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Agri Voice

2024 SA LARGE HERDS – 50 DAYS TO GO



LEAD WITH FEED

IN THIS ISSUE: WAARHEEN MET DIE MELKBEDRYF? | MILKING IN SPAIN
LEADING THE FIGHT AGAINST ANTIMICROBIAL RESISTANCE | KUILVOERKONING

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	JX PINE {6}	7JE01699	105
	CHROME	7JE05004	101
	FRINGE	7JE01822	101
GENOMIC	JX KASKADE {5}	7JE02196	110
	JAKE	14JE01969	106
	NICKLAUS	7JE01928	103
	GRADUATE	7JE01939	102
	JX HAMMER {5}	7JE02177	101
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	ACE {4}	7JE02085	100

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TO BE A LEADER

Ben van Greunen, chairperson Western Cape

One of the definitions of leadership is: "The action of leading a group of people or an organisation." Leadership is a multidimensional concept, with many moving parts that must work together for you to be an effective leader. A leader cannot lead from a place of isolation.

An important aspect of leadership is having a clear vision of not only the results or goals you want the organisation to achieve but also the process of how both you and the people you are leading are going to reach those outcomes.

Building trust with the people you lead is vital. You don't want people to just do what you tell them to do because you pay their salary. You want people to be invested in the vision and goals that you have for your business. Leading by example builds trust. Communicating transparently and consistently with the people you lead is another one of the pillars on which trust is built.

Leadership is being able to identify your strengths and weaknesses. I recently heard this saying: "Being a good leader does not mean you are a good manager and being a good manager does not always mean you are a good leader." A manager usually focuses on optimising processes and controlling and distributing resources, while the focus of a leader leans toward empowering and inspiring their employees to work towards a common goal. It is a good question to ask yourself: Am I a good leader or a good manager?

I once saw a video of a man talking about building a strong wall. Every brick is usually surrounded by six other bricks. This is the universal way of bricklaying. In the same way that the bricks are laid to strengthen the wall, we must surround ourselves with the correct people to strengthen our 'leadership wall' and keep us grounded."

As we all know, a dairy farm runs on routine. And as dairy farmers, we can quickly be caught up in that routine that starts early in the morning and ends in the evening, week in and week out. We must, therefore, focus on setting time apart to think about what we want to achieve, how we are going to reach our goals, and the people we need to surround ourselves with for the journey ahead.

May your leadership journey be prosperous and fulfilling.



“ In the same way that the bricks are laid to strengthen the wall, we must surround ourselves with the correct people to strengthen our ‘leadership wall’ and keep us grounded. ”



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*USDA, 2021. Dairy 2014. "Trends in Dairy Cattle Health and Management Practices in the United States, 1991-2014" USDA-APHIS-VS-CEAH-NAHMS, Fort Collins, CO #711.0821



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Ben van Greunen

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COVER /VOORBLAD

Selvyn Davids, 2023 Kaptein van die Suid Afrikaanse Blitsbokke het onlangs besoek afgelê in die Oos-Kaap, as deel van die MPO Oos-Kaap se mees onlangse verbruikersonderrig-veldtog. Die veldtog is daarop gefokus om die voedingswaarde van regte melk en die waarde daarvan in die herstelproses van atlete en ander sportsmanne en -vroue aan die groot klok te hang.

Davids is 'n gebore Oos-Kapenaar wat op 7 Maart 2024, spesiaal van die Wes-Kaap af gery het vir 'n fotosessie saam met die alombekende Denise en Pamela van Puttergill Farming. Beide van hierdie dames sal weer by vanjaar se MPO Oos-Kaap Melkfees teenwoordig wees.

Spesiale dank aan Selvyn Davids, Grant en Brett Puttergill van Blue Gums plaas in die Oos-Kaap en Apex Synergy vir die pragtige foto.

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DRIVE THE PROGRESS BE A LEADER

by Hanlie du Plessis, editor of *The Dairy Mail*

To be able to take the lead as a person, a company, or a country, it is imperative to look at history's best leaders and notice how they understood the importance of providing the motivation and direction to achieve larger goals. Taking the lead confirms a position and a direction and those are both essential for survival in our industry, which is one with a myriad of challenges.

In this April edition of *The Dairy Mail*, we explore the leadership roles of several companies and individuals in the dairy industry. We commend the efforts of those driving progress and acknowledge the contributions of people, technology, and products that propel our industry forward.

Fanie Ferreira, chief executive office of the Milk Producers' Organisation (MPO), stands out as a prominent leader in the South African dairy industry. In the article on page 10, both he and Johan Kotze, Agri SA's chief executive officer, share their perspectives on the current state and future prospects of the industry.

To take the lead on feed is crucial for dairy producers. Ranier van Heerden, technical service manager at Evonik, looks into the optimisation of protein levels in dairy rations. On page 18, in

the article "Lead by making the right decisions", Japie van der Westhuizen of SA Stud Book discusses the importance of the proper understanding of breeding tools and their correct utilisation as the sole guarantee for sustainable milk production in the medium and longer term.

Four car manufacturers, namely Ford, GWM, JAC, and Toyota, have announced their intention to introduce either electric or plug-in hybrid bakkies to the tip of Africa. Mooving Wheels on page 101 introduces readers to the four new models potentially hitting our roads soon.

The Dairy Mail is delighted to welcome Higgs Venter, chief executive officer of Agri Voice, as a regular columnist. Higgs will have "The last say", and we look forward to his philosophical and progressive insights.

George Bernard Shaw once said, "Some see things as they are and ask why. Others dream things that never were and ask why not." Be inspired today to become the visionary leader the dairy industry needs.

Enjoy the read,

Hanlie du Plessis



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SONÉ NELL is currently pursuing a doctorate in animal sciences at Stellenbosch University, under the guidance of Dr Lobke Steyn. Her dissertation includes an extensive survey on the usage of by-products and waste products and in vitro ruminal fermentation on the farms of Western Cape dairy farmers, as well as laboratory-simulated greenhouse gas production. More information and contact details are available online at www.steynresearchgroup.com.

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SOME EVENTS TO LOOK FORWARD TO IN 2024

25 APRIL – 4 MAY 2024

BLOEM SHOW

Bloemfontein Showgrounds

14 – 17 MAY 2024

GRAIN SA'S NAMPO

NAMPO Park outside Bothaville

26 – 28 MAY 2024

SOUTH AFRICAN LARGE HERDS CONFERENCE

Sun International Boardwalk Hotel, Gqeberha

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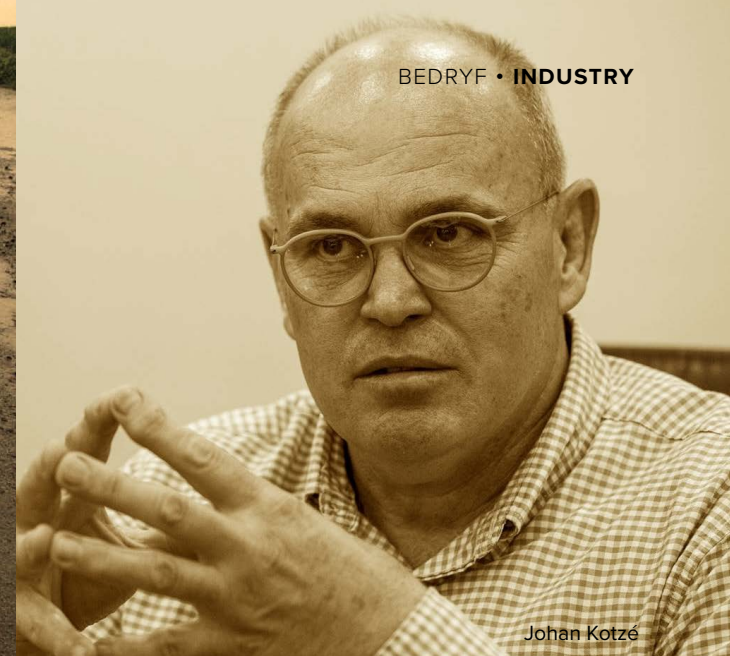
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WAARHEEN MET DIE MELKBEDRYF?



Bedryfleiers praat

Bok van Blerk sing oor die land van melk en heuning. Ja, die oorsprong van hierdie beeldspraak lê in Eksodus 33:3, waar die Here vir Moses belowe om die Israeliete te lei “na ’n land wat oorloop van melk en heuning”. Hierdie belofte, wat later ’n bekende spreekwoord geword het, gee vir ons die leidraad dat ’n land waar melk volop is, ’n land is waar dit goed gaan.

deur René van der Vyver

Die Suid-Afrikaanse melkbedryf is ’n essensiële deel van die land se landbou-ekonomie en dit speel ook ’n belangrike rol in voedselsekerheid. Tog word die bedryf gekonfronteer met ’n aantal uitdagings wat sy groei en volle potensiaal beperk. Maar ’n ander bekende spreekwoord sê nie verniet ’n boer maak ’n plan nie. Vir elke uitdaging is daar moontlike oplossings en in hierdie artikel gee twee landbouleiers hul insette daarvoor.

