in 2024. All four competed in the senior beef cattle category, putting their skills to the test against learners that have earned Provincial and National colours in the youth show.

MPS is incredibly proud of these students who typify what it means to be an MPS #Changemaker.

"I was very proud of Joyce's Cruiser and myself for finishing 5th out of about 20 competitors," Karoline reflects. "I'm very excited for the other MPS learners and me to continue working with Joyce's Angus Stud and get back into the show ring again."



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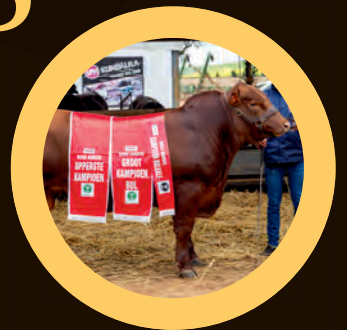
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Reproductive Expectations for Cow Herds



What standards should you set for pregnancy rates?

Bob Larson, Kansas State University – **Angus Journal**  November 2022

There are many reasons why a cow may not be pregnant after running with bulls for several weeks. Some of these reasons are due to subfertility on the part of either the cow or the bull, but fertile cows can also be open after breeding season.

Researchers estimate the likelihood of a live calf being born following the mating of a fertile bull with a fertile cow during a single heat cycle is about 60-70%.

Nearly 100% of fertile matings will result in fertilization, but there are many opportunities for problems that halt the normal progression of the pregnancy. It is estimated up to 30% of early embryos are lost by Day 14 of pregnancy. If the pregnancy is lost by this time, the cow will usually re-cycle. If the bull is still in the breeding pasture, she will be bred again and have another 60-70% likelihood to carry a calf all the way to birth.



A few more embryos are lost between Day 14 and Day 42 of pregnancy. Losses at this stage will result in a delay before the cow resumes cycling. We don't expect very many pregnancies to fail past Day 42, but a few do. Some investigators have established that 2-5% of pregnancies that reached 42 days will lose the fetus sometime before the birth of the calf.

Because only 60-70% of fertile matings from each heat cycle will result in a live calf, it is important that most of the cows have the opportunity to be bred more than one cycle before the bulls are removed from the breeding pasture.

Using a 65-day breeding season as an example, cows that cycle within the first three weeks of the breeding season have the opportunity to re-cycle by Day 42 if they lose the first mating's pregnancy and again by Day 63 if they lose a second pregnancy – resulting in three opportunities to maintain a pregnancy to calving.

In contrast, cows that do not start cycling until the second 21 days of the breeding season have, at most, one more opportunity to be bred if they lose the first pregnancy.

Using an average of 65% successful births from fertile matings – 95% of cows with three opportunities to become pregnant will give birth, but only 88% of cows with two opportunities are predicted to give birth to a live calf. This illustrates the importance of having a high percentage of the herd calve early.

The average length of time to resume cycling after calving is about 50-60 days. Cows that calve later than 40 days after the start of the calving season are unlikely to be cycling within the first 21 days of the next breeding season.

In order to reach the goal of 95% pregnant during a 65-day breeding season, a high percentage of the herd needs to calve early. Cow body condition, bull breeding soundness and reproduction disease control must be optimal.

Any reduction of cow or bull fertility or a long previous calving season will make it mathematically impossible to reach the goal of high reproductive success during a controlled breeding season.



Photo: Wilru Campher

The Value of a Thorough Examination

Gaining useful information from dead cattle.

Bob Larson, Kansas State University – **Angus Journal**  April 2024

The term used to describe the thorough examination of a dead animal is necropsy. A veterinarian often uses a necropsy to determine the cause of death and, more importantly, to determine if the rest of the herd is at risk and if management changes need to be made to protect the herd.

The tools needed for a proper necropsy include: sharp knives and other cutting instruments, bag to store samples, a camera to collect and store images, and appropriate cleansers and disinfectants to make sure that disease-causing germs cannot be spread to other animals.

A veterinarian starts the necropsy by getting a good history of the group or herd, including the age and sex of the affected animals, how long the animals had been sick before death, where the animal died and its position at death. In addition, the veterinarian will determine what the herd or group has been eating and where it has been housed.

It is important to observe other cattle in the herd and to possibly collect blood or other samples from healthy animals or from sick animals that show the same symptoms as the animals that died.

After getting a good history and evaluating the environment, the veterinarian will examine the dead animal to get a general assessment of whether the animal appeared unthrifty prior to death.

Then the veterinarian will open the animal and begin a methodical examination of the organs. Many times, necropsies will include taking tissue and fluid samples and sending them to a diagnostic laboratory to be examined under a microscope or to be cultured to identify viruses or bacteria

that may have contributed to the disease and death.

Only samples taken from freshly dead animals and animals that died early in the disease process (preferably before being treated) are good candidates for sample submission for viral isolation or bacterial culture. Digital photography of the organs examined allows veterinarians to easily obtain second opinions and to make valid comparisons of organs and tissues between herds and over time from the same herd.

Necropsies do not always result in successful identification of the exact cause of death, yet they are almost always helpful for identifying which possible disease are not involved and for identifying which organs are healthy and which are diseased.

Even if a diagnosis is not made, an important purpose of necropsies is to make sure that rare, but dangerous diseases are not present on the farm or that common and easily diagnosed diseases are not a factor in the current problem.

Once the necropsy is completed, all equipment used must be cleaned and disinfected and the carcass must be disposed of properly. If you are responsible for disposing of the body, be sure that you are following the law and that the dead animal is not a continued source of infection to other animals.

From a health standpoint, the most valuable animal of your farm or ranch may be the one that just died. Although a financial loss, these animals can add value to your herd by providing information to help evaluate the strengths and weaknesses of the health program and to provide information to your veterinarian so that future disease risk can be minimized.



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THE IMPORTANCE OF COW PRODUCTIVITY IN BEEF CATTLE

Dr Vlok Ferreira - Technical Executive, MOLATEK



The Heritable traits that can influence cow productivity is:

1. Weaning weight of the calf
2. Feed requirements of the cow-calf combination (per LSU- Large Stock Unit)
3. The rate at which calves are born (indicated by means of inter-calving period - ICP)

How to Calculate Calving percentage and Cow Productivity:

$$\text{Calf \%} = 100 - ((\text{Inter-calf Period} - 365 \text{ days}) / 365 \times 100)$$

Example:

Inter-calf period: 420 days

$$\begin{aligned} \text{Calf \%} &= 100 - ((420 - 365) / 365 \times 100) \\ &= 84.9\% \end{aligned}$$

Cow productivity = (Weaning % X weaning weight at 205 days)/LSU [we assume that the calving percentage is equal to the weaning percentage]

Example:

Weaning weight at 205 days: 210 kg

$$\begin{aligned} \text{Cow productivity} &= 0.849 \times 210 / 1.45 \text{ LSU} \\ &= 123 \text{ kg} \end{aligned}$$

Easing the shock of weaning:

Removing the calf from its mother is a necessary procedure, but also one that unfortunately lowers the productivity of the calf. For the first 14 days after weaning, the calf will likely experience a drop in body weight due to stress and lack of eating, if the weaning process is not properly managed.

The use of a creep feed as a management tool, to ease the weaning shock helps. Creep feed is a way of introducing feed to the calf whilst it is still suckling. Getting used to eat out of a feed trough before being weaned is one way to ensure that body weight is maintained during the weaning process, as the calf will already be used to eating feed.

How improving cow productivity reduces environmental impact:

The differences in cow productivity of a South African beef breed were examined from 1980 to 2013 (Jordaan 2015). The aim of the evaluation was to investigate the effect of cow productivity and the different components that influence cow productivity (weaning weight, weight of the cow, and inter-calving period) have on the environment.

Definition of LSU (Large Stock Unit):

The equivalent of an ox with a weight of 450 kg, that has a daily gain of 0.5 kg/day whilst on grazing, and that has a digestible energy of 55% and 9 kg intake of grazing per day.



In South Africa the enteric methane emissions factor (MEF_{enteric}) of one LSU is 94 kg methane/year.

The relative contribution of the 3 components (weaning weight, cow weight and inter-calving period) to cow productivity and the resulting environmental impact were investigated. This was managed by changing one of the three factors by 5% while keeping the other two factors constant.

Results:

The cow productivity of the beef breed measured in 1980 was 94 kg weaned calf per LSU mated, with the MEF_{enteric} of a LSU measured at 94 kg methane per year.

The resultant conclusion: MEF_{enteric} = 1 kg of methane produced per kg calf weaned/LSU mated. In other words, every kg of weight on a weaned calf per LSU mated, resulted in 1 kg of methane being produced.

The cow productivity for the same beef breed measured in 2013 was 107 kg weaned calf per LSU mated, with MEF_{enteric} of 0.88 kg methane per kg calf weaned per LSU mated. In other words, every kg of weight on a weaned calf per LSU mated, resulted in 0.88 kg of methane being produced.

The genetic improvement of the beef cows in this investigation showed a decreased cow weight, a 20 day decrease in the intercalving period and a 20 kg increase in weaning weight. This improvement of the productivity of the cows decreased the carbon footprint by 12%, between 1980 and 2003.

This is comparable to another investigation conducted by Capper (2011), indicating that beef cattle in the USA had a decrease of 16% in their carbon footprint from 1977 to 2007.

The importance of improving the calving percentage of our national herd by about 62 - 65% is illustrated by the relatively large environmental impact that fertility has, when looking at intercalving-period as a measurement. **The relatively large positive environmental impact of an increase in fertility (as reflected by ICP) illustrates how important it is to increase the relatively low calving percentage of the national beef herd (~ 62 – 65 %).**

A higher weaning weight, a higher weaning percentage and a lower inter-calving period decreased negative effects on the environment, and this is what beef cattle producers should be aiming for, with optimal cow productivity in mind.

