

Heartwater in cattle:

Understanding & managing this threat

Photo: Wikimedia Commons

Heartwater, or cowdriosis, is a tick-borne disease that significantly impacts the livestock industry in South Africa and other parts of sub-Saharan Africa.

Caused by the bacterium *Ehrlichia ruminantium*, the disease is transmitted by the bont tick (*Amblyomma hebraeum*). It affects cattle, sheep, and goats, causing substantial losses to farmers due to illness, death, and reduced productivity. *Bos taurus* are generally more susceptible than indigenous African breeds (*Bos indicus*).

Causes and Transmission

The bont tick is the sole vector responsible for spreading heartwater. It infects animals during its feeding process by transmitting the bacterium *Ehrlichia ruminantium* into their bloodstream. Ticks become carriers when they feed on an infected host and remain capable of passing on the disease to other animals at subsequent feeding stages.

The disease is prevalent in warm, humid regions with dense vegetation, as these environments provide ideal conditions for the bont tick. In South Africa, areas such as the Eastern Cape, Limpopo, KwaZulu-Natal and Mpumalanga are hotspots for heartwater. Livestock in these regions face constant exposure, especially during the warmer months when tick activity is at its peak.

The incubation period can vary from 9 to 29 days for cattle with an average of 18 days, from when the heartwater tick (Bont tick) attaches and bites the animal until symptoms are observed.

Heartwater can spread through asymptomatic carriers, including cattle that have recovered from the disease. Other carriers include antelopes, guinea fowls, and rabbits.

Calves have resistance for a month after birth.

Recognising Symptoms

Heartwater can present a range of symptoms, varying in severity based on the animal's age, breed, and immunity. Some cattle breeds, such as indigenous African breeds, show greater resistance, while exotic breeds are particularly vulnerable. The primary signs to look out for include:

High fever

Body temperature often exceeding 40°C is a common early indicator.

Neurological symptoms

Animals may exhibit abnormal behavior, such as circling, chewing movements, head pressing, high-stepping gait or seizures. These symptoms result from inflammation affecting the brain.

Respiratory distress

Difficulty breathing and fluid buildup in the chest cavity can occur.

Edema

The accumulation of fluid in the heart sac (pericardium), lungs, and other body cavities.

Lethargy and inappetence

Infected animals may also exhibit foaming at the mouth, loss of appetite, and lethargy. Cattle may also develop diarrhea.

The clinical signs of heartwater are dramatic in the peracute and acute forms. In peracute cases, animals can die within a few hours after developing a fever, and sometimes animals die without any apparent clinical signs. →

The Ehrlichia ruminantium parasite increases the permeability of blood vessel walls, causing plasma (protein-rich fluid) to leak into surrounding tissues. This results in fluid buildup within tissues and around organs, including the heart sac. During a post-mortem examination, fluid accumulation may be observed around the heart, in the chest cavity, and within the lungs. A brain smear can reveal the presence of the organism within the blood vessels.

Prevention Strategies

Prevention is the cornerstone of heartwater management. Since the disease is tick-borne. Controlling heartwater requires managing the Bont tick population. Controlled exposure to the parasite is essential for creating a stable endemic situation among the animals.

Regular Tick Control

Weekly belly dipping with a water-soluble dip is recommended when introducing new animals to a heartwater-prone area. Once established, dipping can be reduced to every 2–3 weeks.

Regularly examine your cattle, especially in areas where ticks commonly attach, such as the ears, neck, and belly.

Monitor for signs of acaricide resistance and rotate products periodically to maintain effectiveness prevent resistance.

Vaccination

Animals can be vaccinated using a blood-based substance administered by a veterinarian and are particularly useful in endemic areas. If a fever reaction occurs, it should be managed with a follow-up treatment of Oxytetracycline.

Calves and newly introduced livestock should be vaccinated early to protect them from infection.

Pasture Management

Keep grazing areas well-maintained by clearing vegetation that serves as a habitat for ticks.

Employ rotational grazing systems to disrupt the tick life cycle.

Biosecurity Measures

Quarantine new animals before introducing them to the herd. This minimizes the risk of introducing infected ticks or animals to the farm.

Diagnosis and Treatment

Prompt diagnosis is critical to managing heartwater effectively. Clinical symptoms may indicate the disease, but laboratory tests such as polymerase chain reaction (PCR) assays or blood smear microscopy confirm its presence.

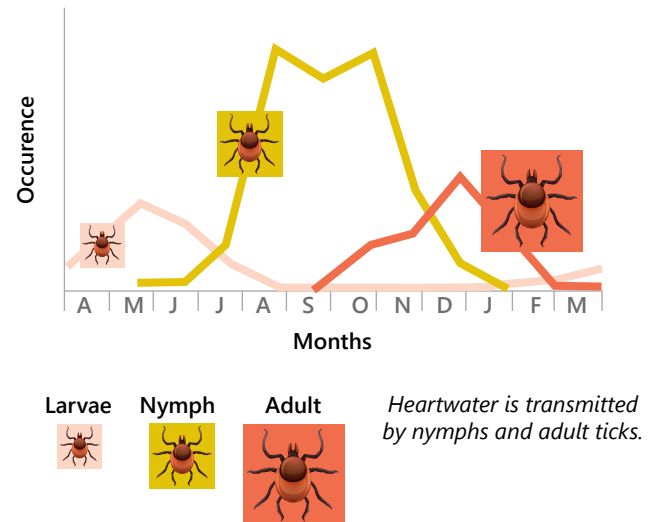
If animals show any signs of illness, treatment with antibiotics, with Oxytetracycline being the most common, must be administered as quickly as possible. Early intervention increases the chances of recovery, but in advanced cases, the damage may be irreversible. Short-acting oxytetracycline can be administered intravenously. Long-acting oxytetracycline can be administered intramuscularly.

Supportive care, including rehydration therapy and anti-inflammatory medication, can alleviate symptoms and enhance recovery.

Farmers should avoid self-diagnosing or self-treating suspected cases. Consulting a veterinarian is essential to ensure proper treatment and prevent the development of antibiotic resistance.

