MYFARM

Volume 7
SEP 2023

TRIUMPH AND PRIDE

AT THE 2023 HURWITZ BORAN AUCTION

Veld Types of South Africa

The transition from winter to spring feeding.

The Impact of Heat Stress on Dairy Cow Fertility

Cultivating Resilience

Photo credit: Hurwitz Farming

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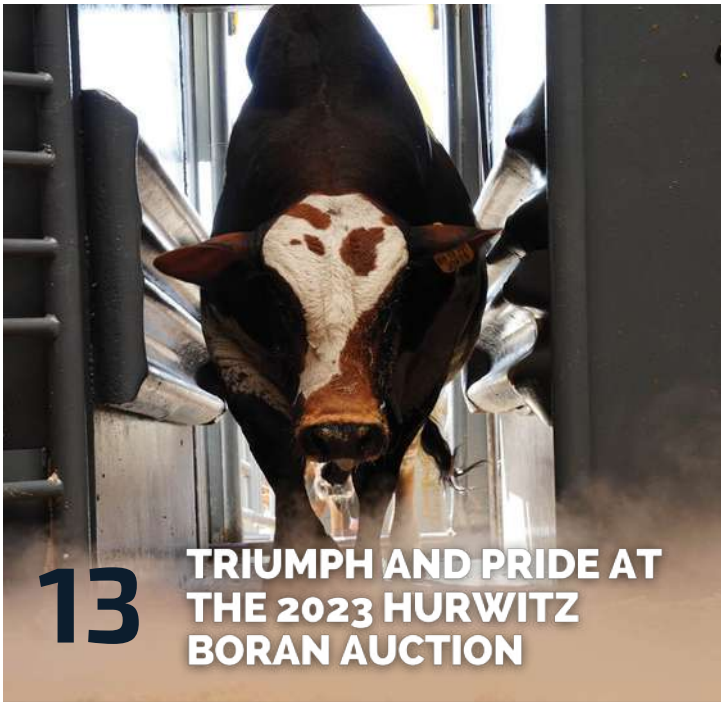

FOREWORD

It is with great pleasure and a deep sense of gratitude that we welcome you to the latest edition of MyFarm, the online magazine that celebrates the spirit of South African agriculture. As we gather here and look back on the journey we have embarked upon, it is impossible not to acknowledge the remarkable journey our nation has undertaken, as well as the essential role our farmers have played in shaping its course.

The abundant rain that has blessed our land earlier in the year bears witness to nature's generosity and reminds us of the delicate balance that supports our agricultural heritage. The gift of rain was a lifeline for our lands and crops, breathing life into the soil and giving rise to the promise of a bountiful harvest. We, the fortunate custodians of this land, have seen firsthand the wondrous transformation that abundant water can bring. It reminds us that even in the face of uncertainty, the heartbeat of our nation's farmers remains unwavering.

These are times of uncertainty for our beloved country. Yet, amidst the challenges, there stands an indomitable certainty: South African farmers possess an unparalleled ability to navigate the unpredictable currents of change: the unwavering determination of our farmers to plan, adapt, and thrive. Their resilience and innovation serve as a beacon of hope, not just for our country, but for the world as a whole.

As this year races towards its end, let us pause to express our deep gratitude. Gratitude for the support that surrounds us, for the opportunities bestowed upon us, and for the privilege to serve and be part of the vibrant community that is South African agriculture. It is in the fields, markets, and conversations among kindred spirits that the true essence of our industry shines.

We are incredibly proud of the progress we have made and the impact we have had on the agricultural landscape. But pride is not our destination; it is a milestone on the road to progress.

In the years to come, we commit ourselves to remaining at the forefront of change, driving innovation, and leading by example. We understand that change is the currency of growth, and we eagerly embrace the responsibility to be the catalyst our industry needs. With each season, with each new challenge, we will continue to evolve, adapt, and redefine what it means to be part of the agricultural community.

Thank you for being part of this journey. Our followers fuel our passion and strengthen our purpose. Here's to the future, to farmers, and to the indomitable spirit of South African agriculture.

With gratitude and hope,

Tinus Havinga
DIRECTOR OF FARMSPACE


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CULTIVATING RESILIENCE

Navigating Seasons, Economics and Beyond in South African Farming

By: Elna de Lange
BSc(Agric) Animal Science

In the heart of South Africa's fertile landscapes, a timeless tale of resilience unfolds—a story of farmers who weather the ever-changing seasons with unwavering determination. Just as the land transitions seamlessly from one season to the next, so do the challenges faced by these resilient stewards of the earth. In this article, we embark on a journey through the diverse seasons of South African farming, exploring the challenges that test their mettle and the remarkable skills of resilience that they harness to not only survive but thrive. The purpose of this article is to shed light on the interplay of resilience and farming within the context of South Africa's challenges and triumphs. It is a journey that transcends the boundaries of agriculture, offering insights and inspiration to individuals and communities navigating their own seasons of change. Resilience is a multi-faceted gem, its brilliance revealed in the face of adversity. It is the farmer's ability to stand tall when the winds of change blow, to bend without breaking when the storms of uncertainty rage. Resilience encompasses a spectrum of skills honed over time—adaptability, resourcefulness, innovation, collaboration, and a deep-rooted connection to the land.