Notable result: When the inter-calving period was decreased by 5%, overall cow productivity improved with 7.3 percent.

What this means is that more calves are weaned, and that inter-calving period should be decreased as much as possible to experience the largest effect, resulting in highest productivity and highest output.

How the age of cows influences productivity:

Age, weight and breed all have an impact on the age at which a heifer will reach puberty.

Age: The goal of many producers is to have heifers calf for the first time at 2 years of age. For this to happen, the heifer should reach puberty at 12 - 15 months of age. This will also depend on the breed of the cow. European breeds reach puberty at the age of 12 months, where breeds in South Africa generally reach puberty at the age of 14 - 15 months.

Weight: Weight is the factor that most influences puberty, and a heifer will reach puberty when she weighs 65-70% of her potential mature body weight.

Breed: Larger, late maturing breeds will reach puberty at a later stage than early maturing breeds and will generally have a calving age of 27 months rather than 24 months. The average weight will differ for each breed.

Age at first heat:

Heifers need to have an average daily gain of 800g/day from weaning to first service or have a total gain of 115-160 kg during the first winter — approximately 200 days.

For most breeds this means that the crossbreed heifers need to weigh between 295 and 385 kg. Crossbreeds normally will reach maturity at an earlier age than either of the parent breeds. Heifers who have a greater daily gain will reach maturity at a younger age than heifers who do not have a sufficient daily gain.

Age at 1st calving:

Heifers that calve at the age of 2 years and then calve every following year, will produce +330 kg more weaned calf weight than if they calved for the first time at 3 years of age over a lifetime basis.

Therefore, cows should reach an optimal weight to reach puberty in a timely manner, but that breed effects will have a large influence in what this weight should be. A cow that calves for the first time at the age of 2 years will have an increased productivity.

Proper nutrition is not to be underestimated when it comes to the conception rate of heifers:

In a herd of 98 heifers, the average weight of the herd was 341 kg. It was found that 63 out of the 98 cows (64%) conceived when they had a weight of 350 kg at service. Those animals that did not conceive (36% of the herd) had an average weight of 327 kg at service.

As we can see, the weight at mating has a direct impact on whether the heifer conceives or not and the health and body condition of the cow is highly important when it comes to mating.

The effect of body condition score (BCS) on conception rate:

It was found that for a cow to conceive during the next cycle, it is optimal for the cow to have a body condition score of 3.5 at calving on a scale of 1 is thin and 5 is fat. This had a resulting conception rate of 80%.

Similarly, body condition score during mating had an influence on the conception rate, with a BCS of 3.5 resulting in a conception rate of 100%.

This proves that the optimal BCS for a cow to conceive, both at calving and at mating, is a score of 3.5. It is of utmost importance that the body condition score (BCS) not be too low, as it will prevent the cow from conceiving.

Heifer Nutritional Requirements:

A heifer's nutritional requirements are going to depend on the size of her body frame and her weight. Logically, it makes sense that an animal with a larger frame is going to have slightly higher requirements than animals that have a smaller frame.

Supplementing heifer diets:

Working on the assumption that the heifer weighs 400 kg and is grazing on winter veld (4.17% protein), she will have a daily intake of 7.2 kg of grazing, of which 300 g is protein and 3 kg is TDN (Total Digestible Nutrients) and 6.3 MJ ME/kg pasture.

Since the heifer's protein requirements need to be met, the protein content of the grazing needs to be calculated. Crop residues in winter are low in protein, and a protein supplement will be needed to ensure that no nutritional deficiencies develop.

Suggested supplementation includes:

- 250 - 300 g Protein/day
- 1 - 1.5 kg TDN/day
- 12 - 18 MJ ME/day
- 3 - 5 g Phosphorous/day

First calf feed requirements:

A first calf heifer will be smaller than a mature cow but will have nutritional requirements very similar to that of a mature cow because she is still growing, carrying a growing foetus and producing milk. In fact, the protein and calcium requirements of a first calf heifer will be higher than that of a mature cow.

Many supplementation practices are ineffective for heifers:

The intake of standard winter protein licks for maintenance by heifers is too low, and very often the importance of trace minerals is overlooked, and supplementation is inadequate. A USDA study found that only 8% of beef farmers that sent in feed samples for analysis indicated that the poor performance of their animals could possibly be linked to insufficient trace minerals in the diet.

The effect of phosphate supplementation on heifer performance:

The proper supplementation of phosphate is undeniably important in ensuring a proper calving percentage. Not only has phosphate been linked to weight gain, but also to an improved calving rate. If no phosphate is supplemented, the calving percentage of the herd in a trial was 52.9%, with cows calving every second year only. The lack of phosphate means that cows spend the year not in calf building up their phosphate reserves again. If cows are properly supplemented with phosphate, the calving percentage increased to 75.6%. Not only does their dry matter increase by 25%, but their body weight at calving increased with 15% as well. The average daily gain of cows with proper phosphate supplementation has been shown to increase with 130 - 320 g/day.

Cattle grazing on pasture, specifically young, green pasture, should be supplemented with a source of phosphate, like a Molatek Foslick (V16059) or Fosblock (V22502). Veldt pasture is phosphate-deficient, resulting in a deficiency in the diet of the cow.

Conclusion:

1. The environmental impact of producing beef cattle can be decreased
2. The results emphasise the importance of focusing on
 - a. Fertility
 - b. Identifying the reasons for low calving percentage, such as age at first calving; body condition score (BCS) and lick supplementation practices





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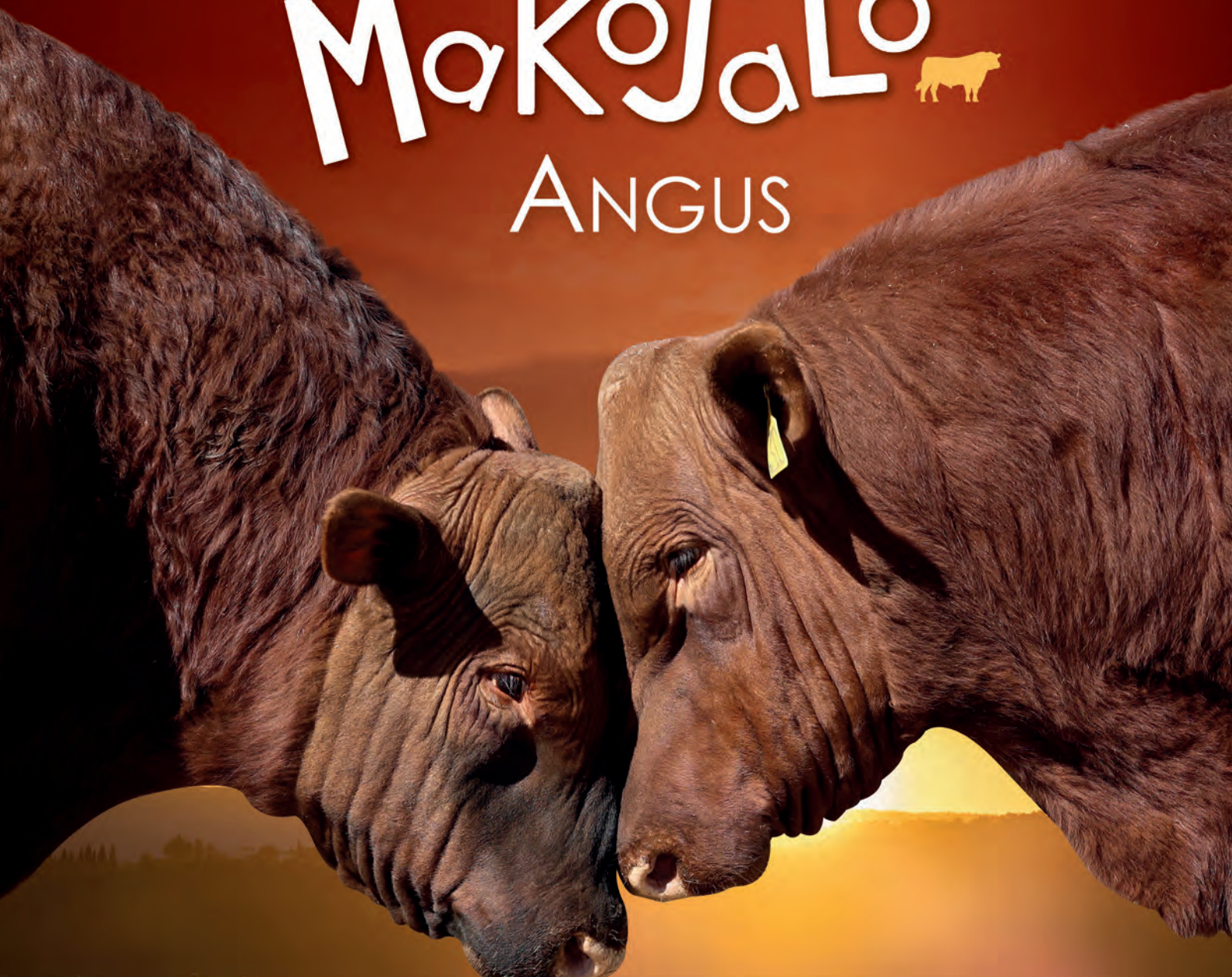


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Assisting Cows at Calving

Bob Larson, Kansas State University – Angus Journal  February 2024

Calving season is time for long hours and the possibility for difficult births. Factors contributing to calving problems are most commonly the size of the calf relative to the size of the dam and the position of the calf in the birth canal.

Because the length of labor can vary, I usually recommend producers check a cow if no progress is seen in a 30-minute time span once the feet or water bag are visible.

To appropriately examine a cow, she should be restrained with a head catch or halter. While perfect cleanliness cannot be expected, it is important to keep your arms and equipment as clean as possible. If no problem can be identified, then the cow should be allowed to continue unassisted for another 30 minutes.