Occurrence of the bont tick

Animals are most at risk when tick populations are high



Final thoughts

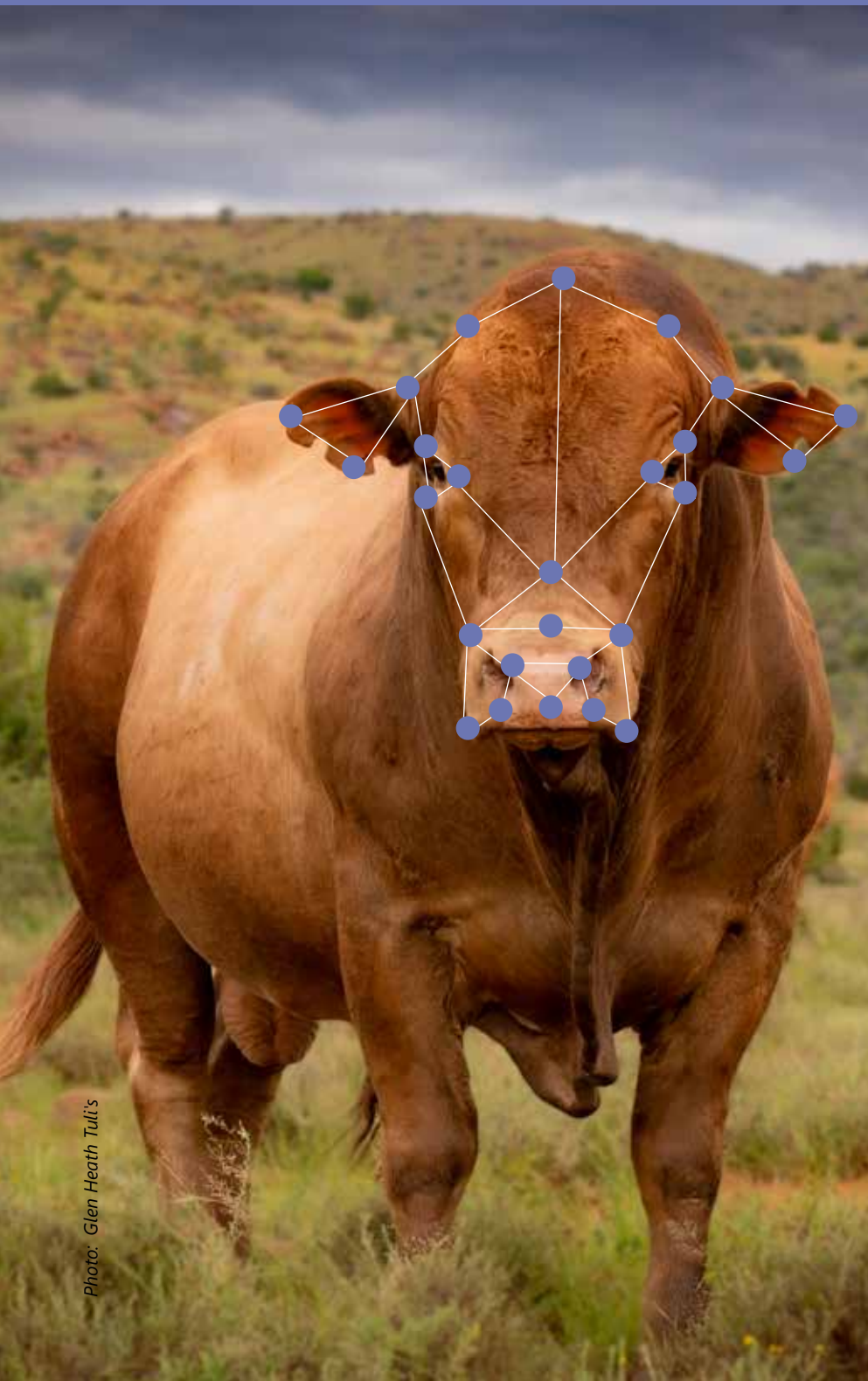
The economic burden of heartwater cannot be overstated. Livestock losses due to mortality, reduced productivity, and treatment expenses strain the livelihoods of farmers.

“Ensure farm workers understand the importance of tick control, can recognise symptoms of heartwater, and know how to respond in case of an outbreak.”

Heartwater poses a significant challenge for South African cattle farmers, yet it is one that can be overcome. Effective tick control, targeted vaccination, and prompt detection are key strategies to shield herds from this disease. Success relies on proactive farm management and collaboration across the agricultural community. ■

Facial Recognition Technology:

a new weapon against stock theft



Facial recognition technology is set to transform the way livestock is managed in South Africa

Unlike branding and tattooing, which can be altered by criminals, muzzle patterns remain virtually incorruptible. This means that animals documented in a central database by their muzzle patterns can be identified within minutes.

Facial recognition technology is revolutionising the battle against livestock theft in South Africa. No longer restricted to humans, this technology can now identify individual cattle by their muzzle patterns with over 99.5% accuracy.

This groundbreaking advancement places facial recognition technology at the forefront of agricultural innovation, offering unparalleled precision in livestock management.

The artificial intelligence-driven facial recognition system represents a significant advancement in enhancing traceability and reducing risks for farmers and ranchers.

Agri Facial Recognition

Imagine farmers having to rely solely on local police to combat rampant stock theft. This enduring issue impacts them constantly. However, with Agri Facial Recognition, the landscape shifts dramatically.

By simply sending a photo, if registered in our database, farmers can recover stolen cattle and establish ownership within minutes. This innovation transcends borders, effectively curbing stock theft for the first time. The impact is significant for both police and government, as this technology streamlines stock theft cases and boosts clearance rates. Historically, farmers have faced disadvantages. Now, we empower them with cutting-edge cattle scanning, placing them at the forefront of innovation. When livestock is recovered, proof of ownership is immediate. →

Previously, police struggled to match brand marks with owner identification due to limited resources and outdated systems. Agri Facial Recognition eliminates the need for traditional branding, providing instant ownership verification with just a photo. With proper traceability measures in place, stolen animals can be identified and recovered more efficiently. Agri Facial Recognition empowers farmers with traceability.