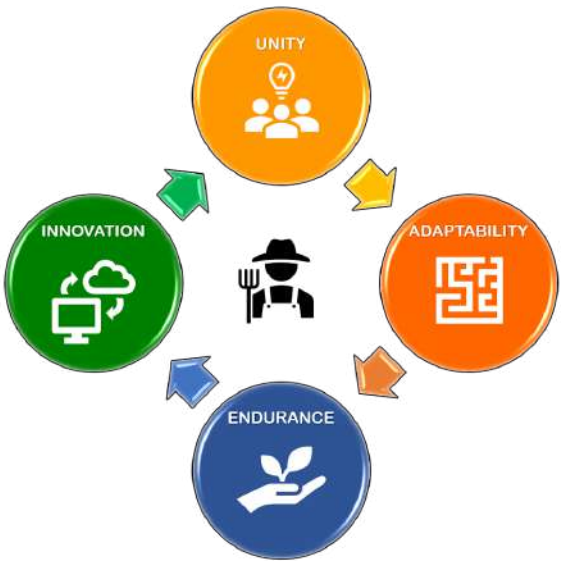
"It is not the strongest of species that survive, nor the most intelligent, but the one most responsive to change"

- Charles Darwin

Summer
The Warm Embrace of Unity

As the summer sun bathes the land in a golden glow, South African farmers come together in a unified chorus, a testament to the power of collaboration. In a world where challenges often seem insurmountable, the ability to unite and share resources becomes a skill of paramount importance. It is in the summer of South African farming that the seeds of unity are sown, transcending differences and fostering a sense of collective purpose.

One of the most pressing challenges faced by South African farmers is the recurring energy crisis. The challenge of power outages looms large, casting shadows over fields that rely on irrigation and technology to thrive. However, the response to this challenge exemplifies the skill of unity, as farmers pool their resources and expertise to develop innovative solutions. They harness the power of community, supporting each other through the darkest of hours.



Autumn
The Harvest of Adaptability

Autumn arrives with a kaleidoscope of colours, a reminder that change is an integral part of life. In the realm of South African farming, this season mirrors the ever-present need for adaptability. The challenge of expanding exports beckons like a distant horizon, inviting farmers to step beyond familiar borders and embrace new markets. It is here that the skill of adaptability takes centre stage, as farmers adjust their strategies to navigate complex global landscapes.

The quest for export expansion requires South African farmers to blend tradition with innovation, tapping into their deep reservoirs of knowledge while embracing cutting-edge technologies. They reimagine supply chains, explore novel distribution methods, and engage in sustainable practices that resonate with international consumers. The ability to adapt becomes a beacon of hope, guiding farmers through uncharted territories.

Winter
The Silent Strength of Endurance

Winter's chill brings a quiet reflection, a time when South African farmers draw upon the skill of endurance to weather the harshest of storms. Amidst economic challenges and shifting political dynamics, the issue of land reform resurfaces, casting a spotlight on the need for equitable redistribution. Endurance becomes the farmers' silent companion, a steadfast resolve to face the complexities of change head-on.

As discussions surrounding land reform unfold, South African farmers demonstrate a unique brand of resilience—steadfast commitment to progress. With an eye on inclusivity, they collaborate with experts and policymakers to find balanced solutions that honour tradition while embracing transformation. It is through endurance that they confront uncertainty, navigating the intricate web of policies to pave the way for a more equitable future.

Spring
The Blossoming of Innovation

With the arrival of spring, the land bursts forth in a symphony of renewal, and innovation becomes the driving force behind South African farming. The challenge of addressing regulatory constraints and modernizing practices casts a spotlight on the skill of innovation. Farmers leverage technology, collaborate with experts, and advocate for change, heralding a new era of growth.

Innovation is the heartbeat of resilience, propelling South African farmers into uncharted territories. The drive to modernize regulations and embrace new practices echoes far beyond agriculture, serving as a reminder that progress is fuelled by creativity and the willingness to embrace change. South African farmers embody the spirit of innovation, inspiring others to rethink established norms and forge new paths.

The Everlasting Rhythm

The seasons of South African farming do not exist in isolation; they form an intricate tapestry of resilience, interwoven by the threads of unity, adaptability, endurance, and innovation. Just as the land transforms with each passing season, so do the skills of resilience evolve, shaping a journey that transcends time and circumstance.

In the tapestry of resilience, South African farmers offer valuable lessons for individuals and communities worldwide. Their unwavering determination to confront challenges head-on, to adapt and innovate, and to endure in the face of adversity, is a testament to the human spirit's remarkable capacity for growth and transformation.

The Legacy of Resilience

As we reflect on the changing seasons of South African farming, we are reminded that resilience is not a mere concept—it is a way of life, a guiding light that illuminates the path forward. The challenges faced by South African farmers serve as a mirror, reflecting our own struggles and triumphs in the larger tapestry of existence.

The legacy of South African farming is one of resilience—a legacy that extends far beyond the fields, inspiring us to embrace change, nurture unity, foster adaptability, and champion innovation. It is a legacy that beckons us to cultivate resilience in our own lives, to stand tall in the face of adversity, and to sow the seeds of hope that will flourish in the seasons of our own journey.

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PREPARATION OF FEMALE ANIMALS FOR AUCTIONS

By: Suné Bartman
(MSc Agric Production Physiology and Product Quality)

Auctions... a significantly large yet sometimes underrated component of the South African cattle industry. Livestock auctions are one of the most crucial marketing channels available to farmers, providing them with the opportunity to dispose of surplus animals, while giving buyers the chance to acquire a variety of animals to enhance their own herds. Beyond this, auctions also serve as a valuable way for farmers to gauge trends in the beef market at any given time.

The success of an auction is heavily influenced by the quality and appearance of the animals being presented. The better the animals look, the greater the demand to buy – naturally leading to increased sales. This cycle is the driving force behind auction preparation, where animals are conditioned to their highest quality to maximize sales.

The process of preparation differs across animals and among farmers. For instance, the approach to getting bulls ready significantly differs from that of female animals.

Since we have discussed bulls in our previous issue, this article centres on the optimal preparation of female animals for auctions. In various respects, this mirrors the process for bulls, as they share several key aspects. The physical condition, health, genetic potential, and reproductive capabilities of a cow or heifer all factor into buyers' decision-making during auctions. Consequently, these factors should be the focus of auction preparation procedures.

Female animals presented at auctions must first and foremost be strong and in good physical health, free from diseases or injuries.