Examination of a calving cow should be made with specific questions or goals in mind. These include:

Is the vagina relaxed, and the cervix dilated?

When the feet first appear, the cervix may not be fully dilated, and the vagina and vulva have not had a chance to relax to their full extent. While wearing a plastic sleeve and using lots of lubrication, insert a hand with the palm flat against the vaginal wall and slowly slide forward. If a band or ridge is definitely felt, the cow is not fully dilated. Excessive pulling at this point may cause a torn cervix or vagina.

Is the calf in the normal position?

The normal position is head-first, both front legs extended with the head lying between and resting on them. This position is determined by noting three things:

- 1) Identify the head
- 2) The hooves face down, and
- 3) The first two joints of the legs (the fetlock and the knee) bend in the same direction

In many situations, an abnormally positioned calf will require the assistance of a veterinarian or an experienced herdsman to position the calf correctly prior to delivery. If calf position

cannot be corrected, the veterinarian may have to perform a C-section.

Can the calf pass through the pelvic canal?

A large calf relative to the size of the pelvis is more commonly a problem for heifers than for mature cows. Mature cows that are carrying an embryo transfer (ET) or cloned calf can also have a calf that is too large for her birth canal. If the calf is too large to be pulled up into the birth canal far enough for both fetlocks to extend a hand's width outside the vulva, a veterinarian or an experienced herdsman should be called in to continue the delivery and to consider if a C-section is needed.

C-section on heifers and cows can be a successful surgery for both the calf and the dam if done early. If the calf is already dead and the heifer is exhausted before a C-section is attempted, the likelihood for a productive cow in future is reduced.

Becoming comfortable examining cows at calving helps you to determine if the calf is in the proper position and able to pass through the birth canal without expert assistance. In addition, working closely with your veterinarian so you can receive advice and assistance when needed is important to provide the best care for your herd.



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The Significance of Bull Scrotal Circumference:



A Cornerstone Trait in Beef Breeding for Male Fertility.

Kelli Retallick – Angus Journal  May 2024

Fertility is a crucial economic trait for cattle producers, influencing the profitability and sustainability of cow-calf operations.

While significant attention has been directed towards improving female fertility, male reproductive performance often receives less focus. However, loss in bull fertility can cause substantial loss to a potential calf crop.

Bull scrotal circumference (SC) refers to the measurement around the widest part of a bull's scrotum. It serves as a proxy for testicular size and, by extension, reproductive potential. Through the years, U.S. Angus members have collected and recorded more than 1.28 million scrotum circumference measurements on yearling bulls, which are then used to predict scrotal circumference expected progeny differences (EPDs).

Link to female fertility

For years, SC has been linked to puberty and fertility in the bull's daughters that you keep in your herd. Studies dating back to the mid-1980s show favorable outcomes between cow pregnancy rates and bull semen quality. In fact, Wiltbank and Parish (1986) saw an increased pregnancy rate of 5% in cows mated to bulls having 80% or more sperm compared to cows bred to bulls not selected for greater than 80 normal sperm.

Breeding soundness exams (sometimes refer to as BSE) continue to include scrotal size as well as motility and morphology semen quality metrics to help determine a satisfactory breeder prior to turnout. To successfully complete a breeding soundness exam, a bull must have at least 30% sperm motility, 70% normal sperm morphology and a minimum scrotal circumference based on age.

Relationships among traits

Scrotal circumference is heritable at 0.48, so genetic selection can rapidly take place at that level.

A negative genetic correlation between a sire's scrotal circumference and his daughters' age at puberty means that as scrotal size increases, the age at which daughters reach

puberty decreases. Daughters reaching puberty at younger ages are more likely to be cycling at the beginning of breeding season and, as a result, are more likely to become pregnant early on.

However, in recent years, as tools including heifer pregnancy (HP) have been developed, producers note not all high SC EPD bulls are high HP EPD bulls, and vice versa.

The genetic correlation in the current U.S. Angus population between SC and HP, which is a sire's daughter's ability to get pregnant in her first breeding season, is predicted near zero. This means the genes that control SC are not the same genes that control HP. It can also be extrapolated that if heifers have reached puberty age at breeding, a genetic predisposition to secure a pregnancy in the first breeding season still exists.

Another interesting note about SC is it appears that its genetic trend has slowed in recent years, showing a gain in SC EPD of just 0.03 from 2020-2023 compared to an increase of 0.11 from 2017-2020.

Evidence supports that selecting for an increased scrotal size maintains its benefits of reflecting daily sperm production, which is why it is still used as a benchmark in breeding soundness exams to determine if a bull is satisfactory as a potential breeder.

Ongoing research and collaboration

Currently the Angus Genetics Inc. (AGI in the U.S.) and the Association (U.S. Angus Society) are collaborating with the animal breeding group at Kansas State University to further examine male fertility traits in Angus bulls by analyzing data points collected during breeding soundness exams.

In Total, data collected on 5, 292 Angus bulls is being examined. The work and its prospective results should help Angus breeders better understand how scrotal size relates to sperm progressive motility, primary and secondary abnormalities, and precent normal morphology as well as

estimate the heritability estimates and genetic correlation of these male fertility traits.

Preliminary estimates show interesting results, including favorable genetic correlation between SC and percent normal morphology of sperm. However, unfavorable genetic correlation between SC and progressive motility appeared. More analysis is needed to further understand the biological implications of these preliminary results.

Conclusion

Even so, SC continues to be a trait that helps seedstock and commercial producers alike gain perspective during the breeding season. Its importance cannot be overstated, as it serves as a reliable indicator of reproductive potential and a key determinant of breeding success.

As the industry continues to evolve, embracing advancements in genetics and technology, the significance of bull scrotal circumference persists.

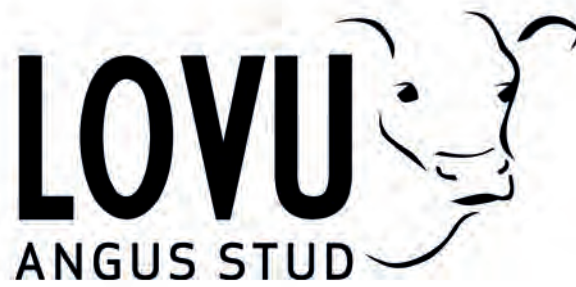
Association between bull age and accepted minimum scrotal circumference for a passing breeding soundness exam.

AGE	Minimum scrotal circumference size
15 months or less	30 cm
15 - 18 months	31 cm
18 - 21 months	32 cm
21 - 24 months	33 cm
>24 months	34 cm



Photo: Wilru Campher

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The Effects of Male Contribution to Embryonic Loss

By Cliff Lamb, Texas A&M University – Angus Journal  March 2023

Recently scientists have started to understand the effects of the male on fertility, especially embryonic loss.

I recently had a chance to discuss advances with a graduate student. He summarized his thoughts, some of which are included in this article.

Pregnancy loss is considered one of the main causes of reproductive inefficiency in the beef cattle industry, estimated to cost more than \$1 billion (U.S. dollars) every year.

Embryonic mortality occurring either early (before 28 days of gestation) or late (after day 30) is usually associated with maternal driven factors such as nutritional deficiency, handling stress, genetic alterations, reproductive diseases/infections and inadequate hormonal levels. However, recent studies conducted by Pohler's lab at Texas A&M University reported bulls also have a significant contribution to pregnancy losses during the embryonic development.

To investigate sire contribution to pregnancy loss at different periods of embryonic development, a study (Table 1) was conducted where Angus cows and heifers were artificially inseminated (AI) with eight different Angus sires. Pregnancy rates and embryonic mortality at different periods of gestation were compared between those bulls.

Pregnancy diagnosis performed at days, 24, 31 and 60 post-AI, and sires were classified based on pregnancy loss during these periods. According to this study, even when bulls are selected for AI (or natural service) and pass all

standard semen evaluation, there is still considerable variance in pregnancy loss, with some bulls having high pregnancy records but a greater incidence of embryonic mortality.

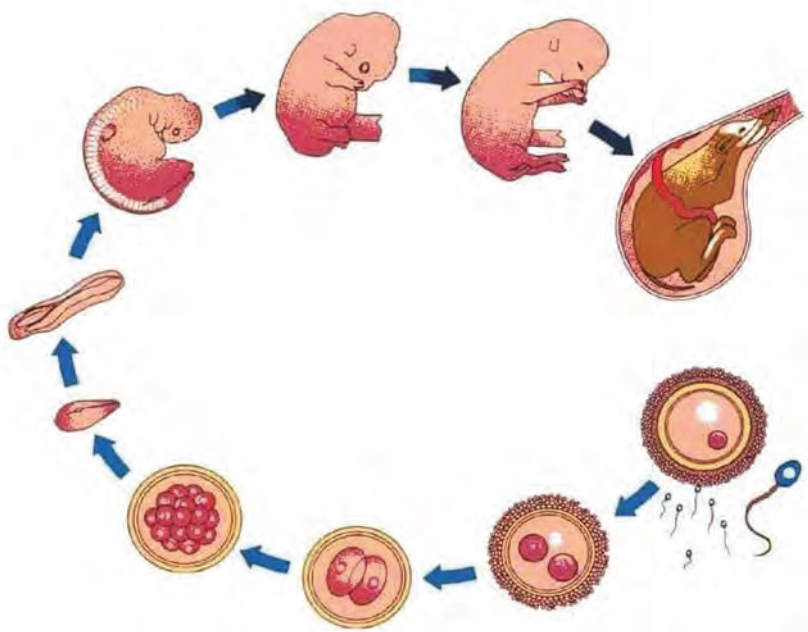
Therefore, using sire fertility records based on a single pregnancy check may result in an inaccurate assessment for bull selection in order to improve reproductive performance.