The technology streamlines management and provides a reliable, non-invasive platform for cattle identification. Agri Facial Recognition is based on advanced facial identification technology, leveraging individual facial features of cattle for identification and verification of ownership. Locally, this technology is instrumental in accurately identifying individual heads of cattle. The primary objective is to swiftly identify cattle and their owners. The technology works by taking a photo of an animal's face on a smartphone or tablet and uploading it to Agri Facial Recognition's

Data, security and efficiency

Ensuring the data security of our clients is a top priority for us. We have implemented robust measures such as encryption, access controls, regular security audits, and compliance with relevant data protection regulations to safeguard their information against unauthorized access or misuse.

This technology is highly efficient in proving ownership of stolen animals, especially in cases of unbranded cattle or those where brand marks or tattoos have been tampered with. The same technology is also used in Europe, India, the US, and other countries.

The company has teamed up with Free State Agriculture (FSA) to strengthen the organisation's stock theft safety and security structures, as well as to aid in the investigation of stolen cattle.

Just like every human being has a unique set of fingerprints, every individual head of cattle has a unique facial structure and, more importantly, a unique muzzle pattern.

software platform. A profile of the cow or bull is then saved on a cloud system. This cutting-edge biometric monitoring system can be used for different scales of livestock production, including game. The technology's applicability depends more on the specific needs and resources of the farmer rather than the scale of their operation.

As soon as a theft is reported, our team sends a 'BE ON THE LOOKOUT' message to all the activation groups in the relevant areas. These include the South African Police Service, FSA investigators, National Crime Assist, local farmers, auctioneers and abattoirs.

Additionally, this technology eliminates the need for invasive and harmful methods of animal identification, such as branding and tattooing. It also spares stolen animals from enduring the often cruel practices of brand mark and tattoo removal or alteration by livestock thieves.

Facial recognition technology enables farmers to protect their cattle, enhance farm security, and contribute to the welfare of their livestock. ■



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Inname skape (g/skaap/dag)	Nie geskik nie	80-120

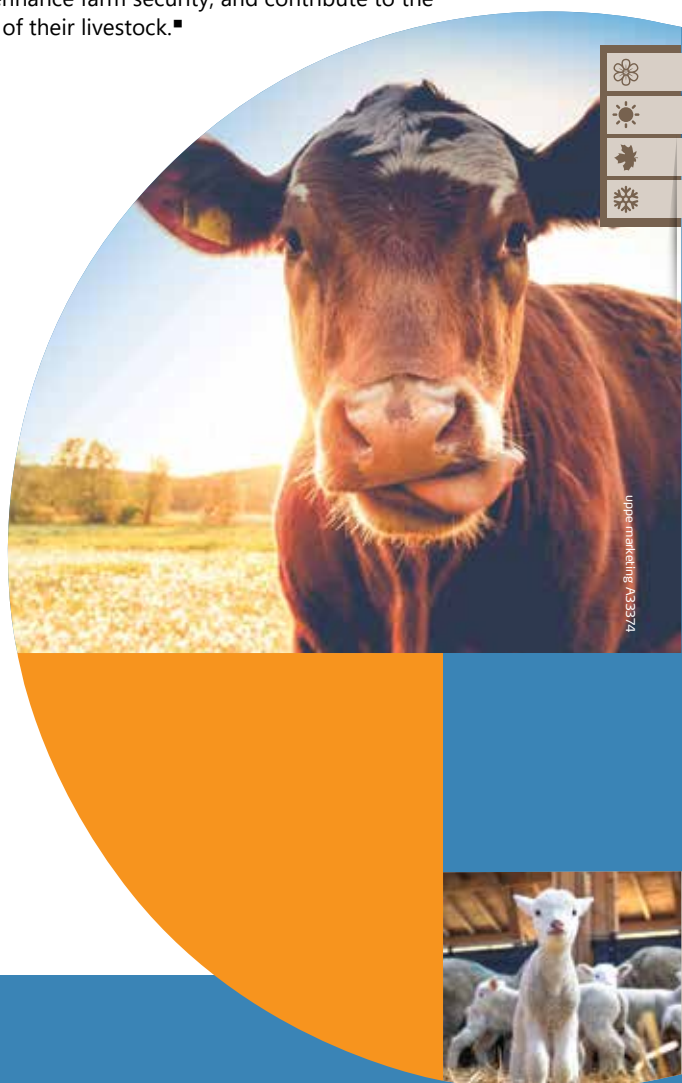
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Indringerplante en Inheemse Verdigterplante

bedreig veld-biodiversiteit en winsgewendheid van veeboerdery

Met hierdie artikel word gepoog om die basiese beginsels van probleemplantbestuur in veeproduksie oor te dra. In natuurlike veldomgewings is al die plantegroeitipes en streke van Suid-Afrika blootgestel aan indringing deur 'n wye verskeidenheid van uitheemse plantsoorte. Weens uitsonderlike aanpassingsvermoë en die gebrek aan natuurlike vyande soos siektes en insekte kan die uitheemse soorte dikwels beter floreer as die inheemse soorte, dermate dat inheemse soorte daardeur onderdruk en selfs verplaas word. Daarby kan daar weens veral oorbeweiding en langdurige droogte verdigting van inheemse boom- en struiksoorte plaasvind wat ook die drakrag van veld (natuurlike weiding) verlaag.

Inheemse plantgemeenskappe waarin daar gereelde of langdurige versteurings plaasgevind het, is veral hoë risiko vir indringing deur uitheemse plante wat kruidagtiges, struike en bome insluit. Omgewingsversteuring kan die gevolg wees van menslike aksies soos oorbeweiding, mynbedrywighede en die skep van huisvesting en paaie, asook weens natuurlike verskynsels soos vloede, droogtes en gronderosie deur wind en water.