Photo credit: Groenland - Diana

The medical facet of auction preparation holds paramount significance. Beyond guaranteeing the well-being of the animals, sellers are tasked with ensuring that the animals being offered have received all necessary vaccinations in accordance with the proper schedule - well in advance of the auction. Certain vaccinations, such as those for Rift Valley Fever, Foot-and-Mouth Disease, Bovine Viral Diarrhea, and Three-Day Sickness, can trigger an immune response that might result in spontaneous abortions in pregnant cows. As a result, these vaccinations should be administered within the final 30 days

Photo credit: Lisa Verwey and Groenland Boran

before breeding. However, for cows that have already given birth prior to the auction, it's advisable to delay these vaccinations until at least 30 days after calving. Additionally, it's crucial to recognize that these "live" vaccines should ideally not be administered concurrently. Thus, the timing of the auction relative to the breeding season should be considered when planning the vaccination regimen.

Parasite control, both internal and external, is also crucial for presenting animals in good condition and high performance

Liver fluke, in particular, is a concerning internal parasite that interferes with normal hormone production, potentially leading to poor weight gain and animals failing to come into heat. Moreover, infected cows often produce less milk. Hence, a robust parasite control program is an essential aspect of successful auction preparation. Testing for reproductive diseases is non-negotiable; buyers need to ensure that any animals they consider have been tested for the necessary reproductive diseases and insist on the physical test results or even the herd's history.

A good practice for sellers is to allow heifers to walk a daily two-kilometer distance at a steady pace for about three months before an auction. This allows sellers to identify and address any injuries, hoof or joint problems. Furthermore, it also ensures that the additional feed provided does not result in overfat cows. This practice is especially important for cows fed in feedlots with minimal movement, as they are more prone to "pigeon toes."

One of the largest and most controversial aspects of auction preparation is the issue of supplementary feeding. It's a fact that well-fed animals exhibit better and achieve higher auction prices than their slightly leaner, underfed counterparts. Supplementary feeding before the breeding season is critical, as cows face an energy-intensive and potentially stressful period.

A cow needs enough fat reserves to sustain herself and her growing fetus throughout the gestation period, and then she must still have enough reserves to nourish her calf and recondition herself. However, improper and excessive feeding of cows before an auction can have disastrous consequences. Overfat cows and heifers that are pregnant often produce calves that have unnecessarily grown large in utero and may also have excessive fat in the birth canal.

Such animals have an increased risk of calving difficulties, severe injuries, and stillbirths. After a difficult birth, the calves are often too weak to nurse, and the cow's or heifer's uterus will take significantly longer to recover, meaning reconditioning will take longer.

Overfeeding is potentially detrimental even for non-pregnant animals; overweight female animals often fail to come into heat and consequently don't become pregnant. This leads to lower calving percentages for the farmer and lower profits.

Cows with high body condition scores during dry and lactating periods also have a greater risk of suffering from fatty cow syndrome, a condition that causes poor reproductive performance and reduced herd fertility. Fatty cow syndrome, also known as "pregnancy toxaemia," is a phenomenon where overfat cows experience a sudden negative energy balance and increased fat breakdown during the last two months of pregnancy for some reason.

The buildup of broken-down fat can then reach such levels in the liver that the liver can no longer function properly. The animals often suffer from mastitis, ketosis, uterine inflammation, displaced abomasums, suboptimal milk production, milk fever, acidosis, and retained placentas.

What sometimes happens is that sellers overfeed their female animals before an auction to make them look good and sell easily.

These already overweight animals, whether already pregnant or shortly before pregnancy, will then build up additional conditions during pregnancy. In an attempt to achieve lighter calves at birth, farmers may sometimes put these cows on a lower-quality diet that is lower in energy, causing this syndrome.

There is a correlation between the signs of fatty cow syndrome and cows with condition scores of more than 3.5, so cows should enter the dry period with a condition score between 3.0 and 3.5, but never exceeding 4. A sudden change in diet can also potentially cause the syndrome, so well-fed cows suddenly placed in the field after being sold are also at risk of suffering from it.

How, what, and how much you feed your female animals, whether pregnant or non-pregnant, before an auction are therefore critically important and should be approached with care.

Aside from its effect on reproductive aspects, supplementary feeding in preparation for an auction can also have significant adverse effects on the rumen. When the supplementary diet is too hot - meaning high in fermentable and carbohydrate-rich energy sources - and introduced too rapidly, it inflicts considerable damage on the digestive system. This metabolic disease is called rumen acidosis. In such a case, the cow's rumen will produce excessive acids without the rumen microbial system being able to adapt systematically.

This causes irreversible damage to the lining of the rumen, responsible for nutrient absorption. Consequently, an animal will eventually exhibit decreased appetite and deteriorating condition. In severe or advanced cases, animals might even die from this condition.

However, it is possible to get your animals auction-ready and in good condition in a way that minimizes the risk of rumen acidosis; the key aspect is ensuring that the additional feeding of your female animals occurs over an extended period, so the animals can gradually gain condition and the rumen is not overwhelmed by sudden high-energy-source additions.

Experts suggest that animals destined for auction should be put on a protein and energy deficit for as long as 6 months beforehand, with a good quality roughage still making up the majority of the ration.

Around 3 months before the auction, the ration can be adjusted to accommodate a higher proportion of high-energy feed to optimize their condition, as well as to compensate for the "exercise" that bulls undergo during that time to become fit.

Three weeks before the auction, supplementary feeding can gradually be scaled down, and a digestion modifier like BrowsePlus can be added. This will help the cow adjust more easily from the field and feeding conditions she's accustomed to where she's being moved to.

Another aspect of auction readiness that requires attention is practices related to stress management. At all stages before, during, and after pregnancy, cows are susceptible to stress and its consequences. Excessive stress due to transportation to and from an auction can have negative effects on a cow's reproductive performance. Embryos are highly sensitive to stress and can be easily reabsorbed, while fetuses have a greater likelihood of being aborted in later stages of pregnancy. Stress can also lead to reduced appetite, loss of condition, and suppression of the immune system, rendering animals more susceptible to diseases.

Extreme consideration should thus be given to the transportation and handling practices of female animals during auctions. Furthermore, time planning should be a part of auction preparation. The auction should align with the breeding season, meaning it should take place at a time when the female animals being offered are not close to calving.