After sperm deposition in the female reproductive tract by either natural service or AI, the sperm will have to undergo a process of capacitation and hyperactivation until it reaches the oviduct, where it will be ready to fertilize the oocyte (egg). Fertilization rates in beef cattle ranges from 60-

100% with averages typically less than 90%. The failures in this process of fertilization seem to be influenced by the competence and quality of the oocyte and the concentrations of estradiol production by the cow rather than semen inefficiency when high-quality semen is used. However, after fertilization, many changes must occur to the embryo and uterine environment in order to establish a viable pregnancy. Some studies have indicated the majority of embryonic mortality occurs between days 14 to 18 of gestation (period of maternal recognition of pregnancy). Yet advancement of more precise early pregnancy markers indicates a considerable amount of pregnancy loss (approximately 16%) occurs



Photo: RC Malherbe



between days 20 and 30 of gestation (during embryo implantation and placenta formation) and can be highly influenced by the genetics of the bull.

Both the male and female genetic material are necessary for proper embryonic development to term, however, as paternal genome plays a different role in conceptus formation.

With the intention to investigate how the male influences pregnancy losses in beef cattle, Pohler's group generated parthenogenetic embryos (embryos produced in the laboratory containing

maternal genome only) and transferred these embryos into recipient cows. In this study, they observed that only 12 out of 36 (33.3%) parthenogenetic embryos were able to survive between day 26 and 40 of gestation. However, no embryonic heartbeat was ever detected and the size of the pregnant uterus, as well as amount of fluid, appeared to be smaller than in a normal pregnancy on the same developmental day.

When they collected conceptus tissue from pregnant recipient cows and compared parthenogenetic and

normal embryos, they observed parthenogenetic embryos resulted in smaller embryo size, with a free-floating embryo in the uterus and no site of implantation and/or embryo attachment. The results from this study indicates the lack of male genetics impaired proper embryonic attachment to the uterus and placenta development.

Embryonic mortality in cattle remains a significant economic burden for the beef cattle industry.

The mechanism that regulates embryonic development and pregnancy success is complex and involves both the male and female genetics. In addition, the development of markers to identify sires with high or low probability of pregnancy loss may improve sire fertility and increase beef efficiency.

Table 1: Sire classification based on pregnancy loss during different periods of embryonic and fetal development in Angus cows inseminated to one of eight Angus sires (adapted from Franco *et al.*, 2021)

Sire	Early embryonic mortality (EEM, %)	EEM classification	Late embryonic mortality (LEM, %)	LEM classification
1	3.7	Low EEM	5.1	Low EEM
2	20.0	High EEM	3.4	Low EEM
3	11.1	High EEM	9.9	High EEM
4	11.7	High EEM	2.5	Low EEM
5	10.5	High EEM	3.3	Low EEM
6	57.0	Low EEM	12.6	High EEM
7	2.8	Low EEM	2.3	Low EEM
8	3.0	Low EEM	11.0	High EEM

For the first interval of pregnancy loss (between days 24 and 31 of gestation) sires were classified as either high or low early embryonic mortality (EEM), while for the second interval (between days 31 and 60 of gestation) sires were classified as either high or low embryonic/early fetal mortality (LEM).

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REPRODUCTIVE FRONTIER

Cliff Lamb, Texas A&M University – Angus Journal  February 2023

Use of cryopreservation to store and ship our cattle genetics.

The advent of cryopreservation (process of cooling and storing cells, tissues or organs at very low or freezing temperatures to save them for future use) allows cattle producers to store semen, embryos and other genetic material for later use or shipment worldwide.

A minority of livestock producers realize the effects this technology has on global production of livestock. Not only has the technology simplifies artificial insemination (AI) and embryo transfer (ET) management, granting more flexibility, but it has also allowed easy transport of cells globally with limited harm to the genetic material.

Consider the effects on humans, where gametes or embryo cryopreservation have brought fertility to a new level by providing patients with terminal disease like cancer the possibility of having children after aggressive treatment.

Still, like other reproductive technologies, cryopreservation far from mimics physiological conditions, and therefor can result in lower pregnancy rates or greater pregnancy losses. In cattle, pregnancy rates from ET tend to be 10-15% lower when frozen rather than when fresh embryos are utilized.

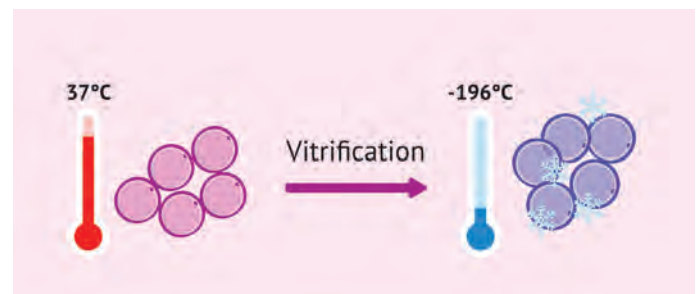
There is considerable variability between gametes (the male and female cells that unite to create an embryo) and embryos of different species in terms of membrane characteristics and lipid content, which has resulted in varying success among species and often within species. This may partially explain why semen from some bulls does not handle freezing as well as other bulls.

The process

Cryopreservation can be performed in two ways: slow freezing and vitrification. In both strategies, cells are treated with cryoprotective agents, such as glycerol, ethylene glycerol or dimethyl sulfoxide (SMSO).

When slow freezing is utilized, the cooling rate is about one degree Celsius (C) per minute, it is achieved with rate-controlled freezers. While commonly used and yielding acceptable pregnancy rates, this process takes about three

hours to be completed, demands a higher sample volume, may be accompanied by ice crystal formation and can cause mechanical damage to the cells.



The vitrification procedure was developed later as an alternative to the standard slow freezing. Vitrification is an ultrarapid cooling technique that requires a high concentration of cryoprotectants and utilizes liquid nitrogen to reach a cooling rate between 15,000 and 30,000 degrees C per minute. With this technique, an ice-free solidification of water-based solution will occur at subzero temperatures due to the elevation in viscosity (contribution of cryoprotectants). Therefore, there is no formation of ice crystals, since water is transformed into a glassy vitrified stage. The process takes less than 10 minutes and generates less mechanical damage to the cells when compared to the slow-freezing process. However, the high amount of cryoprotectants may still be toxic to the cell, and efforts must be directed to develop a vitrification protocol that increases the speed of temperature change while keeping a low concentration of cryoprotectants.

For embryo cryopreservation in cattle, ethylene glycol currently appears superior to the other cryoprotectants. Research has shown enhanced post-warming survival rates when lipogenesis formation of lipids) was inhibited by adding conjugated linoleic acids or lipolysis agents to the cryopreservation media. Embryo survival after cryopreservation is a multifactorial process, mainly influenced by lipid content and composition. Recent advances in vitrification might have partially mitigated some of these issues, but not all of them and not in all species.

Cryopreservation of oocytes is more challenging compared to embryos for a few reasons: 1) oocytes have a greater cellular volume, making them more susceptible to forming ice crystals; 2) oocytes have an inferior membrane elasticity, so they can be easily injured during freezing; 3) cryoprotectants can increase cytosolic calcium concentration during either vitrification or warming procedures.

The increase calcium in the cell cytoplasm induces the hardening of the zona pellucida, a similar process to avoid polyspermy and prevent the penetration of sperm and further fertilization.

Cytosolic lipids are also limiting factors to the cryopreservation, even though they are important for oocytes maturation and development. Cattle oocytes have better freeze-ability among all species and more likely to develop into blastocysts after *in-vitro* fertilization (IVF).

Advancements

Improvements in bovine cryopreservation have been made over the years, providing even better results, such as using polymers as cryoprotectants to lessen toxicity, using Cryotop® (a method of vitrification) or chemicals, such as conjugated linoleic acid, to decrease injury to the cytoskeleton.

Cleavage rates are usually lower than immediate/fresh oocytes survival rates, but they range between 50-60%, which is highly acceptable.

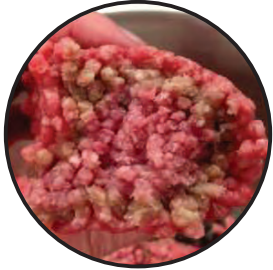
Sperm cryopreservation is what we largely use for freezing and distributing semen. It is a procedure that is successful because of the large quantities of sperm per unit (15 to 20 million cells for conventional semen and 2 to 6 million cells for sex-sorted units). Cattle sperm are less sensitive to lower temperatures compared to porcine, ovine and horse sperm; allowing cattle producers the opportunity to collect, store and distribute semen with more success than the other species.

While research continues to advance and improve success of cryopreservation techniques for gametes, embryos and sperm, studies are still required to overcome particular issues within multiple species. These issues tend to be associated with lipid content of cells, the election of less toxic cryoprotectants and genetic differences between semen from bulls that may have excellent freezing outcomes compared to bulls with poor freezing outcomes.

Cryopreservation plays a significant role in our ability to enhance reproductive technologies and distribute genetics around the world, and methods continue to improve daily.



Ground beef can be many **COLOURS** for many reasons



Oxygen

Protein in meat (myoglobin) interacts with oxygen and changes its color. Beef without oxygen is purplish-red and with oxygen its bright red.

Oxidation

The iron in meat can oxidize and change the color from red to brownish. The reaction can be reversible but not always.

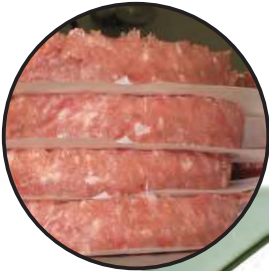


Packaging

The way meat is packaged, even the stickers on the package can change its access to oxygen and its color.

Lean Percentage

Ground beef with more lean will appear darker and ground beef with more fat will appear lighter in color.