Uitdagings en oplossings

Johan Kotzé, hoof- uitvoerende beampte van Agri SA, noem hoë insetkoste as ’n uitdaging vir die melkbedryf. Volgens hom is dit die gevolg van swak infrastruktuur. Ompaaië moet byvoorbeeld gery word om melk te vervoer weens paaie wat in ’n onrybare swak toestand

is. Hy sê ook dat ’n uitdaging wat dalk in die toekoms kan vererger soos in Europa, die persepsie is dat koeie die sondebok van aardverwarming is. Die oplossing is dat mense se persepsie verander moet word om te beseft dat melk ’n biologiese produk is wat die mense van Suid-Afrika nodig het.

Fanie Ferreira, hoof- uitvoerende beampte van die Melkprodusente-organisasie (MPO), is bekommerd oor die feit dat die primêre melkbedryf die laaste vier, vyf jaar stagneer met produksie van 3,4 miljard liter per jaar wat nie oorskry word nie. Hy skryf dit ook toe aan hoë insetkoste wat dit vir boere al hoe moeiliker maak om melk winsgewend te produseer.

Ferreira wys verder daarop dat die probleem van stygende insetkoste ongelukkig onveranderd bly, en dit in ’n tydperk wanneer boere

meer onkoste moet aangaan om staande te bly te midde van die hoër temperature wat oor groot gedeeltes van Suid-Afrika heers. Suid-Afrika se groeiende bevolking kan as 'n uitdaging beskou word omdat die melkbedryf sukkel om die liters melk wat geproduseer word te laat groei, maar Ferreira sê: "As ons hierdie kwessie met die regte rolspelers in die waardeketting opneem, is daar eintlik groot geleenthede daarin opgesluit."

Insetverskaffers se bydrae

Ons wil by die leiers in landbou weet wat behoort insetverskaffers se bydrae te wees om die melkbedryf suksesvol te maak.

Kotzé voel sterk daarvoor dat insetverskaffers nie losgemaak kan word van die strewe om meer volhoubaar te wees nie. "Insetverskaffers moet ook werk aan hulle ESG's." Oorgeset synde: *Environmental, Social, Governance* – dit is 'n raamwerk wat gebruik word om 'n organisasie se sakepraktyke en prestasie ten opsigte van volhoubaarheid en etiese kwessies te evalueer. Kotzé beklemtoon dat insetverskaffers die beeld van die suiwel-waardeketting kan versterk as hulle ook hul ESG's verbeter.

Volgens Ferreira is dit baie belangrik dat die melkbedryf 'n goeie verhouding met die insetverskaffers het. Daar is 'n groot produkte-komponent wat hulle toenemend en te alle tye op die plaas verskaf, asook dienste wat hulle lewer. Dit is juis hierdie diensverskaffing wat Ferreira uitlig as die belangrikste rol wat insetverskaffers moet speel. Die naverkoopdiens van al die toerusting op melkplase is van onskatbare waarde, veral namate die toerusting al hoe meer gesofistikeerd en elektronies raak.

Georganiseerde landbou se rol

Die rol wat georganiseerde landbou in die melkbedryf speel, is van kardinale belang.


"Kostedoeltreffendheid!" Dit is wat Kotzé uitlig as die belangrikste rol wat hier ter sprake is, want wanneer die melkbedryf sterker groepeer, het melkboere beter bedingingsmag. Hy verduidelik: "Alhoewel Suid-Afrika sy eie

uitdagings vir die melkbedryf inhou, is die grootste probleem dat proteïene wat van die buiteland inkom ons melkbedryf se ekonomiese volhoubaarheid bedreig. Deur georganiseerde landbou kan ons saamstaan om die melkbedryf as 'n nasionale bate te beskerm."

"Georganiseerde landbou, in al sy fasette, sal altyd 'n baie belangrike rol op die primêre vlak van die melkbedryf speel," laat Ferreira hoor. Hy brei uit deur te noem dat die MPO byvoorbeeld dienste en inligting aan melkboere verskaf, maar die heel belangrikste bly dat die MPO 'n netwerk vir melkboere is. "Hierdie netwerk stel boere in staat om die nodige inligting en dienste te verkry om weer in staat te wees om winsgewend en volhoubaar te produseer."

Die toekoms van melk

Ferreira se optimisme is aansteeklik: "Ons is perfek geposisioneer. Al is ons minder as 900 melkboere in Suid-Afrika, produseer ons daaglik 'n allemintige 9 miljoen liter." Volgens Ferreira breek dit baie geleenthede oop en moet die melkbedryf dit ontgin deur nuwe markte in Suid-Afrika en in die buiteland te betree. Dit kan gedoen word indien volhoubaarheid, veral op prysvlak, suksesvol nagestreef word. Meer melkboere wat winsgewend boer, lei immers tot meer uitbreidingsmoontlikhede. "Ons sien al klaar dat melkboere op die Hoëveld, wat naby aan die markte geleë is, die laaste ses maande meer winsgewend raak," sluit Ferreira af wanneer hy beklemtoon dat daar 'n blink toekoms vir die land se melkbedryf is.

Ten einde die volle potensiaal van die Suid-Afrikaanse melkbedryf te benut is 'n gesamentlike en omvattende aanslag nodig om die uitdagings te oorkom. Hierdie benadering moet die betrokkenheid van die regering, die privaatsektor, akademië en boere-organisasies insluit. Deur samewerking en gesamentlike inisiatiewe kan die Suid-Afrikaanse melkbedryf 'n veerkrachtige en mededingende sektor word wat bydra tot die ekonomiese groei en welvaart van die land ... ons land van melk en heuning! 

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THE VOICE OF AGRICULTURE



Granja San José taking the lead in milk production in Spain

by Luis Ruiz

With **4 300 dairy cows, 2 250 heifers** and nearly **400 dry cows**, Granja San José is one of the **LARGEST DAIRY FARMS** in Spain.

Antonio Pont sums up the development of the San José Farm in recent years: “In 2010, we had 1 000 adult cows and now we milk over 4 000 a day.” Antonio is one of the partners at the San José Farm. He and his two nephews, Jaume and Jose María Pont, are the owners of this farm, which is one of the best examples of a dairy cattle operation to be found in Spain.

The farm is situated in northern Spain, in the Huesca province, just over 100 km from the border with France, in an area where conditions are perfect for forage production. Its dry climate allows forage to be harvested under optimal conditions, and at the same time the farm is close enough to the Pyrenees to allow easy access to water.

The nephews are passionate about farming. “To be a good farmer, you have to enjoy your work,” Jaume says. “We really like our business. We could use the land for other crops, but we do this because we like it.” And they are not alone in this adventure: they have 88 employees, including 12 university graduates, and several external advisers.

Antonio loves machinery and especially tractors. He has fond memories of the time when he had the opportunity to visit the John Deere factory in Mannheim, Germany. “We currently have 18 John Deere tractors, from 620HP to 60HP, including two we bought a long time ago that are still working.” Among the oldest models,

they are particularly fond of a John Deere 3130 that dates from 1975 and has a really good output, according to Jaume.

Their success story began 1951, when Antonio’s family bought their first piece of land in the area with the intention of farming it. The first cows arrived 10 years later in 1961, and at that time the milk was used only for the family and the farm workers.

The farm currently has 4 300 cows and another 2 250 animals consisting of replacement heifers and calves. They are all Canadian Holstein Friesians. The herd is closed, with an annual replacement rate of 25%, and only artificial insemination is used.

“Due to biosecurity issues, we do not buy animals from outside the farm,” says Jaume. “With this, we have achieved a healthy farm that is free of tuberculosis, leukosis, brucellosis, and pleuropneumonia.”

Over 6 500 animals are fed on silage from the farm. “We are self-sufficient in cattle feed. We produce everything our cows eat on the farm,” says Jaume. They cultivate a total of 1 250 ha, including their own and rented plots, which they irrigate with the aid of pivot sprinkler irrigation.

Each year, they ensile about 100 000 t of forage from four annual cuts of ryegrass, eight cuts of alfalfa, and other crops like triticale, barley, maize, and some vetch.

“For us, it’s very important to have forages of the highest quality and in large quantities,” notes Jaume. “In winter, we grow triticale or barley and ryegrass. Once we harvest this crop, we plant maize. We use it all for silage. Then it’s very important that the silo is well compacted and left long enough.”

Milking goes on at the farm for 22 hours a day in an 80-point rotary parlour with 80 seats. The team are very happy with this system and at the moment are not considering replacing it with robots. “In the rotary system, the milking routine can be better controlled; it’s easier for the operator to adapt,” says Jaume. “The rotary system performs really well per litre and per hour.”

“We produce over 60 m litres of milk a year,” he adds. In order to achieve these figures, each cow is milked three times a day, reaching an average production of 46,1 kg of milk per day, at 3,72% butterfat, 3,33% protein, and a somatic cell count of 135 000.



"We want the animals to be in very good condition," says Jaume. "For us, it is paramount to ensure that our cows have optimal comfort. This is why we take meticulous care of animal welfare, ensuring that the cattle can reach their full productive potential. We want the animals to enjoy excellent conditions."

Maximum attention to detail is given to facilities, biosecurity, cleaning, hygiene measures, ventilation, nutrition, and milking, always with the aim of optimising animal welfare. "We comply with all animal welfare regulations for cattle, and in some aspects we go even further than regulated," stresses Jaume. All breeding cows are housed on sand bedding cubicles, which are cleaned daily, with some of the sand replaced with recycled sand that has gone through a cleaning and drying system.