Klimaatverandering wat oor periodes van tien-duisende of honderd-duisende jare plaasgevind het, het waarskynlik geleidelike veranderings in die samestelling en verspreiding van ons inheemse plantegroei veroorsaak. Die veranderings wat die afgelope 100 tot 150 jaar waargeneem is, word as veels té vinnig en té groot beskou om alleenlik aan verandering van klimaat, wat klaarblyklik met 200-jaar siklusse voorkom, toegeskryf te word. Uitheemse indringerplante veroorsaak relatief vinnige veranderings in plantgemeenskappe wat in dekades gemeet kan word. Nóg korter skadelike impakte wat in die bestek van enkele jare posvat en sigbaar raak is die invloed van oorbeweiding en droogtes.

Onder plantkundiges wat spesialiseer op natuurlike veld is dit gemeensaak dat gewas- en veeproduksie die agteruitgang van natuurlike plantegroei se spesie-volopheid en gepaardgaande biodiversiteit in onlangse tye (c. 1920 tot huidige) versnel het. Ekstensiewe, ondeurdagte omploeg van grond, en die aanhou van té groot kuddes vee, het groot druk op die tropiese graskomponent uitgeoefen, met die gevolg dat grond oor enorme areas heen van plantegroei ontbloot is; gevolglik het beskerming teen wind- en water-erosie ook in die slag gebly. →

“ ***Inheemse plantgemeenskappe waarin daar gereelde of langdurige versteurings plaasgevind het, is veral hoë risiko vir indringing deur uitheemse plante.*** ”

Bome en struik (uitheems en inheems) het inderdaad toegeneem die afgelope ongeveer 150 jaar soos gemeet aan vergelyking van historiese en hedendaagse foto's van bepaalde areas. In die tyd voor georganiseerde landbou was daar grootskaalse benutting van hout deur inheemse bevolkings en veldbrande is doelbewus gestig om grasweiding vir vee en wild te verbeter. Deesdae word veldbrande verbied, behalwe in byvoorbeeld die Kruger Nasionale Park waar dit 'n belangrike plantegroei-bestuurspraktyk is. Op plase is beheerde veldbrande vir die beheer van bosverdigting problematies, en buitendien, waar die graskomponent in swak toestand is, kan veldbrande nie suksesvol wees nie weens te min biomassa vir warm brande. Afname, en in ergste gevalle die eliminerings, van die graskomponent lei ook tot ontblote grondoppervlak wat 'n ideale omgewing vir die vestiging van pionier-plantsoorte skep, insluitend daardie soorte wat as onkruid of probleemplant geklassifiseer word.

Oormatige verdigting van die houtagtige komponent word na verwys as "bosindringing" of "bosverdigting". Inheemse boomverdigtersoorte is byvoorbeeld mopani, sekelbos, swarthaak, ensovoorts. Belangrike uitheemse indringsoorte sluit lantana, prosopis en wattels in. Toksiese plante is 'n kategorie wat enorme skade in veeproduksie veroorsaak; dit behels veral bolplante, kruidagtiges en struik wat inheemse of uitheemse soorte insluit. Die bestuur van uitheemse indrings en inheemse verdigters is meesal in die hande van grondeienaars wie vanselfsprekend daarna streef om so groot moontlike verskeidenheid gewensde plante as moontlik vir vee en wild te verskaf. Veeboerdery is 'n uiters belangrike industrie van nasionale belang. Die winsgewendheid van veeproduksie word ernstig ondermyn deur probleemplant se direkte en indirekte impakte, insluitend die koste van beheeraksies.

Alhoewel die impak van indrings en verdigters verskil van spesie tot spesie en volgens die habitat waarin hul voorkom, kan hul impakte as volg opgesom word: verlaging in biodiversiteit; verdringing en selfs uitwissing van nuttige inheemse soorte; afname in produktiwiteit van natuurlike weiding; verlaging van grondwaarde; bevordering van gronderosie; verlies van water; ekonomiese verlies; bevordering van siektes soos malaria en bilharzia in die geval van wateronkruid in waterhabitate.

Navorsing op beste praktyke vir die beheer van probleemplant is relatief swak gekoördineer in Suid-Afrika – byvoorbeeld, staatsinstansies se fokus is op biologiese beheer van uitheemse indrings m.b.v. natuurlike vyande soos insekte en patogene, terwyl landbouchemiese maatskappye navorsing op uitsluitlik onkruidodders doen. Chemiese beheer (onkruidodders) is dikwels die beste opsie vir effektiewe beheer van probleemplant, maar daar is ware en gewaande risikos vir besoedeling van die omgewing en vir skade aan nuttige plante wat omsigtige, oordeelkundige gebruik van onkruidodders noep.

Voorbeeld van 'n ernstige uitheemse indringerplant wat weiveld bedreig: Pompom onkruid (*Campuloclinium macrocephalum*) is oorspronklik van Suid-Amerika en is sedert ongeveer die 1980s 'n toenemende uitheemse indringer wat weiveld en vleilande in Suid-Afrika bedreig. Dit behoort tot die madeliefie of aster familie (Asteraceae). Wanneer die plante vanaf Desember tot Maart blom is die pienk tot ligpers blomme baie opvallend en is dit dan dat die omvang van infestasies besef word. Pompom floreer onder volle sonlig en verkies dus versteurde grasveld, areas langs paaie, en vleilande. Dit kompeteer sterk met grasse vir sonlig, water en voedingselemente en mettertyd verplaas digte infestasies pompom die natuurlike plantegroei.

Verspreiding van pompom vind veral deur wind plaas omdat ligte sade aan 'valskeerm' strukture deur die lug gedra word.



“Sekerlik pluk oningeligte mense van die mooi blomme en sade en sodoende word dit baie vinnig oor lang afstande versprei.”

In die wintermaande is niks van die plante bogronds sigbaar nie en oorleef dit tot die volgende groeiseisoen omdat reserwes in ondergrondse knolagtige strukture en verdikte wortels gestoor word. Vir bekamping help dit nie om veld te brand of die plante af te sny nie want beide metodes beïnvloed nie die ondergrondse dele wat weer gaan uitloop nie. Pompom is oortrek met stekelige haartjies en is sterk aromaties wat maak dat weidende diere dit vermy – ook dit bevorder vinnige dominerings van plantgemeenskappe (moontlik toksies vir vee?).