Animal Age

Beef from younger cattle is lighter in color than that from older cattle. Animals have more myoglobin as they get older.



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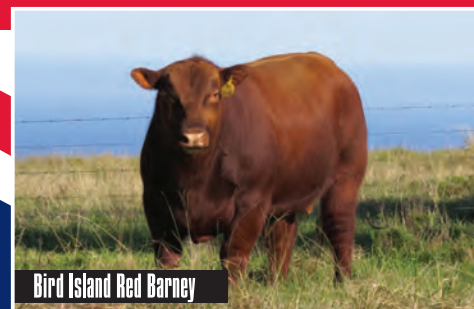


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The Role of Reproduction in a Sustainable Beef Industry

Cliff Lamb, Texas A&M University – Angus Journal  August 2024

Today, it is hard to not be a part of a discussion associated with sustainability of our food systems. Beef cattle production frequently is a target among individuals who would prefer to blame the current state of climate change on methane emissions of the livestock industry.

In reality, the total effect on all emissions related to beef cattle production has been reported to lie somewhere between 1.5 and 3.7% of all greenhouse gas (GHG) emissions.

I frequently indicated to producer groups the beef industry may not have created issues associated with climate change, but they can be a big part of the solution.

Few entities that blame the cattle industry for contributing to GHG emissions acknowledge they are not only a source of food, but also provide fiber for clothing, contribute to soil fertility enhancement, offer ecological benefits (pest and weed control), and convert non-edible, low-quality roughages on non-arable lands into human-edible foods, which is critical to feeding a growing population.

Proven improvement

We should all be proud of what the beef industry has done to improve efficiency of production in recent years. In fact, research has demonstrated the industry has improved sustainability by 5% through the past six years.

Some examples reported by the National Cattlemen's Beef Association (USA) are: 1) 10% decrease in emissions to water; 2) 7% decrease in emissions to soil; 3) 2%

decrease in GHG emissions; 4) 2% in energy use; and, among others 5) decrease in resource consumption.

Today we produce significantly more beef with significantly fewer cattle and more efficient than ever. Some of the efficiencies have come about with the introduction of precision farming and ranching techniques, improved health, genetics and nutrition, or the use of improved science and technology practices to alter food supply chain delivery and packaging.

However, when we broadly discuss sustainability in the industry, we seldom talk about how reproduction fits into the sustainability picture.

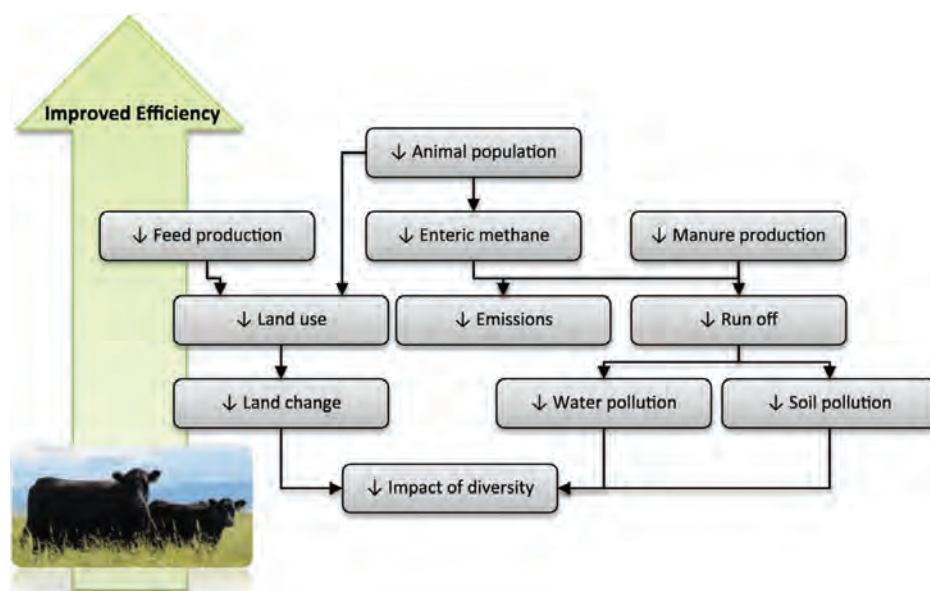
The U.S. dairy industry is a tremendous case study on the impact of reproductive technologies, especially artificial insemination (AI) and embryo transfer (ET).

One study revealed the carbon footprint of the 2007 U.S. dairy cattle industry was only 37% of the carbon footprint of the 1944 U.S. dairy cattle

industry. Per liter of milk produced, the 2007 U.S. dairy cattle industry used only 10% of the land, 21% of animals, 23% of feedstuffs and 35% of the water of the 1944 industry. Much of this improvement has been attributed to development and introduction of AI and ET to effectively alter genetic improvement and efficiency for milk production.

Another report compared the 2017 and 2007 U.S. dairy cattle industries. Results demonstrated that per unit of milk produced, the 2007 industry used only 79.2% of the land, 74.8% of animals, 82.7% of feedstuffs and 69.5% of water. Outputs per unit of milk produced were only 79.4% of manure and 80.9% of methane.

Similarly in beef cattle when comparing the U.S. beef industry between 1977 and 2007, total cattle population required to produce on billion kilograms (kg) of beef in 2007 was reduced by 31% compared to 1977. Total land area (pasture/rangeland and cropland) required to support beef production



was reduced by 30%. Water use was reduced by 14% between 1977 and 2007.

Compared to the 1977 beef industry, fossil fuel energy for beef production was reduced by 9% in 2007. The total carbon footprint was reduced by 18% in 2007 compared to 1977.

Role of reproductive technologies

During this period of time, the increased use of reproductive technologies played a significant role in the improvement of efficiency. Simple management procedures like establishing a defined breeding season, castration of male calves or breeding soundness examinations for herd sire's enhanced efficiencies.

The introduction of more applied reproductive technologies such as AI, fixed-time AI, ET and *in vitro* fertilization reproductive technologies have enhanced the ability to effectively introduce greater-quality genetics, stimulate cyclicity in non-cycling cows, improve pregnancy rates and reduce breeding season length.

All aid in decreasing the footprint of our livestock industry while providing a high-quality protein source to feed the world.

The use of sexed semen is a technology that has significantly changed the dairy industry and also had an effect on the beef industry. By performing AI with sexed semen cells, it is possible to pre-determine the sex of a newborn calf with an accuracy of approximately 90-95%. The application of sexed semen to produce beef on dairy (BxD) cattle has significantly altered the industry. In a dairy, male calves typically have low value. In the BxD approach, the highest-producing dairy females in a herd undergo AI with "female" semen from a dairy breed bull to generate calves that will enter the breeding herd. The remaining females in the milking herd undergo AI using male sexed semen or conventional semen from a beef bull.

This breeding approach allows the best milking females to produce daughters with high genetic potential for milk production and the average or below

average females to produce sons with higher genetic potential for meat production. Beef cattle producers are also adopting the use of sexed semen for the desired sex of calves either to enter the beef supply chain or feedstock use.

Genome-editing will significantly alter the beef industry in the future. Cattle have already been produced with polled gene (not an issue for Angus) which eliminates the need to remove horns from cattle, the myostatin gene for increased muscling and the SLICK gene for increased tolerances.

Breeding Angus cattle with the SLICK gene may have significant effect on the adoption of Angus breeds in tropical and subtropical environments. Introduction of technologies like this may increase positive implications on sustainability with the opportunity for Angus cattle with the SLICK-gene to have greater ability to regulate body temperature compared to animals that are not gene-edited. This may lead to superior growth characteristics and product yield as a result of mitigating the effects of chronic heat stress.



Photo: Johannes Botha



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Die bekende radio-omroeper, Fanus Rautenbach het by 'n geleentheid in die Paarl verwys na "'n ware mooi storie" voordat hy dit vertel het.

Die volgende is vir hierdie skrywer só 'n "ware mooi storie".

Die jong buurman Rudi kom by geleentheid by oom Piet en vra:

"Oom Piet, ons is direkte bure. Ons het dieselfde omstandighede en gebruik dieselfde voer. Hoe is dit dat oom so 'n groot sukses maak van die boerdery, maar ek kom nie reg nie?"

Oom Piet druk sy hand in sy sak en bring 'n dosie vuurhoutjies te voorskyn.

"Rudi, neem nou hierdie boksie 'mê'tjies' en skud dit elke melktyd by elke koei se oor."

"Dink oom Piet dit sal werk?"

"Wel, jy kan maar net probeer", is oom Piet se antwoord.

Nadat tyd verloop het is die twee bure weer bymekaar.

"Rudi, hoe gaan dit met die melkery?" vra oom Piet.

"Nee oom, ek kan dit nie glo nie; dit gaan nou voor die wind! Die koeie produseer baie beter. Maar oom moet nou verduidelik wat die 'mê'tjies' met die produksie te doen het?"

"Rudi, ek wou net hê dat jy elke melktyd by jou melkery moet wees en elke koei moet sien. My oupa het geglo 'n boer se teenwoordigheid by sy boerdery is meer werd as twee werkers se werk!"

Basie Bezuidenhout (die bron van die storie is onbekend aan die skrywer)



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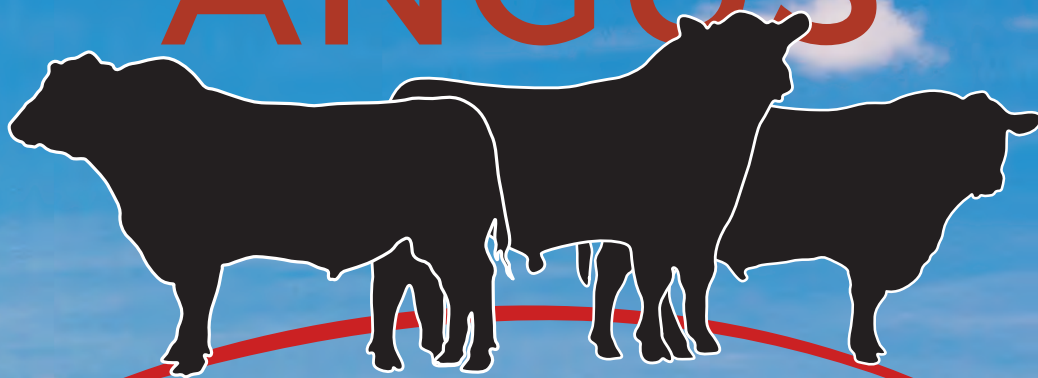
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More than Steak and Potatoes

Resonating with today's beef consumer takes more than taste.