The last thing a seller wants is for their cows to calve just before or during the auction. Animals that have recently calved require significant additional attention and care to ensure the calf's health, which is often not feasible amidst the chaos of an auction.

Photo credit: Bontran

The successful preparation of female animals for auctions plays a pivotal role in enhancing their health and reproductive performance. It involves meticulous medical care, effective parasite management, well-planned supplementary feeding, and thoughtful time management.

If farmers attend to the handling and preparation of female animals, auctions can contribute significantly to the success of the South African cattle industry. This focus on essential aspects will ensure that female animals are healthy and ready for the auction, thereby creating an excellent opportunity for buyers to acquire valuable animals. With thorough planning and care, auctions will remain an indispensable component of our cattle industry in the future.


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BY: SUNÉ BARTMAN
(MSC AGRIC PRODUCTION PHYSIOLOGY AND PRODUCT QUALITY)

HURWITZ FARMING

TRIUMPH AND PRIDE

SIMEON & JARREN

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AT THE 2023 HURWITZ BORAN AUCTION

On August 5, 2023, the Bull Ring Auction House in Davel opened its doors for the Hurwitz Production Auction. This auction, organized by Hurwitz Farming, is a prominent event in the Boran cattle industry, attracting buyers and Boran enthusiasts from far and wide. Hurwitz Farming is one of the pioneers of the Boran breed in South Africa, with nearly 30 years of involvement with this cattle breed. The herd was originally established in 1993 with embryos from the scarce Mafundzalo herd in Zambia and has grown into one of the largest registered Boran herds in the world.

This herd forms the core of this unique event, which takes place annually on the first weekend of August and in the second week of October. Apart from their significant contribution to the auction, animals from this herd are also available for the stud and commercial markets throughout the year.

This year's auction included many highlights, with impressive new record prices being achieved. Both Lot 10A and Lot 10B surpassed last year's record price by a considerable margin. Lot 10A, a bull named Joker (BH 18-761), achieved an impressive R3 million and was sold to Green Valley Boran Stud.

PHOTO CREDIT: HURWITZ FARMING

However, the new record holder is Lot 10B, Jester (BH 18-490), which was sold for a staggering amount of R3.5 million to Ntaba Nyoni Stud, surpassing last years record holder, Jumbo (WZ 14-52).

All three record holders - Jumbo, Jester, and Joker - are full brothers from sire Khan (MHB 04-27) and dam Jasmine (HOT 10-24), a true testament to the exceptional quality of Hurwitz genetics. However, this remarkable gene line further solidified its fame with the sale price of Lot 12, Jumbo's daughter Lizzy (BH 19-286). Lizzy achieved the highest price for a cow with a calf at the auction, fetching R800,000. In total, the Hurwitz Auction generated a staggering R25.6 million on the day.

Hurwitz Farming takes pride in its commitment to the breed and boasts significant genetic diversity within their herd. They emphasize the importance of quality over quantity, where only the very best cattle survive strict selection criteria and are ultimately chosen to serve as breeding stock, supported by DNA verification. These core values reflect the heart of Hurwitz Farming's dedication to the Boran cattle breed.

Hurwitz Farming is proud of its dedication to the Boran breed and the exceptional genetics of its herd. They emphasize the importance of quality over quantity, with only the very best cattle meeting their strict selection criteria to serve as breeding stock, backed by DNA verification. The Hurwitz Production Auction of August 5, 2023, showcased the significance of these principles while highlighting the success, popularity, and value of the Boran cattle breed in South Africa. The auction achieved remarkable cattle prices, emphasizing the importance of quality and genetic diversity within a breeding herd. Year after year, this event is eagerly anticipated and remains a significant occurrence in the national and international cattle industry, attracting participants and buyers from all corners.

PHOTO CREDIT: HURWITZ FARMING

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Veld Types of South Africa

and their Importance in Livestock farming

By: Suné Bartman
(MSc Agric Production Physiology and Product Quality)

Veld – the vastly open, untamed and uncultivated landscape of grassland areas scattered all across Southern Africa.

In the grand scheme of agriculture, the term "veld" can have completely different implications for different people; to the crop farmer, a stretch of veld represents a potentially fertile and cultivable piece of land where he can plant, grow and harvest his crops for profit. To a livestock farmer, that same portion of land equates to the number of livestock it allows him to keep, breed and make an income from.

Game ranchers might look at the veld as a means of determining how many animals should be kept or culled, while someone else might simply be interested in the potential yield of grass bales this piece of veld allows him to sell. The concept of a "veld" therefore holds diverse significance to different people, reflecting its multifaceted nature within the agricultural landscape.

Despite the difference in utilization, it is evident that the basis of its significance lies in the diverse array of grass types that adorn its expenses, and the kind of veld being considered. The grass is where it all begins; existing as the lowest participant on the food chain, yet no life can exist without it – it is a vital part of the circle

of life. The utter simplicity and reliability of grass can often cause its beauty and benefit to be grossly overlooked.

The truth is, however, that this seemingly humble vegetation plays a profound role in maintaining the harmony of the natural world.

Without grass, the delicate balance of ecosystems would be disrupted. The absence thereof would lead to increased soil erosion, leaving the land vulnerable to degradation and loss.

The interlocking network of grass roots, along with its flat blades, acts as nature's filtration system, purifying water and air, ensuring their clarity and health. Additionally, the resilience of grass species spares humanity from enduring relentless toil to produce food, as its steadfast growth and nourishing properties have provided sustenance for countless generations. Grasses are so important, in fact, that wars have been fought over it and for the use of this valuable resource.

Grass is also the main plant type used as forage for both domesticated and wild grazers. This makes it an incredibly important aspect of successful livestock farming, with many ranchers considering themselves grass farmers rather than livestock farmers. Historically, the emphasis on managing your veld was much lower than it is today, as grain and grass used to be much cheaper and readily available when grass from the veld came up short. Today, proper management of this natural resource is a crucial part in ensuring high-quality, high yield grazing year-round with limited need to buy in additional feed, particularly when considering the increased financial strain when having to buy additional feed. With this increased interest in veld management and optimization of veld use, a lot of focus is being put on the various types of grasses on the veld, as well as the various veld types.