'n Biologiese beheeragent (natuurlike vyand), die roes-siekte patogeen *Puccinia eupatorii* is lankal reeds deur die Landbounavorsinsraad (LNR) vrygelaat in gebiede waar pompom populasies aangetref word. Tans is pompom die volopste in Gauteng provinsie maar dit word ook aangetref in die Mpumalanga, Kwa-Zulu Natal, Noordwes, Vrystaat en Oos-Kaap provinsies. Nog 'n bio-beheeragent is 'n blaaspootjie soort, *Leothrips tractabilis*, wat deur die LNR se Plantbeskerming Instituut in Pretoria vermeerder word, is beskikbaar vir die publiek om in infestasies losgelaat te word. Omdat pompom 'n verklaarde onkruid is, moet grondeienaars volgens wetgewing dit beheer waar dit aangetref word.

Onkruidodders kan gebruik word maar dan moet seker gemaak word gewensde plante word nie ook aangetas nie. Die beste tyd vir onkruidodders om effektief te wees is wanneer die teikenplant aktief groei, d.w.s. reeds voordat plante blom, wat egter beteken hulle is dan nie maklik sigbaar nie. Kol-bespuiging of gerigte-bespuiging met onkruidodders is die beste om te verhoed dat gewensde plante ook beskadig word. Daar is gelukkig onkruidodders beskikbaar wat in grasveld gebruik kan word en nie grasse sal benadeel nie. ■

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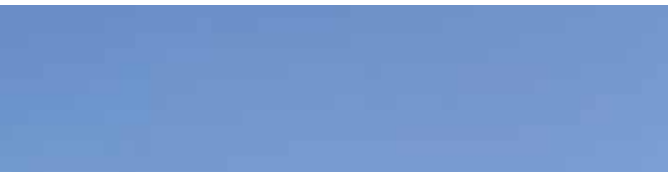


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One man's journey from a city job to a farm's pastures





From the bustling streets of Pretoria, Gauteng, to the serene pastures of eNtokozweni in Mpumalanga, Colin Morodi's journey from government bureaucrat to dedicated cattle breeder is a story of determination and the pursuit of a lifelong dream. He spoke to Fidelis Zvomuya.



It's not easy to take the leap from government bureaucrat to farmer, but Colin Morodi couldn't let the opportunity pass him by. This is why he made the bold decision to leave behind the security of his job to chase his passion for farming, which is deeply rooted in his family's history. "I couldn't just keep being a consumer of what I didn't produce," says Morodi. "I had to create, not just for myself, but also for future generations. The soil, the bulls, the fresh air; they are more than just farm elements. They are a way of life." After years of working for the Department of Water and Sanitation (DWS), Morodi left his city job to follow his passion for cattle farming. Raised in a family where livestock farming was central, this dream took root early on in his life. His decision represented the fulfilment of a lifelong ambition to become a successful livestock farmer and create a legacy for the next generation.

“The soil, the bulls, the fresh air; they are more than just farm elements. They are a way of life.”

The beginning

After years of working for government, Morodi realised that his job in the DWS was not enough to fulfil his ambitions. "I've always had the drive to be an employer, to create opportunities for others, and to sign my own pay cheque," he explains. His dissatisfaction with the slow pace of career growth in government, coupled with a strong desire to be his own boss, pushed him to take a leap of faith. "I learnt that world-class success begins where the comfort zone ends." Buying a farm was no easy task. Morodi quickly realised that acquiring land was more challenging than buying a car or a house. "No bank or development agency was willing to fund me, and many required a 50% deposit, which was impossible with my limited resources," he says. Not swayed by this, he turned to his family for support, and in 2010, he approached his father, who convened a family meeting. After some tense discussions, his older brother Gabriel and sister-in-law Liefie agreed to help by tapping into a home equity loan. With their pooled resources, Morodi was able to purchase the 101ha farm Waterval in eNtokozweni (formerly Machadodorp), Mpumalanga.

Tuli Growth Initiative

Fuelled by a commitment to livestock farming, Morodi says his farming operation took a significant leap forward when he was selected as one of 13 emerging beef farmers to benefit from Tuli Growth Initiative (TGI). This project is a collaboration between the Tuli Cattle Breeders' Society of South Africa and the National Livestock Farmers' Association of South Africa. Receiving 25 Tuli heifers and one bull through the TGI was a dream come true for Morodi, and added to the 20 head of mixedtype cattle he already →

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The demand for Tuli cattle is growing, even across borders. To meet this demand, Morodi plans to acquire a larger farm and invest in key infrastructure.



The Tuli breed is perfect for adapting to climate change. Its resilience, high fertility and quality meat make it ideal for Morodi's operation.

had on the farm. With the introduction of the Tuli, however, he plans to sell off the mixed-type cattle. "The Tuli breed is perfect for adapting to climate change," he explains. "Their resilience, high fertility and quality meat make them ideal for my operation." With the Tuli, Morodi says he is now well positioned to expand his herd and increase productivity. With the farm as well as the cattle secured, Morodi began the slow process of development, using his savings and relying on his brother's assistance to install basic infrastructure such as fencing and boreholes. "Farming is a lifestyle I was already acquainted with," he says. "City life was never for me. I feel great when I see the soil and cows, and feel the fresh air."

Overcoming Challenges

Like all farmers, Morodi has faced his fair share of challenges. Securing additional funding for farm development has been a persistent struggle, and his applications for government support have so far gone unanswered. Expansion has also proven difficult; his request to lease a nearby state farm was denied, even though the land remains unused. "It's frustrating to see state farms sitting idle while small-scale farmers like me need land to expand," he says. Stock theft has been another challenge, with Morodi learning the hard way that trust is scarce in the business of farming. "Losing a herd is worse than losing an individual cow. The business has no loyalty, and addressing problematic employees was a critical step," he says. Despite these hurdles, he remains optimistic. Infrastructure development on the farm continues at a slow pace, and he continues to invest in stock, feed and essentials as his budget allows.