By Morgan Boeker, Certified Angus Beef – **Angus Journal**  March 2023

Danette Amstein spoke to Angus breeders about people consuming their products at the 2022 National Angus Convention in Salt Lake City, Utah – USA.

Yesterday's steak and baked potato is today's beef brisket from the restaurant downtown.

The food scene is changing, driven by a new age of consumers who want more. They seek new flavors and attributes on the packaging, but still expect beef to taste great.

“We can do all the things in the world,” said Danette Amstein, principal at Midan Marketing and sixth-generation rancher. “But ultimately if it's not going in their cart or it's not on their order at the restaurant, then it doesn't really matter.”

Consumers today think about food differently. They don't know how livestock are raised, so they're concerned about animal welfare, what the animal eats, the environment and so on, Amstein said.

“Our consumer has changed significantly over the years, and some of them don't even think about steak when they think about beef” she said.

The great thing about our product is its ability to be utilized across the entire carcass to meet these new expectations.

Today's consumer

Midan Marketing serves as a conduit for sharing with cattlemen what consumers are seeking.

Diving into different categories of consumers, they want more than just meat and potatoes, and that changes across categories and generations.

Consumers can be split into five categories, but the COVID-19 pandemic influenced how and where people consume food. According to the Meat Consumer Segmentation 2.1 survey in September 2022, there were 39% convenience chasers, 20% protein progressives, 18% family-first food

lovers, 16% aging traditionalists and 8% wellness divas.

Another component of meeting consumer satisfaction are generational differences and the upcoming Generation Z, which is composed of generally anyone born after 1997.

“They're (Gen Z) adventurous eaters and they're going to try anything,” Amstein said. “If they like it, they'll stick to it. Food is social, so they're easily influenced by their friends.”

Gen Zs are also the biggest group of online shoppers and are curious about animal welfare and nutrition, too.

Each year the population becomes more multicultural, which translates to more flavors and varieties of food on the plate. That gives the beef supply chain more opportunities to capitalize on beef's versatility, Amstein said.

How do we get each segment to think about beef? “We need products that fit across all of these,” she said.

Uncontrollable factors

Major disruptions have swept through the market, brining more changes to how consumers shop based on circumstances out of their control.

The COVID-19 pandemic made consumers more comfortable cooking at home. Pre-pandemic, only 50% of people would eat meals at home; in March 2022 that number rose to 82%. From the same Meat Consumer Tracker survey, purchasing meat online went from just 14% before COVID-19 to 47% following.

There is an additional dynamic at play today, one the industry has experienced in the past: inflation. With inflation the highest it's been in 20 years, 82% of consumers are concerned with higher food prices hitting their wallets, Amstein said.

When the price of goods increases, shoppers change their purchasing habits. In the 2022 Meat Consumer Tracker survey, 56% of consumers said they will seek less expensive



protein options, 55% said they will freeze meat/chicken more often, and 40% said they'll purchase more ground beef.

With these new behaviors during high inflation, the beef industry should focus on sharing unique, less expensive cuts of beef and ways to better utilize leftovers at home, she said.

Looking back at how the industry survived the 2008 recession, Amstein said communicating value is a big deal. Sometimes it's just the sticker price, but other times it's everything else – taste, quality, how it's raised – that beef brings to the table.

Translating value at the meatcase

Communicating value is where beef brands can leverage production practices to tell consumers how their beef is raised, so they can feel good about purchasing it for their families.

Although first, our industry needs to know what quality means to those buying the product.

In the 2022 Beef Attributes Research Study, consumers ranked 28 different claims on packages for quality. The No. 1 choice was UDSA Prime, but only 52% of respondents thought it was the highest quality. It was followed by USDA Choice, which is most commonly found at a grocery store, Amstein said. Only 30% of consumers considered Angus beef high-quality.

“There is a very direct correlation here between the word ‘Angus’ and generations” she said.

Baby Boomers know the Certified Angus Beef brand story, and they think Angus means quality, but that recognition decreases with other generations. This becomes especially relevant at retail. Walking through the store, 94% of the meatcase has some form of beef branding, and it has changed how consumers think about brands, she said.

If we're to reach the adventurous Gen Z shoppers, there should be marketing messages that communicate how the versatility of beef meets that need.

In a 2021 Gallup survey, farmers and ranchers earned 57% on the trust scale.

“That's high, and we have to hold on to that by communicating what's happening on the ranch,” she said. “Because as the world gets tipsy-turvy, they want that reassurance that what we are raising for them is what we are eating. That what we are raising is good. We're not cutting corners, and we're taking good care of the animals. The best way we know to do that is to leverage brands.”

To be successful and share a stronger story, we'll all have to get out of our comfort zone to brand, label and market beef, Amstein said. “It really is all about the message.”

“We'll all have to get out of our comfort zone to brand, label and market beef”



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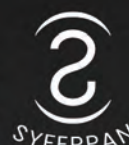
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Red Angus with Balance & Sustainability



East Cape Angus Sale on 17 July 2025

Anton en Alta Vermaak

Paarden Valley, Alexandria, 6185 | c: 082 326 8509 | e: avermaak@r63.co.za

Why are we reluctant to buy frozen meat?

The Pitfalls of Freezing and Thawing Meat

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Consumers are generally reluctant to buy frozen red meat. There are a few exceptions, such as oxtail, offal, and sometimes bulk-packed lamb meat, which are apparently marketed quite successfully to the public. Furthermore, imported meat is often frozen upon import and sold off, but this usually does not occur in retail stores; it is more common in the hotel or catering industry. Interestingly, most consumers have no hesitation in buying frozen fish, and frozen chicken (the so-called IQF – Individually Quick Frozen) is also quite popular, although the recent fraud with high water inclusion (40-50%) has affected the frozen chicken market. Vegetables and fruits that are frozen using the IQF method also take up a large portion of display spaces in chain stores nowadays. If a household has freezer capacity, these products are very convenient to include in a dish without much effort. So why the resistance to purchasing frozen red meat?

Although, to my knowledge, no official consumer survey has been conducted, I believe consumers are sceptical about the origin and quality of frozen red meat, hence the hesitation. They likely believe that defects present in fresh cuts are disguised by freezing. However, until a few years ago, there was a "butchery" in the eastern suburbs of Pretoria that only sold frozen meat in portion sizes—not in bulk. This business has since closed. The Meat Science Centre at the ARC Irene conducted a quality assessment a

few years ago of typical beef steak cuts (loin cuts) from several chain stores and butcheries in the greater Pretoria area. Cuts were purchased directly from store shelves and tested for tenderness, typical appearance, and other quality characteristics. The butchery that sold frozen meat was included in the survey. Although the quality of the cuts tested from this retailer was not particularly exceptional, it was not among the worst either (14 meat traders, 21 products). There was quite a variation in visual appearance, and some cuts were particularly dark. Hence, the question again: why are consumers sceptical about frozen red meat when it seems that its quality is not necessarily very poor?

Now we need to look at the irony of the situation. Although there is currently a trend toward buying smaller amounts of fresh meat and consuming it immediately, I am still convinced that many consumers still buy meat in bulk and freeze it at home to use as needed. So, what is the difference? Is the consumer convinced that they have purchased good-quality fresh meat and are merely preserving it for later use? Is this a correct assumption?

Extensive research has shown that there are basically three factors that affect the quality of meat when it is frozen, stored, and then thawed, and all three factors are related to time. When meat freezes, ice crystals form within

its structure. The size and shape of these crystals depend on the rate at which the meat freezes—the faster it freezes, the smaller the crystals, and the slower it freezes, the larger the crystals. Without going into too much technical detail: larger crystals will cause more damage to the structure of the meat and the functional properties of the muscle protein. As a result, meat that freezes slowly will lose much more moisture during thawing. This can lead to such cuts being not only dry but also having lost nutrients and value (weight). Secondly, the longer frozen meat is stored, the more recrystallization (formation of larger ice crystals) may occur, especially if the freezing cycles of the freezer unit vary significantly. Technically, this means that meat which has been frozen too long could also be of lower quality, even if it was frozen under correct conditions. The third factor is the rate of thawing before use. Consumers are often uninformed about the thawing of meat, and while science is not entirely unanimous on thawing times and methods, it does seem that the following holds: meat that is thawed



very quickly, for example, in a microwave, loses excessive moisture and becomes tough. The opposite is also true: if meat is thawed over a long period, the crystals that melt tend to recrystallize because the internal temperature of the meat and the surrounding temperature are not conducive to the melting of the ice crystals. The new ice crystals that form

within the meat are again larger and cause more damage. How does this principle apply in our homes? Consumers are often inclined to leave frozen cuts overnight or even for longer periods in the fridge to thaw slowly. A reliable study found that meat (preferably vacuum-packed) thaws fastest and under the best conditions in water at around 19°C—taking as little as 15-30 minutes. Water's conductivity is better than that of air, making it more effective for thawing, for example, a steak in a water bath at the mentioned temperature. If the cuts are numerous or slightly large, ensure the water is replaced if it becomes too cold or start with water at a temperature slightly higher than the aforementioned one.