The grass family is the fifth largest plant family on earth, boasting more than 9700 species across the globe, with roughly 10% of those found in Southern Africa.

South Africa itself is exceptionally rich in palatable grasses, an ideal source of grazing for game and livestock. The natural veld in South Africa is defined as either sweetveld, sourveld or mixed veld, based on the palatability and the nutritional value of the common grasses during the dormant season, when the plants are not growing.

The nutrient value refers to the number of nutrients that a plant contains at a specific stage, while the palatability considers the tastiness of the feed, as experienced by animals.

Climatic factors, such as rainfall and average temperatures, seasonality of the rainfall, altitude and soil factors all play a role in determining the type of veld found in a region. Over the years, many studies have been done on the topic of veld-type, and today the distribution of the veld types in South Africa have been clearly mapped.

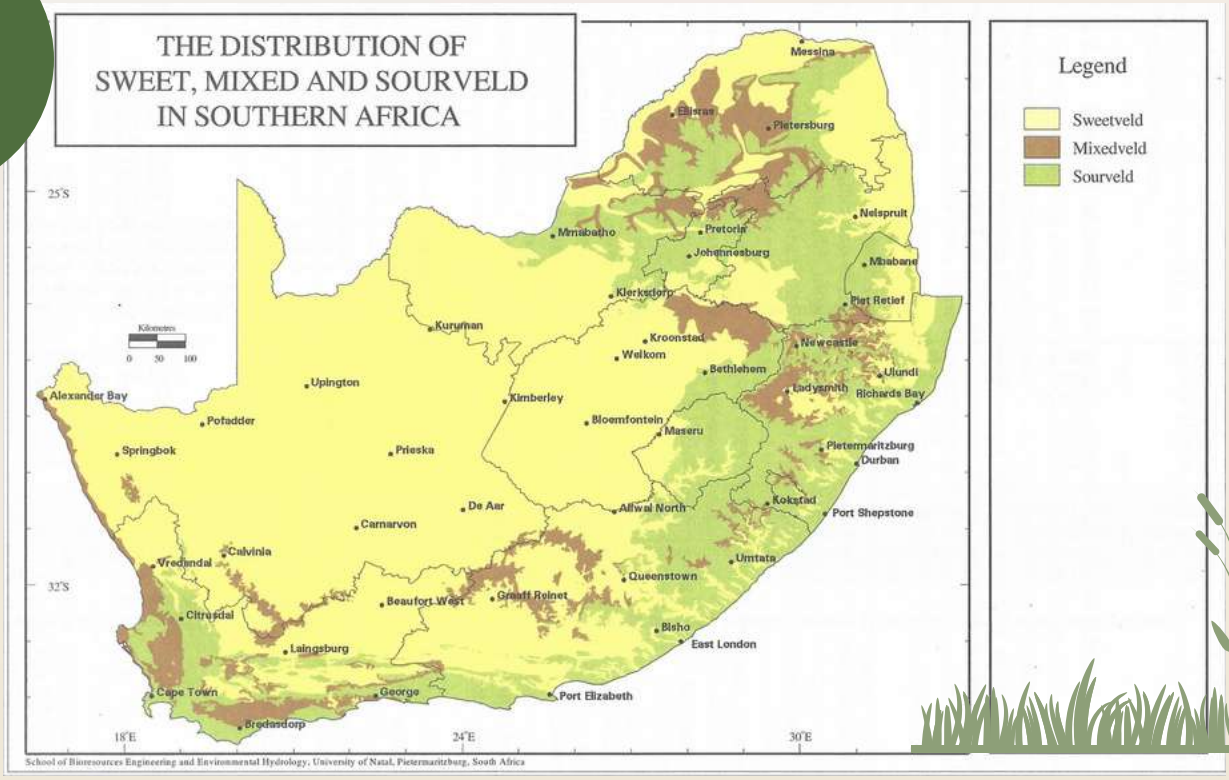

Photo credit: Veld Management in South Africa, book by Neil Tainton

In the lower lying areas of South Africa, where the rainfall is low and the winters are mild and frost-free, we typically find Sweetveld. Due to the lesser rainfall of between 250-500 mm per annum, leaching of nutrients from the soil occurs minimally, meaning that the soil has a high fertility status year-round. Grasses growing in these fertile soils are positively influenced by this, meaning that they are also highly nutritious and palatable.

Very few nutrients are stored in the roots during the mild winters, that makes the grass palatable and nutritious even in the winter times, which means that sweetveld provides a good source of feed throughout the year, even as the grasses reach maturity. Due to the high palatability of the grasses found here, overgrazing of sweetveld unfortunately occurs all too easily. With good management, this can however be avoided, and optimal use of this incredibly nutrient dense veld can be obtained.

At higher altitudes, typically in colder areas where the rainfall is more than 625 mm per annum, Sourveld is more common. Because of relatively high rainfall in sourveld regions, the soil is constantly subjected to leaching out plant nutrients.

This results in a decreased soil pH and a lower soil fertility. During the growing season, when plants are young and growing, the grazing on Sourveld is palatable and fairly high in nutritive value, but as the plant matures, the nutrition status steadily declines, with very little nutritional benefit offered as full maturity is reached – which is usually in the winter. This happens because the plants have adapted to the cold, frost-prone conditions by translocating the nutrients from the leaves back to the roots. Sourveld is tolerant to overgrazing, but if subjected, it will be prone to lower production.

Mixed veld is found in the transitioning areas between sweet and sourveld, where conditions are intermediate between those in which the other two types of veld are found. When the characteristics of this type of veld is more similar to that of sweetveld, it is called sweet mixed veld, and where it is closer to sourveld, it is called sour mixed veld.