Looking to the future

With the support of the TGI, Morodi's longterm goal is to become a leading Tuli breeder in the country, supplying high-quality bulls to farmers across South Africa and beyond. "The demand for Tuli cattle is growing, even across borders," says Morodi. To meet this demand, he plans to acquire a larger farm and invest in key

infrastructure. As his business grows, Morodi hopes to pass it down to future generations. "I want my kids or my brother's kids to take over where I left off. Nothing lasts forever, but a legacy can." For him, farming is more than a business, it's a calling. He says success comes when you wake up every morning ready for the neverending pursuit of making a success of it. For Morodi, the 'why' is clear: to create a sustainable, thriving farming operation that will feed his family and his community for generations to come.

Advice for aspiring farmers

For those considering a leap into agriculture, Morodi has straightforward advice: "Do your homework. Attend agricultural expos, read up on the industry, and know what works best for your region," he says. "Livestock farming, for instance, can be done almost anywhere, but certain breeds thrive better in specific climates."

A broader vision

Dr Florence Nherera-Chokuda, CEO of the National Emergent Red Meat Producers' Organisation and a livestock expert with the TGI, explains that while South Africa is a leader in red meat production on the continent, indigenous breeds like the Tuli make up less than 1% of the commercial herd. She emphasises the importance of increasing the commercial production of heattolerant, hardy indigenous breeds like the Tuli. "Scaling up commercial production of Tuli cattle on emerging farms will support both growth and conservation of this valuable genetic resource," says Nherera Chokuda. "We aim for the commercial herd of breeding cows to grow to at least 15% in the next 80 years as part of a climate change adaptation strategy."

About the TGI, she says: "This isn't just a handout, it's a hand up. "The opportunity to build a thriving, climate-resilient business will not only support farmers' families but inspire others in their communities," Nherera-Chokuda concludes. →

Tuli Growth Initiative

The recent launch of Tuli Growth Initiative (TGI) in Bloemfontein marks a significant step forward for South Africa's red meat industry. Spearheaded by the National Livestock Farmers' Association of South Africa (NaLFASA), this R20 million, five-year project is set to revolutionise South Africa's red meat industry. With strong support from the Rand Foundation and the Tuli Cattle Breeders' Society of South Africa, this initiative aims to fortify the future of beef production in the country by focusing on the resilient and highly adaptable Tuli cattle breed.

The TGI has selected 13 emerging farmers to pilot the project and to give them the opportunity to transform their livelihoods. Through access to high-quality breeding stock, advanced training, and technical support, these farmers are being equipped to succeed in a competitive and challenging industry. Dr Florence Nherera-Chokuda, CEO of the National Emergent Red Meat Producers' Organisation and livestock research and development expert at NaLFASA, says the TGI's aim is to improve herd sizes and productivity of Tuli breeding herds in the emerging sector for increased economic and environmental sustainability and food security.

According to Nherera Chokuda, the project is set to create financially sustainable and climate-resilient Tuli beef production enterprises. "We aim to improve productivity and quality of weaners through genetic improvement and animal health management. Also, we aim to improve utilisation and management of rangelands and water resources, as

well as access to markets through the production of high-quality animals." She says the initiative's intervention toward commercialisation will see the identified farmers becoming legal entities, registered and financially compliant. "We are going to upgrade or increase breeding stock, upgrade the farmers' facilities, [invest in] skills development, [and promote] mentorship and partnerships with commercial breeders. Our measurable impact indicators will be based on setting up sustainable management of grazing lands and water resources through improved veld carrying capacity, management of freshwater courses and surface storage," says Nherera-Chokuda.

The identified farmers will also be business compliant; this means they are registered legal entities that submit audited returns and comply with production, animal health and identification protocols and regulations. Nherera-Chokuda says that as the initiative unfolds, it will undoubtedly serve as a blueprint for similar projects across the continent, demonstrating that with the right support and resources, the challenges facing the farming sector can be met head-on. "The project endeavours to incubate and mentor farmers in the emerging sector that have potential as commercial producers and marketers of the Tuli cattle breed. The intervention will enable the development of profitable breeding herds of at least 100 purebred Tuli cows with bulls, and improve production facilities and farmer capacity through skills and mentorship over a five-year period.

"Grain-fed beef will not be sustainable in 30 to 50 years due to global warming," she adds. She says that climate change will happen at an unprecedented rate in Southern Africa over the next 10 years. "There will be 40% less maize in Africa due to the El Niño weather system. Although South Africa is a leader in red meat production on the continent, commercially recognised [Southern African] indigenous breeds such as the Tuli cattle constitute

less than 1% of the commercial herd. It is imperative that the region directs commercialisation of its heat-tolerant and hardy indigenous species of crops and animals." Scaling up commercial production of Tuli cattle on emerging farms will ensure the conservation of this genetic resource, she says. "The commercial herd of breeding cows should grow to at least 15% in the next 80 years as a climate change adaptation strategy for the region." Prof Ntanganedzeni Olivia Mapholi, deputy executive dean: College of Agriculture and Environmental Sciences at the University of South Africa and co-chairperson of the African BioGenome Project (AfricaBP), says the world's agricultural production and overall food systems are at their most vulnerable in their current state. "Based on the Food and Agriculture Organisation of the United Nations' projection, we may reach about nine billion people [on the planet] by 2050.

The proposed solution that Africa has come up with is the African BioGenome Project, a pan-African network aimed at sequencing all non-human species within the continent by African researchers." AfricaBP's effort to produce high quality reference genome sequences of all indigenous species across the African continent is crucial to improving livestock production. "The Tuli is one of the [Southern African] indigenous cattle breeds which poses natural resistance to local diseases and parasites. It is also known for its adaptability to harsh environments, good mothering ability, early maturity, docile nature, high fertility, and ability to perform well under minimum labour input.

"Despite their valuable characteristics, their genetic architecture is not well explored and does not have a high quality [curated to a chromosomal level] reference genome. "Having a high-quality reference genome that is accessible to researchers is essential as a genomic tool to establish efficient breeding programmes," she says. ■

“Receiving 25 Tuli heifers and one bull through the TGI was a dream come true for Morodi.”