The dairy sector has its ups and downs. When there is too much milk, the price plunges, and at other times the opposite happens and it rises. Jaume is clear about the key business factors: "To remain competitive, it is essential to achieve high productivity through economies of scale, to integrate effectively into the value chain, to possess a robust financing system enabling resilience during challenging periods, and to have a competent team capable of identifying necessary actions and executing them with enthusiasm."

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LEAD

by making the right decisions

by Japie van der Westhuizen, SA Stud Book

Successful dairy farmers should be credited for their adeptness in utilising diverse sources of information and advice to make informed decisions and maintain profitability. The revolutionary changes in applying research knowledge to dairy cow nutrition and healthcare are a testament to this.

Proper understanding of breeding tools and their correct utilisation is the sole guarantee for sustainable milk production in the medium and longer term. Unfortunately, errors in selection and mating practices often only become apparent when subsequent generations of heifers are relied upon for continued profitability. By then, the consequences of hasty fixes or poorly informed decisions cannot be reversed, and the salesperson may no longer be available or may resort to other tactics to justify the initial sale.

For dairy farmers to make informed management, selection, and mating decisions, they must grasp some crucial principles.

Suitable breeding objectives

Breeding objectives should align with the specific market and environmental conditions of the milk production area. These objectives are built upon the consideration of local market dynamics and are grounded in factors such as input prices (including feed costs, healthcare expenses, and maintenance costs) as well as losses attributed

to factors like short herd life or low reproduction rates, and the expenses associated with raising replacement heifers. Additionally, the breeding objectives must account for payment structures (such as milk prices, penalties, and income from selling excess animals) and genetic parameters, including the variance in genetic merit for economically important traits and the correlation between these traits. These factors influence genetic ranking and the correlated responses.

It is essential for South African dairy farmers, as well as those in other regions or productive systems, to tailor their breeding objectives differently from their counterparts in the United States, Canada, or Europe. This adaptation is necessary due to disparities in prices, payment structures, and particularly the genetic parameters specific to local dairy cattle.

Record traits of economic importance

An effective selection and breeding programme cannot be successful without proper recording of economically important traits within cow herds. Even in countries with comprehensive genetic merit predictions and sophisticated genomic information enhancements, accurate recording of traits such as milk production remains crucial. Genomic values, often derived from the single nucleotide polymorphism effects within a specific country's dairy cattle population, only hold significant value when properly integrated into local genetic merit programmes. Otherwise, they merely serve as boasting rights and offer limited, if not questionable, local utility. It is concerning that even international pharmaceutical and artificial insemination companies market these

genomic products to South African milk producers without adequate consideration for their local adaptability.

Expected progeny performance

Genetic merit predictions are a reflection of expected progeny performance within the population where the progeny will be performing. For instance, a breeding value predicted on the United States population, despite having high reliability, holds limited value in South Africa due to differences in genetic rankings between the two countries. A fair comparison can only occur when both countries participate in international services offered by organisations like Interbull, or when the genotype of an animal is incorporated into the local genetic merit programme.

Inbreeding of progeny


The accuracy of expected inbreeding calculations for progeny, based on mating decisions, hinges on the inclusion of comprehensive pedigree information for both the cows and bulls involved in the matings. Any missing information can lead to an underestimation of the inbreeding level in the progeny resulting from these matings. While most mating software programs include extensive pedigree information for internationally marketed bulls, they often lack such information for local females. Advice based on limited pedigrees may underestimate the inbreeding of progeny, potentially adversely affecting their fitness, immune system robustness, and productive herd life.

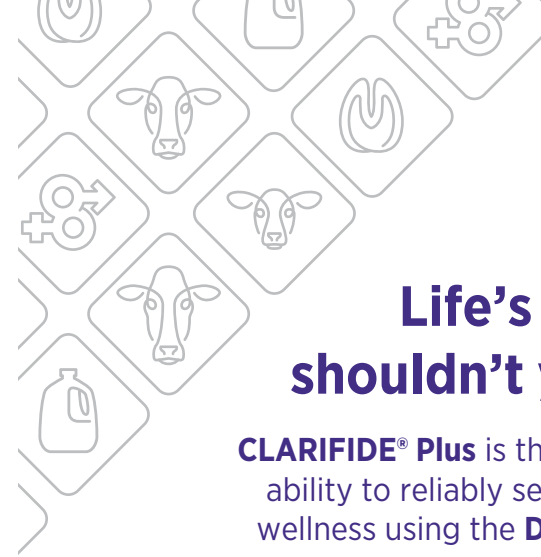
Proper recording

Proper recording is essential for making timely and accurate management decisions and taking necessary actions. Each dairy herd must base its daily actions on the recorded data of individual animals. These phenotypic (actual) values serve as the foundation for biological and, ultimately, financial benchmarking. To ensure effective benchmarking, it is crucial that these recordings are collectively integrated into a unified database.

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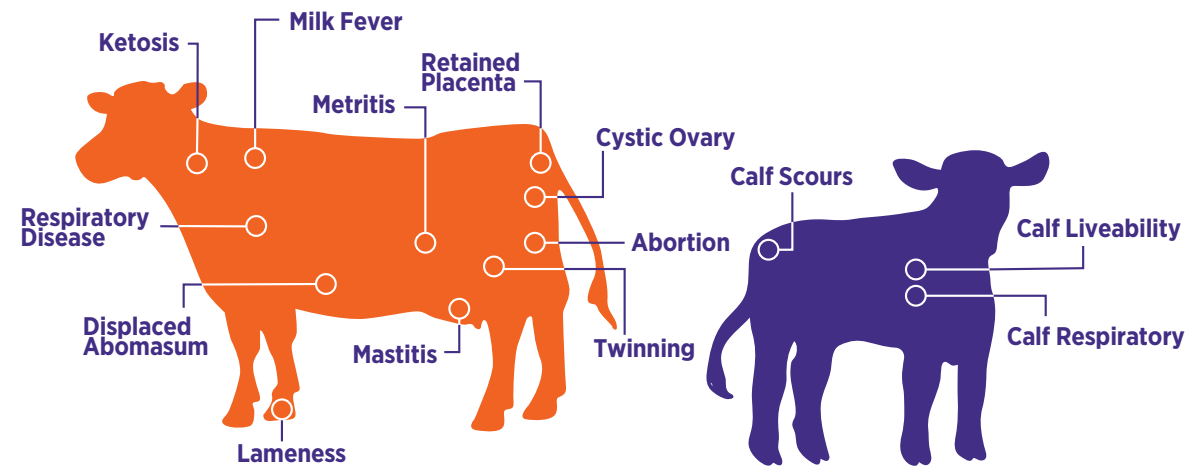
- Various levels of recording for traits of economic importance and automated updates from farm systems, regardless of manufacturer.
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- Unbiased mating and sustainable selection advice.
- Direct access to local professional animal scientists and technical advisers.

Correct decisions and actions ensure sustainability. South African dairy farmers rank among the best globally, but they must remain at the forefront of their industry by firstly understanding the various breeding and selection tools, and, secondly, employing them correctly. 



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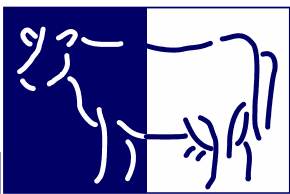


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Don't miss the 2024 SA Large Herds Conference!

by Hanlie du Plessis

Agricultural conferences are gatherings of specialists and amateurs, and are essential hubs for the sharing of sectorial innovation and knowledge. These trade fairs bring together farmers, scientists, legislators, and business executives and create an atmosphere that is ideal for knowledge exchange, networking, skills development, and problem solving.

Agriculture, the backbone of sustenance for the human and animal population, has seen revolutionary changes in recent decades. New breeds, new techniques, and new technologies have been developed, enabling the sector to produce for the needs of the ever-growing population.

It has been the aim of the SA Large Herds Conference, since its inception in 1999, to present solutions for challenges specifically experienced by the larger herd milk producers in South Africa. It's no surprise that the demonstration and showcasing of new technological advancements have always been among the highlights at these conferences. Innovations like drones, artificial intelligence, sensors, and robotics, are some of the new tools introduced to attendees with discussions on their real-world applications and the challenges they present. This exposure and interaction ensures that the sector remains progressive and efficient.

An SA Large Herds Conference also typically

focuses on the pressing challenges associated with climate change. Speakers discuss innovative farming methods with the potential to mitigate extreme weather conditions. These initiatives aim to ensure sustainability, despite unpredictable climate patterns.

Dairy farming, with its intricate dynamics, is a significant branch of agriculture of which good stewardship is an imperative component. SA Large Herds conferences always offer the latest information on husbandry techniques, advancements in feed nutrition, breeding methodologies, and the crucial aspect of disease control. Ensuring good stewardship, ethical practices and up-to-date information on innovations, these conferences serve as knowledge hubs.

Networking opportunities abound at each conference, with industry veterans sharing insights while budding entrepreneurs present their novel ideas. Collaboration inevitably emerges as the key theme, emphasising the importance of a united front in navigating the future of the sector. After these conferences, attendees usually leave equipped with knowledge, inspired, and with stronger ties to the broader milk producers' community.

The business side of agriculture cannot be overlooked. Discussions on supply chains, emerging market trends, marketing strategies, and the intricacies of global trade dynamics have always

been on the agenda. Attendees are equipped with insights that should enable them to thrive in the global agribusiness market.