Sweet mixed veld will grow in the areas where the soil is more alkaline, and will provide grazing for about 9 – 11 months of the year, whilst sour mixed veld will grow in more acidic soils, providing grazing for only about 6 – 8 months in a year.

Mixed veld is also much less prone to be overgrazed than both sweet and sourveld due to its slower growth rate after rains, and therefore it needs a longer period to mature.

It is evident that the sustainable management of the natural veld and optimal livestock production per hectare will be greatly determined by the type of veld that is found from farm to farm.

To maximize profits, a farmer must know whether they are farming on sweet -, sour – or mixed veld, adapting their livestock management practices accordingly.

Poor management will increase production and input costs, whilst simultaneously decreasing fertility, calving rates and livestock growth rates. The goal in managing the veld is to create a sustainable grazing system that allows for the animals to reach their full production potential, without causing harm to the ecosystem as a whole. Overstocking or not shifting between caps often enough could result in trampling, soil compaction, erosion and almost definitely overgrazing – problems that will seriously affect the quality and quantity of the grass on that veld for the next grazing period.

"Sweet/Mixed veld found in Mosselbay"

Photo credit: Mountain View Holsteins

Management of sourveld is a much easier task than managing sweetveld; for sourveld, the rule of thumb is to never allow the grass to grow above the height of a cooldrink can, placed upright, and never below the height of a cooldrink can laying down. Due to the nutritional deficiencies of the grasses on sourveld, additional protein licks might need to be supplemented.

Management of sweetveld is slightly more challenging, due to the variability of rainfall in the regions in which it occurs, and subsequently its vulnerability to drought. In order to optimize management, the composition of grass species needs to be identified and managed accordingly. The goal here would be to keep the more palatable, climax species dominant, while keeping the less palatable pioneer species at bay, or restoring the prevalence of the climax species in cases where serious veld degradation has occurred.

The most effective method to do this is by implementing a well-managed veld-rotation system, preventing the overgrazing of certain species and optimizing livestock productivity.

In certain areas, sweetveld might be deficient in phosphorus, necessitating the need for a phosphorus supplement. The high palatability of the grass might also decrease the livestock's intake of the supplement, therefore the salt concentration of such a supplement might need to be slightly higher.

Recognizing and understanding the different veld types in South Africa is essential for successful livestock farming and the sustainable management of this incredible natural resource. Each veld type presents distinct challenges and opportunities, requiring a tailored approach to maximize productivity, whilst still protecting the vegetation against overgrazing and degradation.

Implementing well-managed veld-rotation systems, monitoring grass height, and supplementing nutrients where needed are key strategies for optimizing livestock production and preserving the health of the land.

By embracing the significant importance of grass and adapting management practices to the unique characteristics of each veld type, farmers can secure long-term viability and contribute to a balanced agricultural future.

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THE TRANSITION FROM WINTER FEEDING TO SPRING FEEDING.

By: Suné Bartman
(MSc Agric Production Physiology and Product Quality)

It goes without saying that the nutritional needs of livestock will vary depending on where they are in their production cycle. It is equally evident that the resource composition and its nutritional offerings differ from farm to farm, particularly from one season to another.

It is therefore essential that supplementary feeding takes place in accordance with the production stage in which an animal finds itself, as well as with the available resources and that which they have to offer.

From both an economic and production perspective, it is crucial that the only supplementation provided should be those that complements production or compensates for resource deficiencies. Farmers should prioritize utilizing veld (natural pasture) as the primary source of nutrition, while strategically implementing supplementary feeding to maintain optimal body condition at each stage of production. It is essential to adapt the approach according to the changing seasons.

As spring approaches and winter ends, we will focus on what the transition from a winter-based supplementing regimen to a spring-based supplementing regimen looks like, and where changes should be made.

In wintertime, much of the natural veld that occurs in South Africa has reached a point of very low nutrient availability. As the grazing matures, the fibre content increases and the amount of available protein decreases, resulting in a decrease in overall plant digestibility and subsequently a lower contribution of nutrients to the grazer. In addition to this, the palatability of the grazing also declines, causing the animals to naturally consume less thereof.

The decreased intake of low-quality roughage often results in animals whose maintenance requirements cannot be met and, as a result thereof, lose condition. Furthermore, most cattle herds in South Africa are bred during the summertime, meaning that cows will be pregnant throughout the winter, further increasing their nutritional needs.

These cows will calve in spring, having produced colostrum during the winter. If the winter feed was of inadequate quality, the quality of the colostrum and therefore health and growth potential of the calves are suboptimal. Better colostrum quality translates to heavier calves at weaning, and a higher weaning percentage. During wintertime, development of the ova in preparation for conception in summer also occurs; a cow in poor condition will thus have reduced numbers of lower-quality ova, which decreases the chances of successful conception. A successful production cycle for the following season therefore begins during winter, necessitating the need for good winter-feeding practices.

If you fail to get winter feed right, you will enter summer with cows in poor condition, causing an overall decrease in production.

Supplementary feeding in the winter is therefore a must to prevent this dip in production. Lick supplements are essential to address the protein and energy needs of commercial herds during the winter. Protein supplements play a vital role in stimulating the rumen's microbial population, thereby enhancing its potential for digestibility, and increasing voluntary feed intake.

Particularly suitable for grassland areas, these supplements exist naturally in the form of lupines, fish meal, soya/cotton/sunflower cake meal, or as NPN (non-protein nitrogen) sources such as urea. The urea given to ruminants is completely broken down to ammonia in the rumen - a crucial component for the increase and growth of the fibre digesting bacteria found there. The presence of these bacteria will maximise the digestion of the high fibre-content grazing.

Excessive amounts of urea can, however, be toxic to animals, therefore it is crucial that they first be given a salt lick to prevent over consumption of the protein lick.

Depending on the production stage of the animal, a protein lick alone might not be sufficient to meet all their needs during the winter.