Considering the mechanisms of freezing and thawing, one might ask whether it is better to freeze fresh meat oneself or to buy frozen meat and store it further. The answer is not simple, as it depends on the processes followed during freezing, whether at home or in the factory. Well-equipped meat factories that specialize in freezing will have the capacity to freeze meat cuts quickly using the so-called IQF process. These units are typically blast freezers that blow cold air well





below 0°C over the meat. Meat cuts are normally frozen in a single layer to ensure the fastest freezing rate. In other words, meat that is already packed in cartons cannot be frozen in this way. In contrast to this commercial process, consumers often buy fresh meat in bulk and pack it in multiple layers in the home freezer. Despite home freezers having the capacity to store food at -20°C, they do not have the ability to freeze large volumes of meat quickly. In fact, if large volumes of meat are frozen at once, some cuts may still be half-frozen even after a full week, and the meat will have frozen at a slow rate, causing damage. This will lead to significant drip loss during thawing, shorten eating quality, and cause product loss.

It seems, therefore, that purchasing frozen meat will not present any issues regarding quality, provided the meat is frozen correctly—and thawed correctly by the consumer. Moreover,

frozen meat may even be slightly more tender than fresh meat from the same carcass because the slight "damage" to the texture caused by freezing can promote tenderness. The advantage of commercial freezing and the trade in frozen meat from the perspective of the meat value chain is that inventory can be managed more effectively. At certain times of the year, the supply of livestock is higher than at others, and as a result, the supply of fresh meat is also higher. It would therefore make sense if the oversupply could be managed through freezing and preservation so that the supply of meat can be spread over the year or better managed during periods of increased demand.



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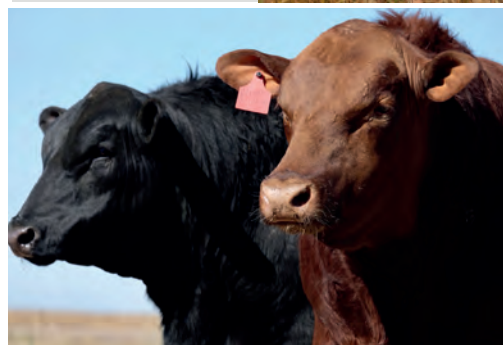
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2024



Pat Mossop Silver awards. James Kelly, RC Malherbe, Nick Pentz, Gerrit van Rooyen, Izelle van Rooyen and Philip de Waal.



Pat Mossop Gold awards. Rob Parker, Andrew Masterson, Stefan Terblanche, Chris Purdon, Johannes and Marijke Botha, JM Steyn, Kevin Miles, Willen Swart and Friedel Keyser.



Anton Vermaak - Pat Mossop Gold



Annual Prize Giving Dinner

2024



The Young breeder of the Year 2024 award were shared between Kombuisland Angus and Borderland Angus. Gerrit van Rooyen, Izelle van Rooyen and Rudi Claassen.



Club of the Year 2024 was won by North West. Rudi Claassen and Mari Roets.



Commercial Producer for 2024 was awarded to Jason Carrol from Boschendal



Personality of the Year 2024 was awarded to the late Michael Frost. Nicky Teuchert accepted the award on behalf of Frosty's family. Nicky Teuchert and Rudi Claassen.



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AUCTION & Important dates

VEILING & Belangrike datums

Date	Event	Location	Contact person	Cell:
January 8	Office opens			
March 14 -15	Hertzogville Skou		RC Malherbe	084 851 8262
May 13 - 16	NAMPO	Bothaville		
29	Angus Pioniers Veiling	Melkbosstrand	Seymour Currie	083 327 9186
June 5	Wes-en Suid-Kaap Angusklub Veiling	Moorreesburg	Hoffie van Blerk	083 455 1151
7	Maluti Veiling	Bethlehem	Andre Breytenbach	082 774 6804
19	Rheeboksplaas Veiling	Ceres	Gielie Geldenhuys	082 460 6327
21	Prestige Veiling	Moorreesburg	Jannie Kotzé	083 651 9266
25	Transgariep Veiling	Trompsburg	Martiens le Roux Ian MacLachlan	082 772 9472 082 895 8188
July 16	JOC Production Sale	Dargle	Martin Watson	071 171 7902
17	East Cape Angus Sale	Alexandria	Anton Vermaak Warwick Evans	082 326 8509 082 571 6088
17	Hide-A-Way's Veiling	Migdol	Piet Delport Hendrik Delport	082 550 7847 082 222 4269
23	Midlands Elite Angus Sale	Nottingham Road	James Kelly	071 304 5592
30	Mega Angus Veiling	Marquard	Gerrit van Rooyen	083 287 2092
August 19	Astro Angus Veiling	Hendrina	Anton Pelsaer Jnr.	072 395 0561
20	Makojalo & Friends Sale	Potchefstroom	Kobus Delport Mari Roets	083 627 8131 084 601 0263
21	Aucdeen Veiling	Molteno	Hannes Aucamp	082 772 5323
27	Angus Alliance Veiling	Kroon Boma	RC Malherbe JM Steyn Loutjie Campher	084 851 8262 072 408 5699 082 255 3037
September 2	Kroon Angus Veiling	Viljoenskroon	Johan Kahts Johannes Botha Enslin Coetzee	082 453 9817 083 272 6338 083 255 1638
3 - 6	Swartlandskou	Moorreesburg	Jannie Kotzé	083 651 9266
3	Knott Sale	Kei Road	Donald Knott	082 321 0673
4	Borderland Angus & Hereford Sale	Queenstown	James Moorcroft Scott King Brendon Muir Tracy Frost	072 343 8747 078 925 8265 064 659 5728 072 478 2363
10	VJ Sale	Cathcart	Chris Purdon	082 879 2744
16	Dunedin Sale	Dordrecht	Carl Miles	073 330 5579
18	Vrystaat Angusklub Veiling	Bloemfontein	Gavin Jankielsohn	083 265 2684
24	Malherbe & Roberts Veiling	Hertzogville	RC Malherbe	084 851 8262
October 1	Platinum Heifer Sale	North West	Danie Dames	082 306 9358
2	AGM 2025 AJV	North West		
11	Milagro Sale	Humansdorp	Andrew Masterson	082 321 1462
December 12	Office closes			

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Woensdag 14 Augustus

Nuus uit die Wes-Kaap



Die Wes- en Suid-Kaap Angus Klub het 'n baie suksesvolle Inligtingdag en junior beoordelingskursus aangebied op 14 en 15 Augustus 2024 te Malmesbury.

Hipra, Kaap Agri en Molatek het die klub ondersteun met borgskappe. Baie dankie borge – ons kan dit nie sonder julle doen nie!

Martiens le Roux was die aanbieder en is ondersteun deur Andrew Masterson en Jaco Smit.

Oudergewoonte het die kursus met teoretiese-opleiding begin en is afgesluit met 'n mondelinge- eksamen. Philip de Waal het die diere voorsien wat prakties evalueer moes word deur kanidate om sodoende die kursus te

kan slaag. Uit die 33 aspirant beoordelaars was daar drie suksesvolle kanidate. Hartlik geluk aan Theuns Bruwer, Josh Pentz en Stefan Terblanche!

Ons hartlike dank aan almal wat deelgeneem en bygedra tot die sukses van die twee dae.

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NICO & NATASHA STEYN



2024

Angus National Championship Show Results



1 & 2 May 2024





Red Angus National Championship Show Results 2024

Red Champion Heifer Calf:

Milagro MS MUL 2336 ACM23-36. Andrew Masterson Family Trust



Loumotta Trophy. Andrew Masterson and PJ Budler. MILAGRO Red Champion heifer.

Milagro Ms Mul ACM23-36. Andrew Masterson Family Trust – Milagro, Humansdorp.
Handler Rassie Hoyi. 325

Red Champion Bull Calf:

Milagro VICAR2280 ACM22-80. Andrew Masterson Family Trust



Theo Smit Trophy. Andrew Masterson and PJ Budler. MILAGRO. Red Champion bull calf.

Milagro Vicar ACM22- 80. Andrew Masterson Family Trust – Milagro, Humansdorp.
Handler Rassie Hoyi

Red Junior Champion Female:

Southern Block BLAIRMORE GAL SBF21-001. James Kelly



SBF Blairmore Gal. James Kelly – Southern Block Faming, Currie's Post.
Handler MJ Rangata.



Pioniers Trophy. James Kelly and PJ Budler.
SOUTHERN BLOCK. Red Junior Champion
Female.

Best Novice Exhibitor:

Southern Block – James Kelly.



Kobus en Louis Delpont Trophy. James Kelly and PJ Budler. SOUTHERN BLOCK. Best Novice
Exhibitor.



Red Junior Champion Bull, GRAND CHAMPION BULL and SUPREME RED ANGUS ON SHOW 2024:

Hide-A-Way's WAKEUP PHD21-38. Piet and Hendrik Delpont



Hide-A-Way's Wake up PHD21-38. Piet & Hendrick Delpont - Hide-A-Way's, Migdol.



Holvlei Trophy. Piet Delpont and PJ Budler. HIDE-A-WAY'S. Red Junior Champion bull.



Rosewick Challenge Trophy. Piet Delpont and PJ Budler. HIDE-A-WAY'S. Red Grand Champion bull.



Hide-A-Way's Trophy. PJ Budler, Dieter Schutte (BKB) and Piet Delpont. HIDE-A-WAY'S. Best Red Angus on Show for 2024.

**Red Senior Champion Female and
GRAND CHAMPION FEMALE:**
RedRubie Red Ruby RA16-05. Ruben Redelinghuys



RedRubie Red Ruby RA16-05. Ruben Redelinghuys - RedRubie, Heidelberg



Gert Malherbe Trophy. Ruben Redelinghuys and PJ Budler. RED RUBY. Red Senior Champion Female.