An SA Large Herds Conference is a melting pot of knowledge, skills, and opportunities. Whether you're a seasoned farmer or a newbie milk producer, attending these events can significantly improve your performance as a milk producer, in terms of both practice and business prowess. Yet, to truly tap into its potential, you must approach it with a strategic mindset. Here's a step-by-step guide to maximise your experience:

STEP 1: PRE-CONFERENCE RESEARCH

Before the event, familiarise yourself with the programme, speakers, and topics. Identify sessions that align with your goals and needs. This preliminary research will ensure that you prioritise the most beneficial parts of the conference.

[CLICK HERE](#) to view the 2024 SA Large Herds Conference programme or [SCAN THE QR CODE](#).



STEP 2: SET CLEAR OBJECTIVES

Define what you wish to achieve: whether it's learning a new technique, networking with industry leaders, or exploring market trends. With clear goals, you can navigate the conference more purposefully and efficiently.

STEP 3: ENGAGE ACTIVELY IN SESSIONS

Actively participate in sessions by asking questions and contributing to discussions. Engaging ensures a deeper understanding and encourages connections with fellow attendees and experts. It transforms passive learning into an interactive experience.

STEP 4: TAKE NOTES AND DOCUMENT INFORMATION

Always carry a notebook or a digital device for note-taking. Jot down key points, innovative ideas, and potential follow-up actions. These notes will serve as a valuable reference after the conference.

STEP 5: NETWORK INTENTIONALLY

Apart from learning, conferences are about building relationships. Set aside time to mingle, attend networking events, and initiate conversations. Aim to create meaningful connections rather than simply collect business cards.

STEP 6: VISIT EXHIBIT BOOTHS

The 2024 SA Large Herds Conference features an exhibition area showcasing new technologies and services. Allocate time to explore these booths, engage with vendors, and understand the potential benefits of showcased products.

STEP 7: REFLECT AND IMPLEMENT AFTER THE CONFERENCE

Once the event ends, take time to reflect on your takeaways. Strategise on how to implement learned techniques or technologies in your farming operations. Also, follow up on the leads produced by networking to nurture new relationships.

STEP 8: SHARE KNOWLEDGE WITH YOUR TEAM

If you have a team or community, don't keep your insights to yourself. Sharing what you've learned is crucial. Teach them what you've discovered because it helps them and reinforces your own understanding. It's a win-win that boosts everyone's knowledge and improves your farming operation as a whole.

Participating in a conference can be a gateway to growth. By following these steps, attendees can ensure that they extract maximum value, paving the way for enhanced farming practices and fruitful professional relationships.

Hope to see you at the 2024 SA Large Herds Conference.

Do not miss out on the 2024 South African Large Herds Conference. For more information and to book your attendance, contact Lorraine de Ronde at Lorraine@mpo.co.za. 



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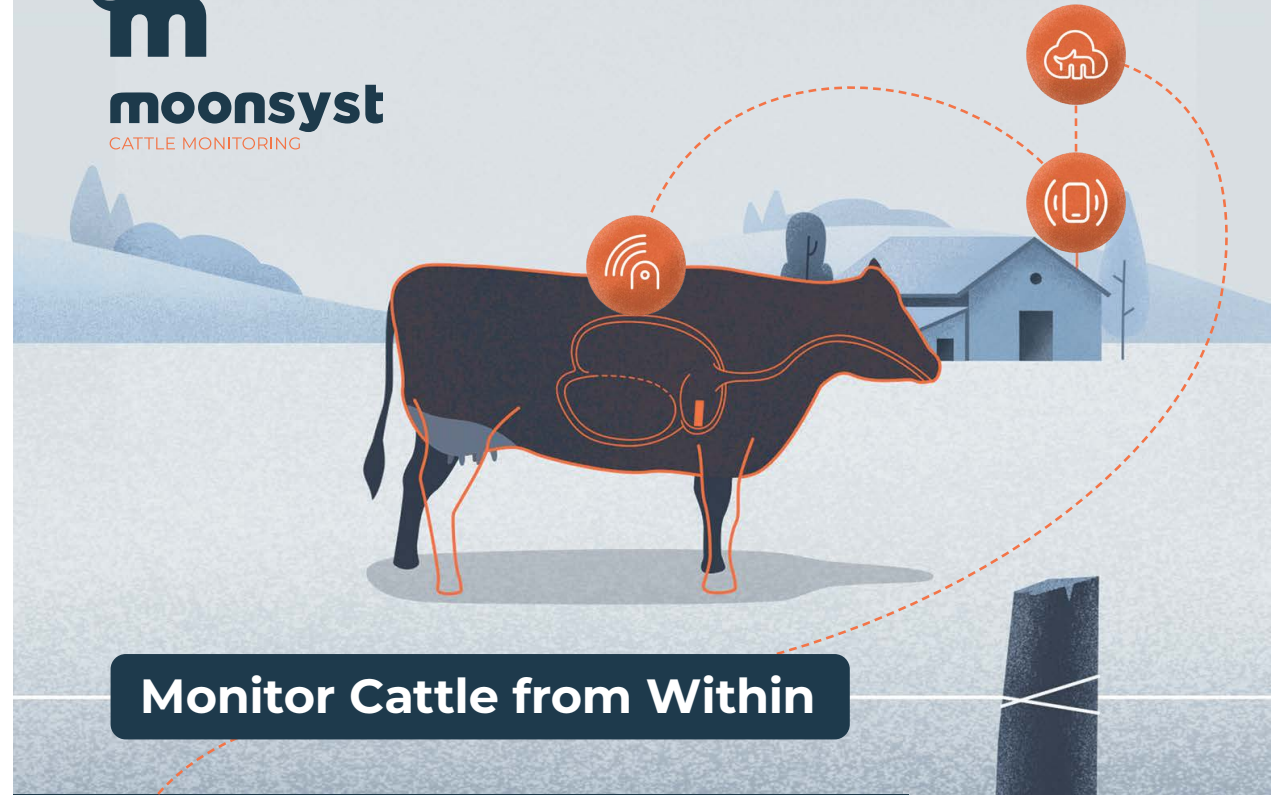


Volume m ³	Dimensions		Width (cm)		Net weight	Max Load K ^g	Max gross weight
	(cm) One Axle	Length (meter)	Bottom	Top			
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24	309	7.40	225	270	8250	9100	17350



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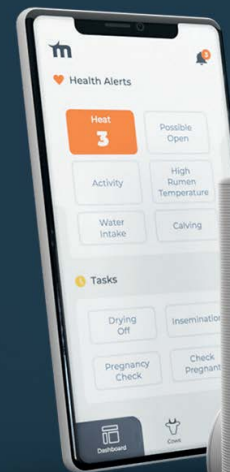
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DAIRY DIGITS



APRIL 2024

Dairy Digits is a Milk SA feature. It is also available on the Milk SA website: milksa.co.za.

Table 1 Key market indicators

Item	Period	Value	Percentage change (same period previous year)
Unprocessed milk purchased ('000 tonnes)	2022 ¹	3 350	-1,56%
Unprocessed milk purchased ('000 tonnes)	2023 ¹	3 339	-0,32%
Unprocessed milk purchased ('000 tonnes) estimate	Feb* 24 ¹	248	+4,24%
Unprocessed milk purchased ('000 tonnes) estimate	Jan 23 ¹ -Feb 23 ¹	534	+3,18%
Dairy imports ('000 tonnes)	2022 ²	52,9	-30,0%
Dairy imports ('000 tonnes)	Jan 23 ² -Dec 23 ²	48,5	-8,32%
Dairy exports ('000 tonnes)	2022 ²	51,9	+1,9%
Dairy exports ('000 tonnes)	Jan 23 ² -Dec 23 ²	56,1	+8,10%
Dairy exports inclusive of sales to other SACU countries ('000 tonnes) ⁵	Jan 23 ² -Dec 23 ²	191,9	-1,24%
Producer price index of unprocessed milk (base Dec 23 = 100) ³	Jan 24 ³	101,3	+10,8%
Farm requisite price index (base 2015 = 100) ⁴	Oct 22 ⁴	154,4	+11,3%
Producer price index of dairy products (base Dec 23 = 100) ³	Jan 24 ³	100,8	+3,6%

Source:

¹ Milk SA returns

² SARS statistics supplied by SAMPRO

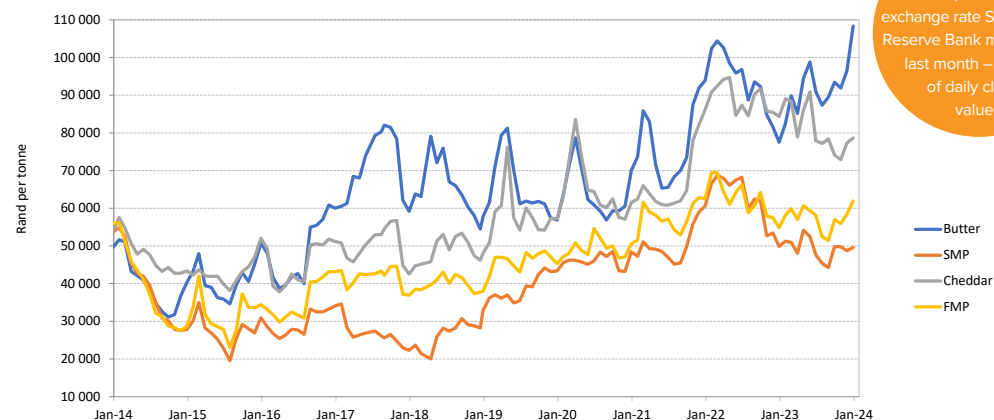
³ Stats SA PPI index

⁴ Department of Agriculture, Land Reform and Rural

Development (DALRRD) price index of farm requisites

⁵ SARS statistics supplied by Agri Inspect

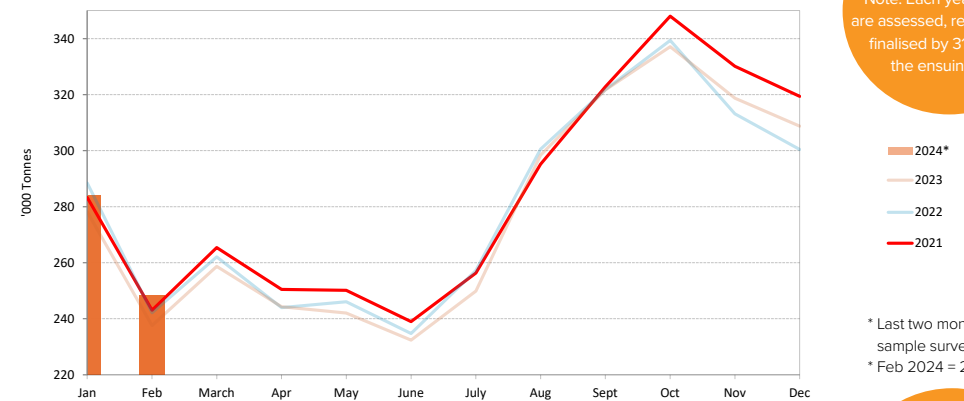
Figure 1 International dairy product prices (free on board), Jan 2014–Feb 2024



Source: USDA price surveys, exchange rate South African Reserve Bank middle rates, last month – average of daily closing values.

Acronyms and abbreviations: Milk South Africa (Milk SA) • Milk Producers' Organisation (MPO) • South African Milk Processors' Organisation (SAMPRO) • Statistics South Africa (Stats SA) • South African Revenue Service (SARS) • United States Department of Agriculture (USDA) • producer price index (PPI) • consumer price index (CPI) • Department of Agriculture, Land Reform and Rural Development (DALRRD) • full-cream milk powder (FMP) • skimmed milk powder (SMP) • ultra-high temperature (UHT) processed

Figure 2 Monthly unprocessed milk purchase trends, Jan 2021–Feb 2024



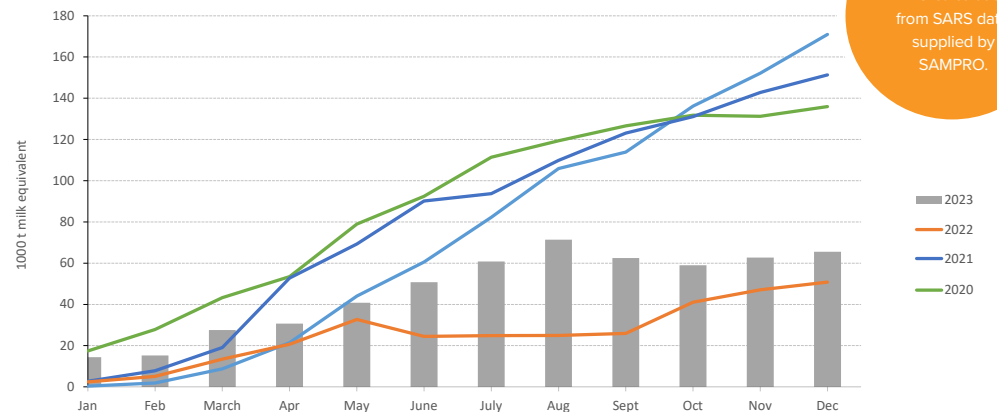
Source: Milk SA statistics. Note: Each year's figures are assessed, reviewed, and finalised by 31 March of the ensuing year.

2024*
2023
2022
2021

* Last two months preliminary: sample survey

* Feb 2024 = 29 days

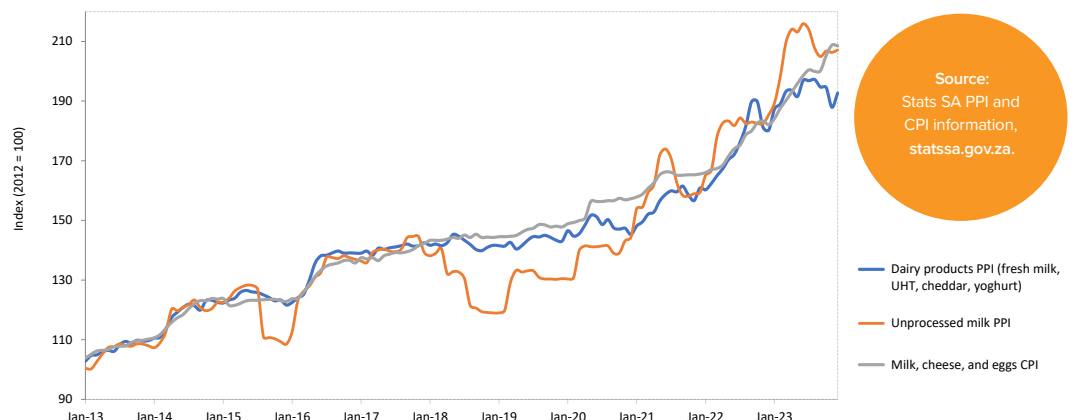
Figure 3 Monthly cumulative net imports, milk equivalent, Jan 2020–Dec 2023



Source: MPO calculation from SARS data supplied by SAMPRO.

2023
2022
2021
2020

Figure 4 PPI indices of unprocessed milk and dairy products, and the CPI of milk, cheese, and eggs, Jan 2014–Jan 2024



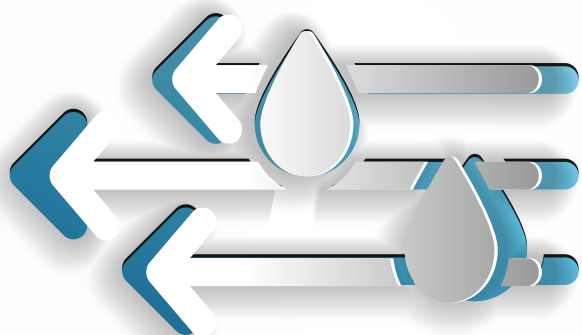
Source: Stats SA PPI and CPI information, statssa.gov.za.

Dairy products PPI (fresh milk, UHT, cheddar, yoghurt)
Unprocessed milk PPI
Milk, cheese, and eggs CPI

This publication is compiled from sources that are deemed reliable. However, Milk SA and the contributors to the publication accept no responsibility for the accuracy of the information. The information is, furthermore, intended to provide market signals only and Milk SA indemnifies itself against any actions based on this information.

The DAIRY TRADING environment

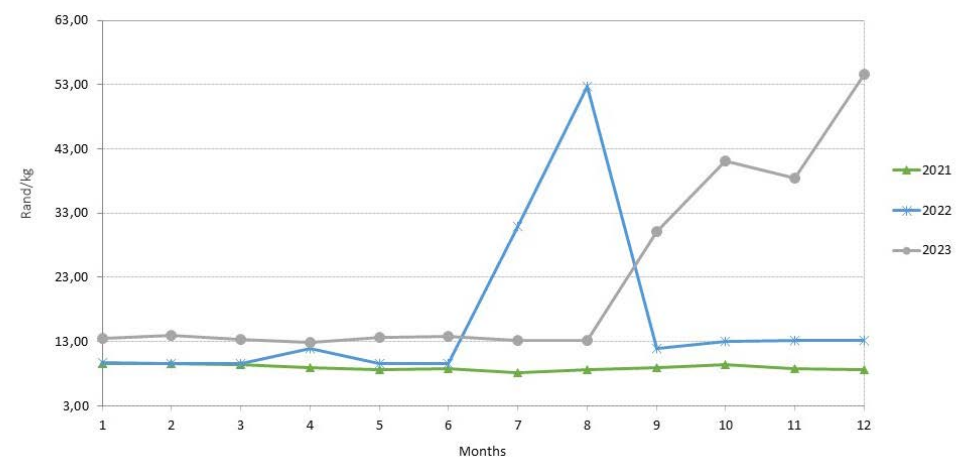
by Jade Smith, MPO junior economist



An analysis of dairy trading activities provides valuable insights into various aspects of the dairy industry, facilitating informed decision-making, promoting economic development, and ensuring food security and safety. The figures below have been compiled by the MPO to provide the primary dairy industry with fundamental information regarding the trading environment, with specific emphasis on import activities (sources: Agri Inspec and South African Revenue Services).