For young, growing animals as well as pregnant and lactating animals an additional source of energy might also be necessary during the winter. All grains and their derivatives serve as sources of additional energy, with maize and molasses being the most commonly used options, however energy or production licks can also be supplied. There is a risk, however, that the excessive intake of energy supplements may negatively impact the fibre-digesting organisms in the rumen, potentially leading to reduced feed intake. In grassland regions, it is essential to prioritize meeting the animal's protein demand before providing energy supplements.

Finally, in cases where the plant matter on the veld is insufficient to meet the herds needs, it might be necessary to provide them with an additional source of roughage such as hay bales. These can either be bought in or produced from a farmer’s own land, but it is essential that good quality hay is given. The growth or cutting stage directly influences the nutritional value of hay, so baling in the earlier stages of plant growth, before they reach maturity, will ensure a source of roughage that is high in nutrients and of good quality.

After a prolonged dry winter with high levels of supplement feeding, we often feel relieved when the growing season comes; the arrival of fresh green grass in spring is a welcome sight! However, the important question arises: Should we reduce the supplementation of licks during the growing season, or should our focus be on continuing he provision of supplements to ensure our animals achieve optimal growth at minimal cost during the dry season? Despite the tempting thought of saving some money, it is crucial to exercise caution when relying on early spring grass with limited growth or volume as the sole source of nutrition for your herd. Due to the limited grass volume, animals may end up expending more protein and energy than they take in while searching for new growth when grazing, leading to potential loss of body condition. Additionally, cows transitioning out of gestation and into lactation face a period of exceptionally high nutritional requirements. In spring, the short, new grass might lack the nutrients necessary for lactating cows to perform optimally, or the bulk of grass might simply be insufficient to sustain their nutritional needs.

Therefore, it is crucial to provide adequate nutrition to help cows maintain ideal body condition and achieve successful rebreeding. The rebreeding success of your herd will directly impact the number and weight of the calves born the following year. As the calving season begins, the cow's nutritional needs increase significantly.

Although the grazing quality gradually improves, it remains insufficient to meet the demands of lactation. Hence, supplementing energy, protein, and minerals remains crucial during this period, and it should continue until sufficient rains have fallen. It is therefore essential to maintain a continuous supply of a protein lick to ensure sufficient nitrogen is available in the rumen for digesting low-digestible fibre in the available pasture.

Essential macro-minerals such as phosphorus, trace minerals, and vitamins should also be supplied, either as a lick or from a premix. After adequate rainfall, the protein content in pastures rises rapidly, while the fibre content decreases, leading to a higher availability of energy. As a result, natural pasture can then usually meet the nutritional needs of lactating cows, except for salt and phosphate.

Therefore, supplementing with phosphate and salt phosphate licks becomes essential to fulfil the salt (NaCl) requirement, which is crucial for maintaining water balance in the animal's body, especially during summer when salt is lost through sweating.

As cows enter the lactation phase, their protein and phosphorus requirements rise by approximately 60 to 70 percent compared to the last trimester. Additionally, South African soils are overall very low in phosphorus, however exact amounts differ between soil types, farms and even between various camps on farms. It is for this reason that phosphorus must be supplemented as soon as spring-growth of the veld commences. Phosphorus influences the rumen functions, by stimulating the intake of dry material.

Cattle need phosphorus for almost every vital function of the body; it influences the physical condition of the grazing animal and is essential for milk production, energy utilization, growth, bone formation and reproduction. Under South African conditions, it has been demonstrated that phosphate supplementation can significantly enhance the fertility of cows in regions where natural pasture is deficient.

Cattle with phosphate deficiencies tend to pick up and chew on bones while grazing, a phenomenon referred to as “pika”. These bones contain the Clostridium botulinum bacteria and can lead to botulism when ingested by mouth.

Another key management aspect of spring and summer feeding is deciding on a veld resting system to maximize the long-term sustainability of the pasture

When the pasture is grazed, it should benefit the animals' production. When the animals are removed, any potential 'damage' caused during grazing must be fully restored before the next grazing. One of the best practices is to allow the pasture to rest for at least one growing season from time to time to fully recover its regrowth potential.

Strategic supplementation plays a critical role in maximizing performance and overall herd productivity. By focusing on maintaining optimal body condition throughout the dry season, milk production, weaning weight, future conception rates and future calving percentages can be effectively managed and optimized.

The season-appropriate application of protein, energy, salt and mineral supplementation is proven to contribute in maintaining an ideal cattle body condition score throughout the year, allowing for optimized cow performance even with existing forage resources. To achieve optimum production and reproductive performance, it is essential to meet the specific nutrient requirements of each animal, considering factors like age, body weight, milk production potential, stage of production, and environmental conditions. By carefully attending to these factors, we can effectively support the herds well-being and, in turn, boost the success and sustainability of the entire cattle operation.

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LIONEL'S CHOICE

THE IMPACT OF HEAT STRESS ON DAIRY COW FERTILITY

By: Suné Bartman
(MSc Agric Production Physiology and Product Quality)

EXPLORING A PROMISING SOLUTION

Photo credit: Mountain View Holsteins

As with many farmers worldwide, South African dairy farmers are faced with an ever growing and pressing challenge– the effects of heat stress on their herds. The scorching temperatures negatively impact the reproductive efficiency of high-producing dairy cows, leading to reduced fertility and hampered milk production.

But fear not, as scientists are making exciting strides in finding a solution to this problem. Let's delve into the world of heat stress, its detrimental effects, and a promising hormone-based strategy that could revolutionize the dairy industry.

When dairy cows are subjected to extreme heat and humidity, their entire physiological and endocrine systems go haywire.

Photo credit: Mountain View Holsteins

Photo credit: Mountain View Holsteins

This disrupts crucial processes like folliculogenesis, oogenesis, and embryo development, wreaking havoc on dairy cow fertility. Hormonal imbalances arise, and the quality of follicles, ova, and embryos takes a nosedive. The result? Lower conception rates, an increased need for artificial insemination, and greater culling rates–painting a worrisome future for dairy farmers over the world and their quest to meet the growing demand for dairy products. This challenge is especially relevant to the dairy farmers in South Africa, where inland summer temperatures typically exceed the 25°C upper limit for dairy cow comfort, limiting dairy production to the cooler coastal regions of South Africa. Not only does heat stress therefore limit the possibility of expanding the dairy industry, but current production is at risk of being reduced due to loss of fertility.