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Die swaai na die Tuli

My pa het geboer met kommersiële beeste, meestal Charolais kruisings. Hy het Charolais bulle en 'n paar Charolais koeie gehad. My oupa het geboer met Bruin Swiss beeste wat meer bekend is vir melk. Die Charolais bulle kon nie die mas opkom nie; hulle kon nie berg klim en die rowwe terrein van die Bosveld hanteer nie. Hul bykloutjies was afgeskuur soos wat hul gesukkel het om afdraande te loop teen die berge en heuwels. Die plase waar ons boer is geleë in Savanna grasveld area met randjies en berge, is bekend vir 'n suurveld en die bosluisverwante siektes soos hartwater, rooiwater en galsiekte.

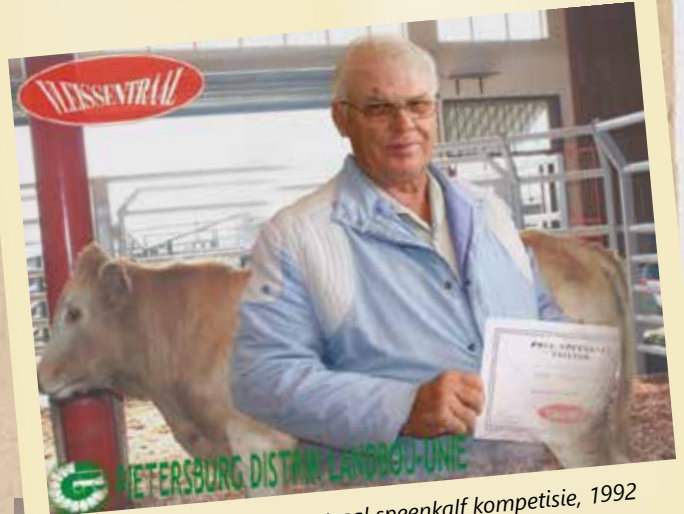
In 1986 het my pa sy eerste Tuli gekoop van Boors Borman. Sy stoet het bekend gestaan as Pulu Tuli stoet. Die Tuli's het goed presteer in die warm somers en koue winters in Limpopo. Hy het 'n paar speenkalf kompetisies gewen wat deur Vleissentraal aangebied was. PT88-002, ons eerste koei, het 24 jaar op die plaas geloop en elke jaar gekalf. Sy het die draad gespring om te wys wanneer die gras klaar was in die kamp en was later 'n maatstaf van wanneer die beeste geskuif moet word. Hy het aan die Pretoria, Warmbad en Thabazimbi skoue deel geneem. Die stoet was gekanselleer en ek het na 'n paar jaar weer die stoet registreer met 'n naam verandering na Bosveld Bosfontein Tuli stoet.

Ek boer deelyds, met 'n voltydse dieetkunde praktyk. Die plase is 1200 hektaar in totaal, met plus minus 'n dra krag van so 8 hektaar per groot bees. My regterhand, Carel, is die voorman en word bygestaan deur drie werkers. Die plase se instandhouding was agter so baie tyd het ingegaan in draad span en onkruid beheer. Gelukkig verg Tuli min werk. Ek huur grond by Johan Burden, wat my ook baie help met my beeste. Die huur grond is bergagtig en gewoonlik is dit waar my speenverse en verse loop. Die beeste het die omgewing, met sy uitdagings, goed hanteer en vandag is dit n kudde wat net uit Tuli koeie en bulle bestaan. Die kudde is aangepas by die omgewing en bestaan uit kommersiële en stoet diere wat raak-raak aan die 300 getal.

Ek verkies die Tuli met sy goeie aanpasbaarheid, gehardheid en min onderhoud. 'n Vrugbare Tuli wat floreer op struik, blare en gras. Tuli koeie is goeie ma's en met die ongediertes oorleef meeste van die kalwers. Koeie behou hul kondisie reg deur die jaar op die suurveld. Die groot rede ook vir my om met hul te boer is dat hul 'n goeie temperament het en nie jou krale en drukgange breek nie, die skelm wakkermaak skoppe, moet jy maar verdra.

Tuli groete sonder 'n gesukkel.

Merensia



Wenner van Vleissentraal speenkalf kompetisie, 1992



Tweede plek in groep speenkalf kompetisie



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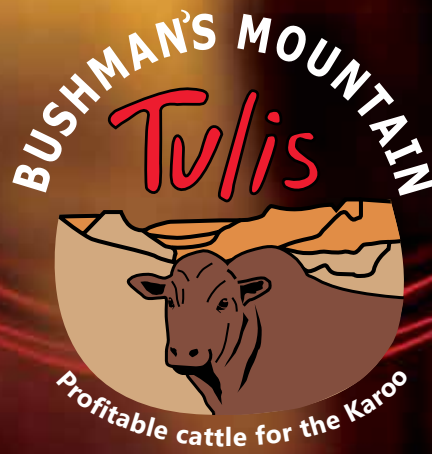
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Hoe lyk die unieke prysbewegings tussen graan en rooivleis in die Suid-Afrikaanse mark?

Suid-Afrika se landbousektor is die hoeksteen van voedselproduksie en verskepping veral in landelike gebiede. Terwyl die sektor verskeie bydrae maak tot die algehele ekonomie, speel dit steeds 'n deurslaggewende rol in die versekering van voedselsekuriteit.

Die veebedryf veral is 'n groot bydraende sektor in landbou, wat alleenlik verantwoordelik is vir 41,7% van die land se totale landbou-bruto produksie waarde, gevolg deur veldgewasse (31,5%) en tuinbougewasse (26,8%).

'n Sterk maar dikwels misgekykte verband bestaan duidelik tussen graan- en vleispryse. Daar bestaan 'n wedersydse prysafhanklikheid tussen die Suid-Afrikaanse graan- en vleisbedrywe, aangesien graan 'n noodsaaklike voerbestanddeel is en vraag uit die veebedryf ook graanmarkdinamika beïnvloed. Volgens statistieke van die Animal Feed Manufacturers Association (AFMA) bestaan ongeveer 51,22% van veevoer in Suid-Afrika uit mielies, terwyl verskeie oliekoekprodukte, insluitend sojaboon-oliekoek sowat 14,71% bydra. In onlangse bemarkingsjare is ongeveer 70% van die land se geëmelievraag deur die veebedryf aangedryf terwyl sowat 77% van sojaboonvraag toegeskryf is aan sojaboon-oliekoekproduksie vir veevoer.