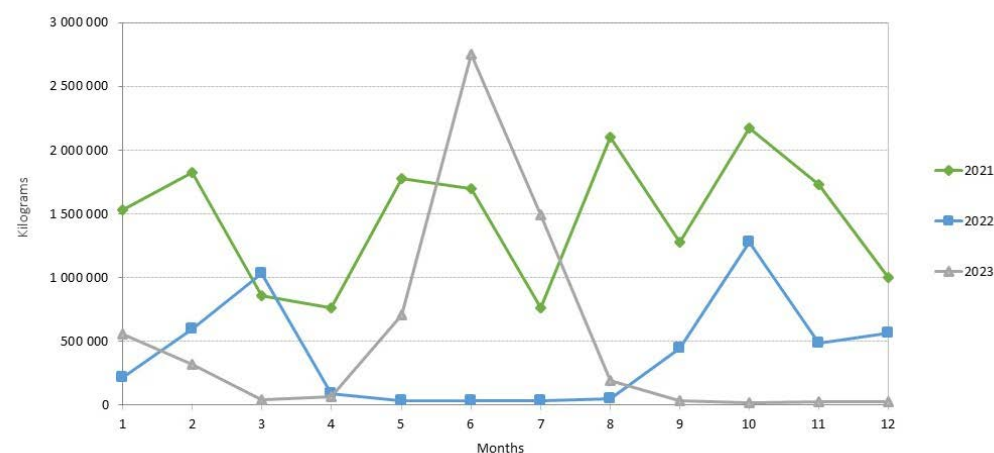


Figure 1 UHT processed milk prices; FOB prices in rand terms



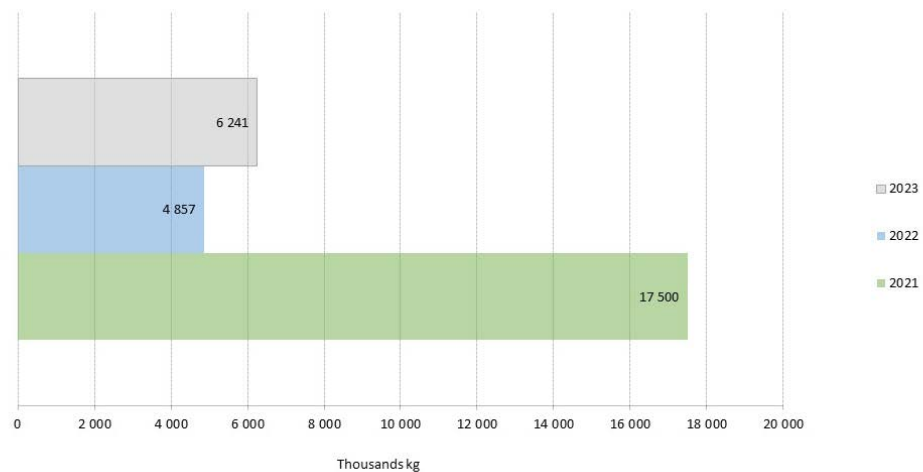
- ➔ The outlier prices in July and August 2022 as well as from September to December 2023 should be disregarded as these imports took the form of small quantities of uniquely packaged ultra-high temperature (UHT) processed milk, compared to the normal packaging sizes of the units observed in the retail outlets.
- ➔ The higher prices experienced from January to August 2023, when compared to 2021 and 2022, are due to the depreciated rand, with an average exchange rate (R/US\$) of R18,74 in June 2023 compared to R13,93 and R15,82 in 2021 and 2022, respectively.
- ➔ The free-on-board (FOB) prices in 2021 were the lowest compared to 2022 and 2023, creating a favourable climate for more aggressive importation of UHT milk.

Figure 2 UHT processed milk imports (in kilograms)



- ➔ The import volumes of UHT processed milk have been erratic over the past three years due to the wide range of high and low FOB prices experienced. In June 2023, an amount of 2,75 million kilograms of UHT processed milk was imported from Poland through the port of Durban.

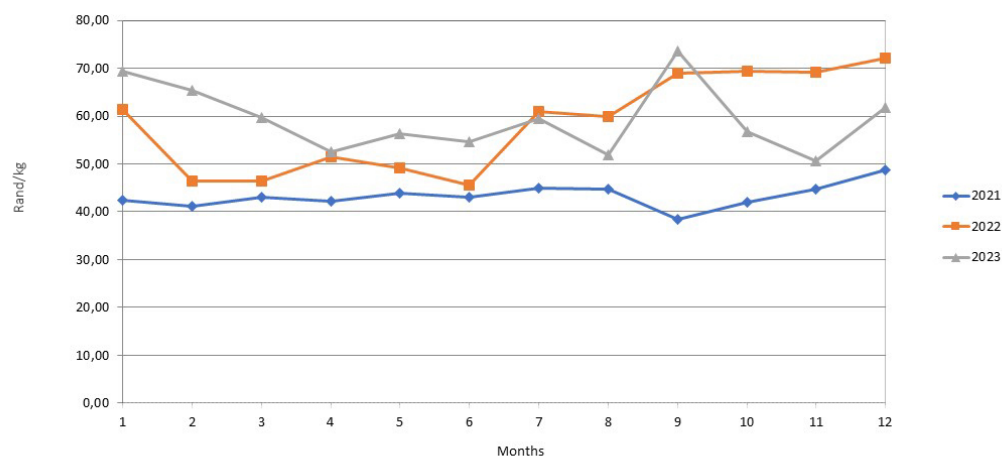
Figure 3 UHT processed milk imports on an annual basis (in kilograms)



➔ As a result of the higher FOB prices and ongoing port challenges in the areas of port efficiency, productivity, congestion, and infrastructure limitations, UHT processed milk imports decreased by 72% between 2021 and 2022. Since then, UHT imports have increased by 29% from 2022 to 2023.

For comparative purposes, it should be noted that South Africa exported approximately 92 million kilograms of UHT processed milk in 2023, an increase of 2% over 2022.

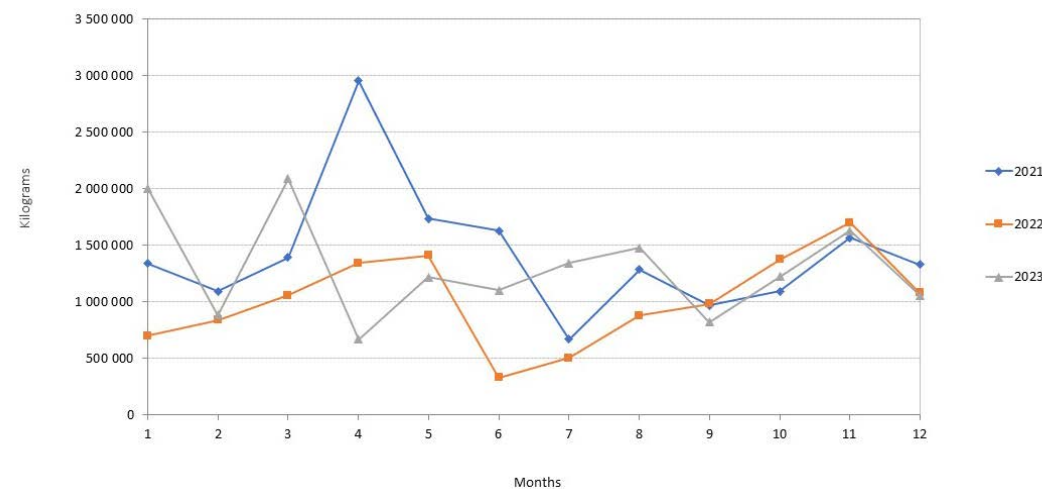
Figure 4 SMP prices; FOB prices in rand terms



➔ Skimmed milk powder (SMP) experienced the lowest FOB prices throughout 2021, compared to 2022 and 2023.

➔ The large gap in September 2021, compared to 2022 and 2023, was due to the depreciated rand, with an average exchange rate (R/US\$) of R14,58 in 2021, compared to R17,57 and R18,96 in 2022 and 2023, respectively.

Figure 5 SMP imports (in kilograms)

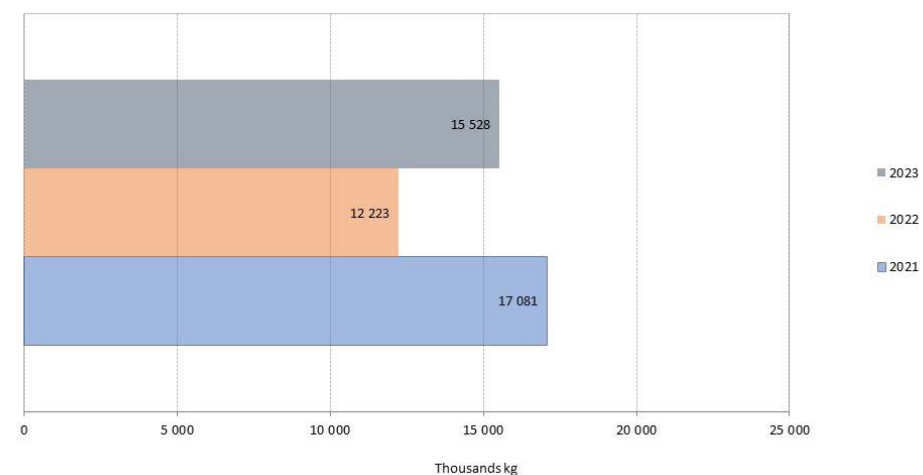


➔ In April 2021, an amount of 2,96 million kilograms of SMP was imported, resulting in the highest SMP imports experienced to date.

➔ From January to May 2023, the import volumes zigzagged with no clear trend. This normalised from June to August, when SMP imports increased marginally.