What exacerbates this situation even further is the predicted rise of global temperatures. Climate projections indicate that average temperatures will increase by 1.5°C to 2°C, adversely affecting the performance of dairy cattle, especially those on pasture-based systems. As a consequence, the expansion of the dairy production industry to other provinces becomes limited, further jeopardizing the nation's food security and economic growth.

To combat these challenges, researchers have been exploring various strategies, one of which shows great promise–human chorionic gonadotropin (hCG). This hormone, which is the same as that found in pregnant women, has a potent luteinizing hormone (LH) effect, which induces ovulation and counteracts the infertility caused by heat stress in dairy cows. Unlike naturally secreted LH, hCG boasts a longer half-life, making it highly effective at initiating ovulation.

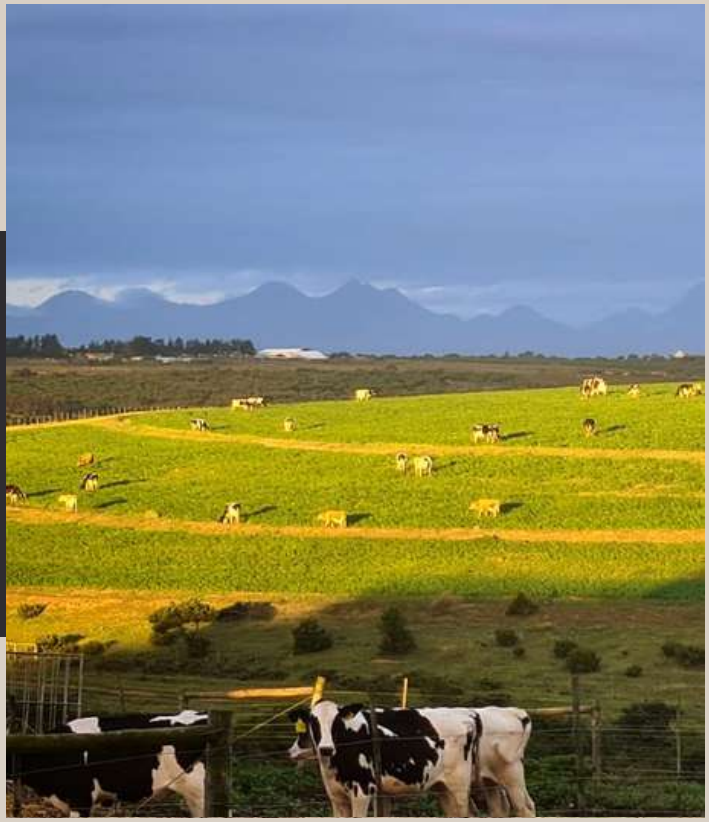
Studies comparing hCG treatment to other hormonal approaches, such as gonadotropin-releasing hormone (GnRH), have yielded exciting results. Heat-stressed cows receiving hCG exhibited a significantly lower ovulation failure rate (4.8%) compared to those treated with GnRH (12.5%). This demonstrates the potential of hCG to improve luteal/follicular dynamics in both cyclic and non-cyclic cows, leading to enhanced fertility and reproductive success.

Furthermore, implementing hCG treatment alongside protocols such as fixed-time artificial insemination (FTAI) could be a game-changer for dairy farmers battling the ravages of heat stress. By leveraging hCG's ability to induce ovulation - prolonging the life of the corpus luteum, and reducing embryo mortalities - farmers can boost reproduction levels and therefore also the genetic improvement of their dairy herds.

However, further research is essential to determine the full extent of hCG's efficiency on a larger scale. Factors like cost-effectiveness, availability, and potential long-term effects must be carefully evaluated. After all, the goal is not just to tackle heat stress on commercial dairy farms but also to provide viable solutions for small-scale and communal farmers who face similar challenges.

Addressing heat stress and its detrimental impact on fertility is vital for the financial sustainability of dairy producers, genetic enhancement of herds, and South Africa's food security. As scientists continue to unravel the potential of hCG and explore comprehensive solutions, hope shines on the horizon. The rising temperatures may pose a daunting threat, but with innovative strategies and determination, South African dairy farmers are poised to triumph over heat stress, ushering in a new era of thriving and resilient dairy farming.

Photo credit: Mountain View Holsteins



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AGRICULTURAL EQUIPMENTS

The Apollo heavy cultivator is used for stubble breaking and seedbed preparation. It processes the soil by tearing it up to the desired depth without overturning it. The stubble is cut in layers from the root area and mixed well with the soil, and an organic fertilizer application is facilitated for the next crop period. Plant residues are ideally mixed into the soil.

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7	September 11:00	Ventersdorp	Hotspot Sale	Read more
12	September 11:00	Baberspan, Sannieshof, Noordwes	Selection Sale	Read more
13 -16	September 11:00	Bredasdorp	Nampo Kaap	Read more
14	September 11:00	Harrismith	Africa Droughtmaster Eastern Study Group	Read more
14	September 11:00	Vryburg Skou Gronde	Breede Santa	Read more
16	September	Behuman, Bloemfontein	Hatari Dormer Veiling	Read more
22	September 07:00		Agriculture Dot Golf Event	Read more

AUCTIONS & EVENTS

22	September	Fouriesburg	Brandwater Bull Sale	Read more
27	September 11:00	Jonkersfonteine, Standerton	Black Hills Cattle Breeders 1st Production Auction	Read more
7	October 11:00	Afridome, Parys	Boerboel Nationale Skou	Read more
10	October 11:00	Bull Ring Auction House, Davel	Hurwitz Summer Sale	Read more
12	October 11:00	Brennaisance Wine and Stud Estate	Regainer Nguni Auction	Read more
18	October 11:00	Plaas Eastry, Tweespruit	Le Roc Production Auction	Read more

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