Kynoch Trophy. Ruben Redelinghuys and PJ Budler. RED RUBY. Red Grand Champion Female.

Red Senior Champion Bull:
ZEC PACESETTER ZEC18-25. Enslin Coetzee



ZEC Pacesetter ZEC18-25. Dr Enslin Coetzee - ZEC, Bothaville.
Handler Aaron Maishoane 308



VJ Trophy. Enslin Coetzee and PJ Budler. ZEC. Red Senior Champion bull.

Most Points Red Angus: Roechama. RC Malherbe & Vennote.



Rathmines Challenge Trophy. RC Malherbe and PJ Budler. ROECHAMA. Most points Red Angus.

Red Angus Sire Progeny group:
Roechama. RC Malherbe & Vennote.



Mequaltling Trophy. RC Malherbe and PJ Budler. ROECHAMA. Red Angus Sire Progeny group.

Red Phase D Performance Test bull:
Roechama. RC Malherbe & Vennote.



OVK Trophy. RC Malherbe and PJ Budler. ROECHAMA Red Phase D Performance test bull.





Black Angus National Championship Show Results 2024

Black Champion Heifer Calf:

Locheim MISS RAINFALL WDW23-08. Philip de Waal.



Locheim Miss Rainfall WDW23-08. Philip de Waal - Locheim, Moorreesburg.
Handler Neil Daniels.



Milagro Trophy. Philip de Waal and PJ
Budler. LOCHEIM. Black Champion
Heifer.

Black Champion Bull Calf:

Locheim RAINFALL WDW23-12. Philip de Waal.



Locheim Rainfall WDW23-12. Philip de Waal – Locheim, Moorreesburg.
Handler Robert Fortuin.



Dunedin Trophy. Philip de Waal and PJ
Budler. LOCHEIM. Black Champion bull
calf.



Black Junior Champion Female, GRAND CHAMPION FEMALE and SUPREME BLACK ANGUS ON SHOW 2024:

Milagro MS MUL 21113 ACM21-113. Andrew Masterson Family Trust.



Wayne Southwood



De Panne Trophy. Andrew Masterson and PJ Budler. MILAGRO. Black Junior Champion Female.

Milagro Ms Mul ACM21-113. Andrew Masterson Family Trust - Milagro, Humansdorp.
Handler Anele Baneti.



Jurie Geldenhuys Trophy. Andrew Masterson and PJ Budler. MILAGRO. Black Grand Champion Female.



Greig Challenge Trophy. PJ Budler, Andrew and Colette Masterson and Dieter Schutte (BKB). MILAGRO. Best Black Angus on Show 2024.



Interbreed GOLD CUP winner
at the 2024 Bloem Show:

Milagro MS MUL 21113 ACM21-113.

Black Junior Champion Bull and GRAND CHAMPION BULL:
Locheim DIAMANT WDW21-15. Philip de Waal.



Locheim Diamant WDW21-15. Philip de Waal – Locheim, Moorreesburg.
Handler Abram Diedericks.



Joyce's Trophy. Philip de Waal and PJ Budler. LOCHEIM. Black Junior Champion bull



Willem Barnard Memorial Trophy. Philip de Waal and PJ Budler. LOCHEIM. Black Grand Champion bull.

Black Senior Champion Female:
Milagro Black Pride 2039 ACM20-39. Andrew Masterson Family Trust.



Milagro Pride ACM14-47. Andrew Masterson Family Trust - Milagro, Humansdorp.
Handler Rassie Hoyi.



Black Senior Champion Bull:

Borderland ALEXANDER BL19-05. Borderland Cattle Company - Izelle van Rooyen.



Borderland Alexander BL19-05. Izelle van Rooyen – Borderland, Marquard.
Handler Mojalifa Falla.



Dunedin Trophy. Izelle van Rooyen and PJ Budler. BORDERLAND. Black Senior Champion bull.

Most Points Black Angus:

Milagro – Andrew Masterson Family Trust.



AE & CI Trophy. Andrew Masterson and PJ Budler. MILAGRO. Most points Black Angus.

Black Angus Sire Progeny group:

Locheim – Philip de Waal.



FNB Trophy. Philip de Waal and PJ Budler. LOCHEIM. Black Angus Sire Progeny group.

Black Phase D Performance Test Bull:

Fredericksburg – Stephan Terblanche.



OVK Trophy. Stephan Terblanche and PJ Budler. FREDERICKSBURG. Black Phase C Performance Test Bull.

Most Points Combined Red and Black:

Milagro – Andrew Masterson Family Trust.



Andrew Masterson Trophy. Andrew Masterson and PJ Budler. MILAGRO. Most points combined Red and Black.

Breeder of Champions:

Red Angus: Milagro – Andrew Masterson Family Trust

Black Angus: Locheim – Philip de Waal



Philip de Waal, LOCHEIM. Breeder of Champions Black 2024 and Andrew Masterson, MILAGRO. Breeder of Champions Red 2024.





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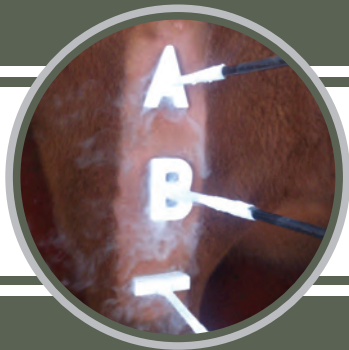


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- 2022/23 = 357 dae
- 2021/22 = 357 dae
- 2020/21 = 355 dae
- 2019/20 = 355 dae
- 2018/19 = 358 dae
- 2017/18 = 363 dae
- 2016/17 = 371 dae
- 2015/16 = 368 dae



André Breytenbach: 082 774 6804

E: andre@maluti-angus.co.za | Bethlehem

In Remembrance



**Petrus Arnoldus Louwrens
(Oom Piet Louwrens)
(05.01.1940 – 17.04.2024)**

Piet Louwrens, born in Kokstad on January 5, 1940, lived on the family farm, Kromdraai, for all 84 years of his life. A true steward of the land, Piet always saw himself as a caretaker, working tirelessly to improve the farm for future generations. In his semi-retirement, he handed the farm to his sons, Peter and David, taking pride in their continued success.

Though he never fully retired, Piet's passion for cattle farming remained unwavering. He started with Herefords in 1952, and later, in 1996, acquired the Foleshill Black Angus stud for his sons. He remained deeply involved, managing the Angus herd for David and overseeing the crops.

A respected figure in the cattle world, Piet served on the SA Hereford committee and judged the Hereford herd competition in 1995. His dedication to farming was matched only by his love for his family. Piet and his wife Anne had three children: Peter (married to Lauren, with two children, Alexis and Peter), Caroline (married to Brynn Bayman, with two sons, Daniel and Jethro), and David (married to Janine Maartens, with twins Adrian and McKenna).

Piet cherished watching his family grow, with a special love for his grandchildren, and enjoyed sharing his passions for farming, fishing, birding, and the outdoors. His life was richly rewarded with family time, including a memorable Easter holiday with loved ones from England, and a recent road trip with Anne to celebrate a wedding.

Piet passed away peacefully after contracting pneumonia and Covid in April 2024, feeling fulfilled and at peace with a life well lived.

The Louwrens Family



A tribute to Michael Frost

Affectionately known as Frosty. A true lover of Angus cattle.

Frosty started his life on the 22nd of April 1975 on the farm Rocklands nestled alongside the Swart Kei river in the Eastern Cape.

After being expropriated Frosty's parents, Richard and Irene Frost, moved the family to Hopevale in the Winterberg area near the town Tarkastad. Despite this, Richard being a true stockman, continued with his love for cattle as he very successfully crossed two timeless favorites together. The Black Angus and Hereford. This is where Frosty's love for cattle breeding began.

After completing his tertiary education Frosty went to the USA and worked on the world renowned Leachman Cattle Company ranch, then situated near Billings Montana. Here he gained a tremendous amount of hands-on experience working with Angus cattle and their bloodlines.

It was on the plains of Montana that the cowboy way of life took to Frosty. He came home with ropes, bridles, Stetsons and most importantly the dream of breeding his own stud Angus cattle.

Frosty was a devoted husband to Tracy and a loving father to his three children, Hayley, Emily and Nathan.

Frosty build up a great foundation herd where he first sold bulls locally and this eventually led him to holding a successful production sale of some top Angus genetics.

Unfortunately, Frosty passed away on the 6th of May 2024. This is a great loss to the Angus cattle breed and his family.

Frosty lived his life to embrace what he loved so much in the Angus breed, full of purpose and vigor. The smile under his wide brimmed hat will be remembered by everyone who knew him.

Wild Bill Hickock once said: "It's not the years in your life that count, but the life in your years."

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By Gary Birch



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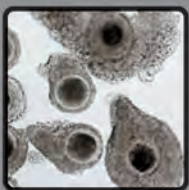
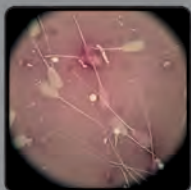
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ANDREW MASTERSON FAMILY TRUST

Contact: Andrew Masterson
Stoetnaam|Stud Name: **MILAGRO**
P.O. Box 117, HUMANSDORP, 6300
Cell: 082 321 1462
andrew@milagro.co.za

ANNELINE PARKER TRUST

Contact: Rob Parker
Stoetnaam|Stud name:

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ANGUS

WES- & SUID-KAAP



Veilingsdatum:

5 Junie 2025 Moorreesburg

Rooi en Swart stoet en kommersiële aanbieding

Navrae:

Hoffie van Blerk: 083 455 1151

Jaco Smit: 082 877 0549



ANGUS ALLIANCE



VEILINGDATUM:
16^{de} Produksieveiling, 27 Augustus 2025
te Kroon Boma

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30 Bulle • 30 Stoet Vroulik • 50 Kommersiële verse

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