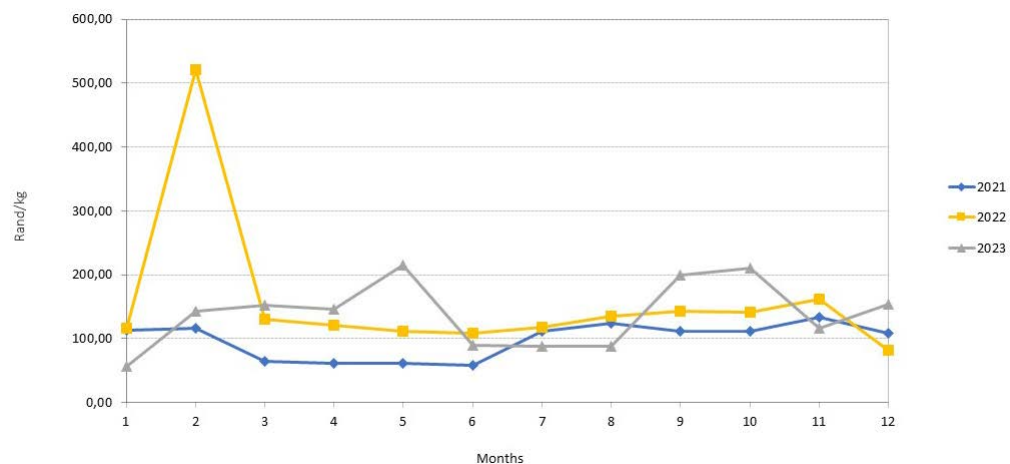
➔ The SMP import volumes from September to December moved sideways over the three-year period, with December 2021 volumes only marginally above those for 2022 and 2023 due to the lower FOB price.

Figure 6 SMP imports on an annual basis (in kilograms)



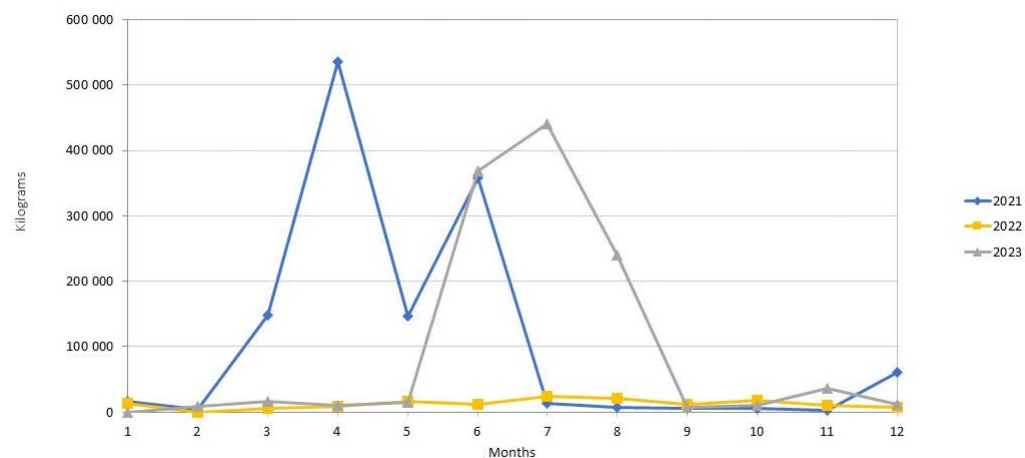
➔ It is evident from Figure 6 that the SMP import volumes have decreased since 2021 by 28% compared to 2022, and by 9% compared to 2023.

Figure 7 Cheddar prices; FOB prices in rand terms



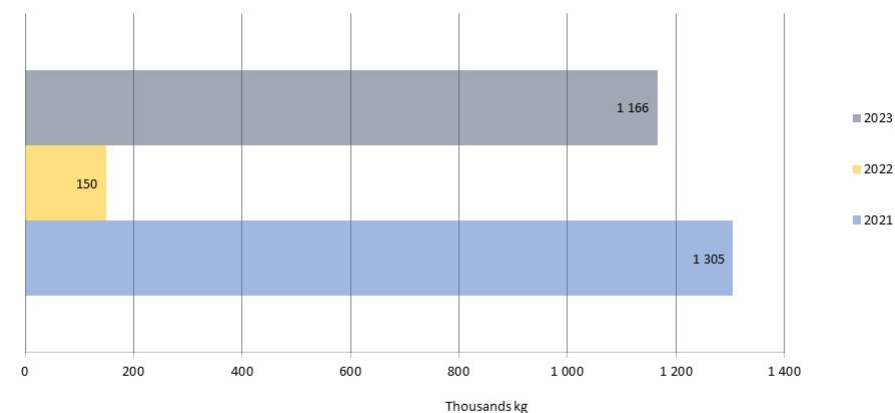
- ➔ In February 2022, cheddar imports were priced at R521,28/kg. This should be disregarded as these imports were part of a sample with niche packaging of substantially small quantities, compared to the packaged units of normal size observed in the retail outlets.
- ➔ During May, September, and October 2023, FOB prices were higher due to the depreciated rand.
- ➔ Overall, a clear trend can be observed over the three-year period, with slight deviations between the months.

Figure 8 Cheddar imports (in kilograms)



- ➔ In 2022, cheddar import volumes moved sideways. This trend was followed from January to May 2023, and again from September to December. The substantial increase from June to August was due to the low FOB prices, compared to the other months.
- ➔ Cheddar import volumes zigzagged with no clear trend from March to July 2021. In April, an amount of 535 757 kg of cheddar, originating from the Netherlands, entered South Africa through Cape Town harbour.

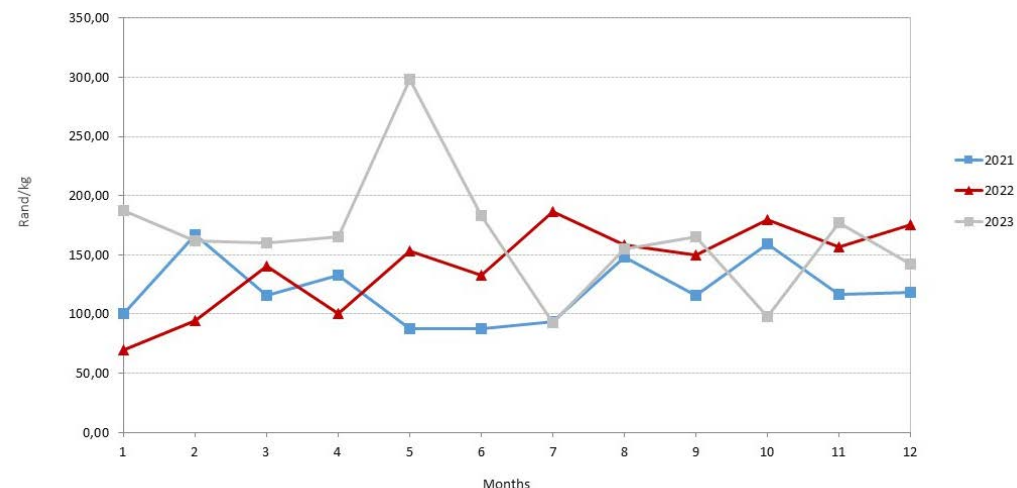
Figure 9 Cheddar imports on an annual basis (in kilograms)



- ➔ When 2022 is compared with 2021 and 2023, it is clear that there was a decline in the volume of cheddar imports. This is due to the law of supply and demand. The higher FOB prices experienced throughout the year led to a sharp decline in the demand for cheddar imports.

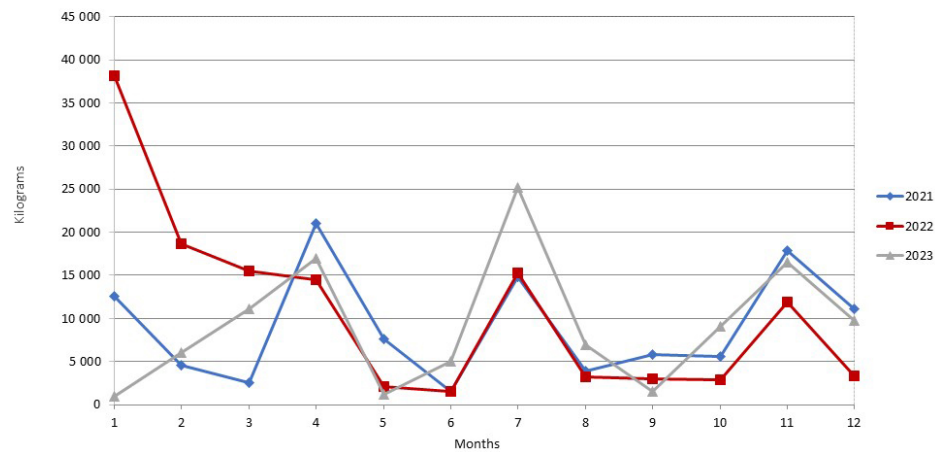
For comparative purposes, it should be noted that cheddar exports in 2023 indicate a record year, with 2,41 million kilograms exported. South Africa exported approximately 2,09 million kilograms of cheddar in 2022, the highest volume since 2013.