As relevante industrierolspelers nie verstaan hoe prystransmissies plaasvind tussen relevante markte nie, kan dit lei tot groot uitdagings vir ons landbousektor. Onder andere, verhinder dit doeltreffende beleidsontwikkeling en kompliseer die implementasie van maatreëls om voedselpryse in die land te stabiliseer. Vir bedryfsrolspelers, veral boere, maak onvoorspelbare prysbewegings strategiese beplanning moeilik en beïnvloed dit beide winsgewendheid en beleggings.

Om meer duidelikheid te verkry oor hoe pryse tussen die vee- en graanmarkte in Suid-Afrika oorspoel, het die Departement van Landbou-Ekonomie aan die Universiteit van die Vrystaat onlangs 'n studie onderneem oor prysdinamika binne hierdie markte. →

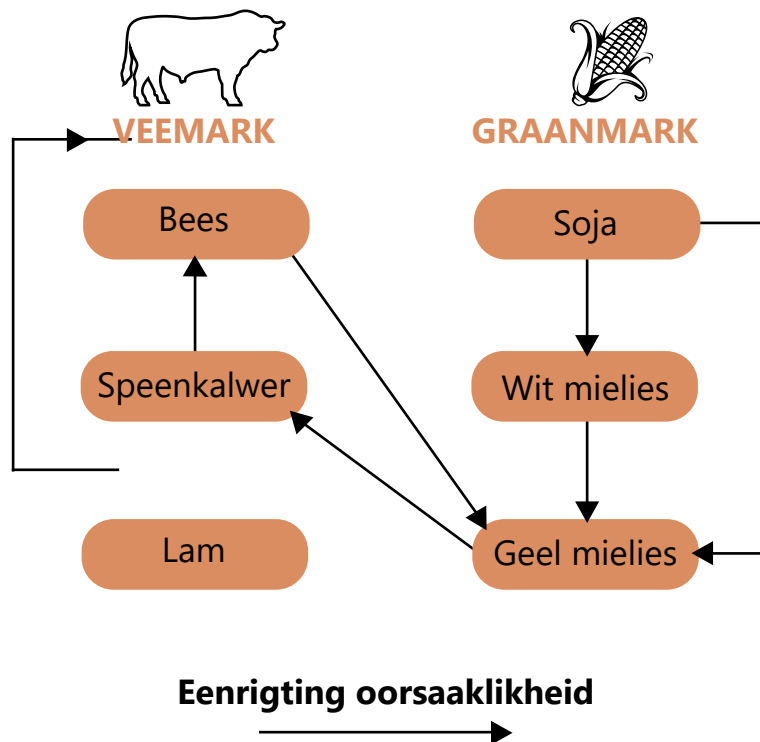
Die studie het gebruik gemaak van weeklikse prysdata van die vee- en graanmarkte in Suid-Afrika, wat die tydperk van Januarie 2018 tot Oktober 2023 dek. Dit sluit lewende speenkalf- en karkaspryse vir bees- en lamsvleis in, asook mielie- en sojaboonpryse. 'n Statistiese analise is uitgevoer om te bepaal hoe pryse oorgedra word tussen die Suid-Afrikaanse vee en graan markte.

Die resultate van die studie het getoon dat daar duidelike skakels tussen graan- en veepryse bestaan. Figuur 1 illustreer die rigting van prysoordrag tussen Suid-Afrika se vee- en graanmarkte.

Spesifiek, kan daar gesien word dat sojaboonpryse binne die graanmark witmieliepryse en direk geelmieliepryse ook beïnvloed. Witmieliepryse het egter slegs 'n direkte verhouding met geelmieliepryse. Geelmielies, wat 'n belangrike bestanddeel is in veevoer, beïnvloed direk lewende speenkalfpryse. Aan die vee-kant bestaan daar ook prysverhoudings. Lamskarkaspryse beïnvloed beesvleiskarkaspryse, en lewende speenkalfpryse hou ook verband met beesvleiskarkaspryse.

Interessant genoeg toon die ontleding dat beesvleiskarkaspryse op hul beurt 'n invloed op geelmieliepryse het, wat 'n skakel effek tussen die vee- en graanmarkte beklemtoon. Die resultaat bevestig 'n wel bekende verskynsel in die beeskarkasmark, dat wanneer daar 'n toename is in die karkasprys, is veeprodusente meer geneig om speenkalwers in te koop, te voer en te laat slag om die voordeel te baat van die verhoogde karkaspryse. Hierdie verhoogde koop effek van speenkalwers, stimuleer weer die vraag na graan vir voer, en verleen steun aan graan pryse.

Figuur 1: Die Verband tussen Mielies, Sojabone en Vleispryse



“ Hierdie resultate beklemtoon die sleutel rol van geelmielies as die enigste graanveranderlike wat deur die veemark beïnvloed word en terselfdertyd die enigste veranderlike is wat die veemark beïnvloed. ”

Dit is duidelik dat die geelmieliemark 'n kritieke skakel is tussen die twee sektore, wat ooreenstem met AFMA-statistieke oor die belangrikheid van geelmielies in Suid-Afrika se veevoerbedryf.

Die resultate in Figuur 1 toon verder aan dat 'n eenrigting prysverhouding bestaan vanaf lams-na beesvleiskarkaspryse, wat ooreenstem met soortgelyke studies oor prystransmissies tussen die beespryse en skaapvleispryse. Die resultaat bevestig die belangrike rol van verbruikersvoorkeure en die effek van besteebare inkomste waar skaap en beesvleis oorweeg word as substitootprodukte. Hierdie substitusie kom veral voor in marktoestande waar beesvleispryse relatief hoog is.

Die resultate het ook verder aangetoon dat daar 'n eenrigting prysverhouding bestaan tussen speenkalfpryse en beeskarkaspryse. Hierdie verhouding betoon 'n opwaartse prys verhouding in die beesvleiswaardeketting waar speenkalwers 'n sterk invloed het op die karkasprys.