Figure 10 Gouda prices; FOB prices in rand terms



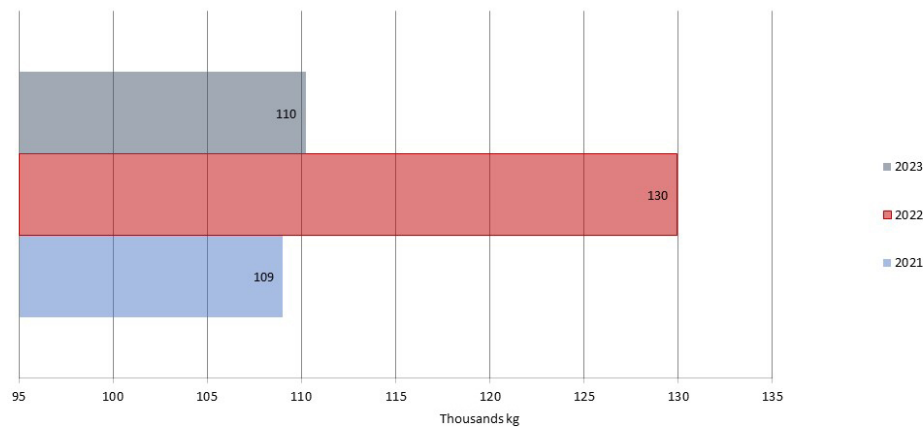
- ➔ The outlier price of R298,46/kg in May 2023 should be disregarded as these gouda imports were substantially small quantities, compared to the packaged units of normal size observed in the retail outlets.
- ➔ The higher prices experienced from May to December 2022, when compared to 2021, were due to the depreciated rand, with an average exchange rate (R/US\$) of R16,81 in July 2022 compared to R14,51 in the same month of 2021.

Figure 11 Gouda imports (in kilograms)



- ➔ Similar upward and downward trends can be seen from April to December over the three-year period, with slight deviations between months.
- ➔ The gouda imports in January 2023 should be disregarded because very low volumes of gouda were imported.
- ➔ The substantial increase in the volumes of gouda imports in January 2022, compared to 2021, was due to the low FOB price, which increased the demand for imports.

Figure 12 Gouda imports on an annual basis (in kilograms)



- ➔ Figure 12 indicates a decrease in the volume of gouda imports when comparing 2022 with 2021 and 2023. This is due to the law of supply and demand. The higher FOB prices experienced throughout the year led to a sharp decline in the demand for gouda imports.
- ➔ Volumes of gouda imports increased by 19% from 2021 to 2022. Since then, volumes have decreased, by 15% in 2023.

Insights regarding the trading environment, with specific emphasis on import activities, will be a regular feature in *The Dairy Mail*. For more information, contact **JADE SMITH**, junior economist at the MPO, at jade@mpo.co.za. TM

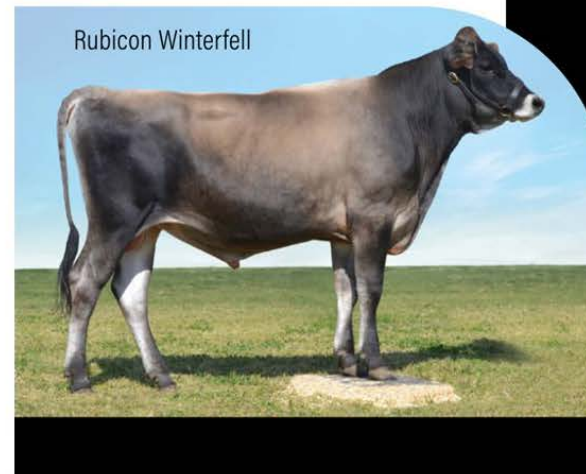
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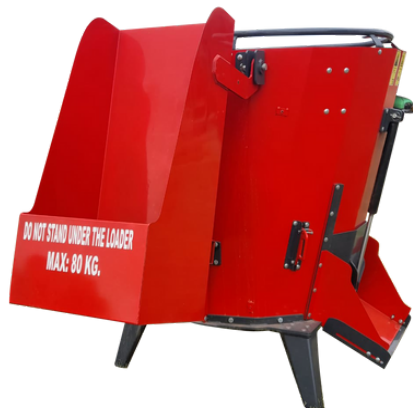
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WOOLWORTHS AYRSHIRE MOZZARELLA CROWNED AS SOUTH AFRICAN DAIRY PRODUCT OF THE YEAR

An Ayrshire Mozzarella, made especially for Woolworths by RFG Foods, was crowned the Dairy Product of the Year at the prestigious South African Dairy Awards on 25 May 2023 at Eensgezind outside Durbanville. The event marked a remarkable milestone, celebrating the 190th edition of the SA Dairy Championships, the biggest and oldest dairy competition in Africa.

The winning Woolworths 600 g Ayrshire Mozzarella was one of 929 dairy products from 71 producers that competed for the attention of a team of 80 judges. From the high number of entries, 106 products were named SA Champion, standing out as winners in each championship class. This year, a total of 23 products were honoured with the Qualité mark of excellence.

"For a product to be chosen as Product of the Year in a competition of this nature is the dream of every dairy producer," said dairy expert and chief judge Alan Fourie. "The 600 g Woolworths Ayrshire Mozzarella is an exceptional pizza mozzarella and worthy of this accolade. It is a firm and smooth cheese with a slightly creamy appearance that grates well and melts perfectly. Its creamy, soft, and caramelised flavour is out of the books."



Robert Sudell, operations manager of RFG Foods, said their team was delighted to be recognised for their signature line. "Mozzarella has been the core foundation of RFG Foods for over 25 years," he said. "Our small artisanal cheese team, under the guidance of cheesemaker Kerwick Boonzaaier, are true experts. They use a very manual process, cutting cheese by hand, supported by Italian ingredients and equipment, to create mozzarella that is on par with the best in the world."

"We are proud of our collaboration with Woolworths, a business that values quality as much as we do. RFG Foods would like to congratulate Agri-Expo on the 190th SA Dairy Championships and their continued support of innovation and excellence in the industry."



Read all about the MPO's activities in each issue of *The Dairy Mail*.



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BEARDS AND BUTTS FOR CHARITY

Grevin Price, hailing from Nottingham Road in the Midlands, initiated a charity drive in 2017 following his mother's prolonged battle with cancer. His personal experience gave him a deep understanding of the financial burdens associated with the disease, affecting patients, their families, and the caregiving institutions. Motivated by a desire to extend support, he embarked on a mission.



of some people's generosity. The inspiration to create a calendar stemmed from a previous initiative undertaken some 15 years ago to boost tourism in the Midlands. The novel aspect lay in the Beardos willingness to humorously 'expose' themselves to promote their cause. Fortunately, there were individuals and com-

panies willing to contribute to making it a reality. Waikato and Afikim generously sponsored the printing costs, resulting in the creation of a tastefully crafted, visually captivating calendar.

Thus, the Beardos initiative was born, initially comprising three men committing to a year-long endeavour of beard growth to raise funds for both the Midlands Hospice and Operation Bobbi Bear (a sanctuary providing refuge for abused children).

As nearly a year draws to a close, it is once again time to auction off those beloved beards, all in pursuit of our fundraising efforts. Join the Nottingham Road Beardos on 20 April at the Nottingham Road Hotel for the eagerly anticipated shave-off and a day brimming with joy, all in support of these remarkable charities.

The inaugural campaign garnered an appreciable R19 400, with last year's efforts yielding an impressive R300 000. The initiative has amassed over R700 000 since its inception in 2017.

If you can't be there in person, we urge you to be there in spirit and lend your support to this noble cause by contributing through the following platforms:

Rob McKenzie, a dairy farm manager in Kamberg Valley in the Midlands, oversees a seasonal mixed herd of 1 400 on his farm. His involvement with the Beardos commenced after attending an auction last year. Upon learning about the significant impact of the fundraising activities for the Midlands Hospice and Operation Bobbi Bear, he felt compelled to contribute his share.

1. To order your very own Midlands' finest Beardos calendar, please contact Grevin Price on 082 896 3688.

2. You can donate conveniently through BackaBuddy at <https://www.backabuddy.co.za/nottingham-road-beardos>.

3. For direct deposits, kindly make payments to the Beardos Charity Fund at FNB Howick, account number 62821697367, branch code 220725, and be sure to include your name as a reference.

"Growing a beard for an entire year – how difficult could it be?" pondered Rob. "My wife wasn't entirely sold on the idea initially, but she acknowledged its worthiness. Let's just say, she's now more eager than I am for the beard to come off."

It proved enlightening to witness the extent

Every contribution counts!

LEAD WITH FEED:

Optimising dietary protein levels in dairy rations

by **Ranier van Heerden, technical service manager, Evonik (Pty) Ltd**

The productive performance of dairy cows is continually on the rise, with much of the credit going to genetic advancements. Consequently, managerial and nutritional strategies must also evolve consistently. Presently, there is significant emphasis on protein and amino acid nutrition, driven by social, economic, and environmental pressures on dairy producers. Addressing these pressures could, in part, be achieved by meeting the growing public demand for milk protein and minimising the environmental footprint of dairy production systems through optimised protein feeding and enhanced protein utilisation efficiency in dairy cows.

Today's high-producing dairy cow have high dietary protein requirements. This requirement is met by different dietary protein fractions resulting from rumen degradation of dietary proteins and microbial growth in the rumen. Proteins degraded in the rumen supply protein and its constituent amino acids (AA) to support microbial growth, but they may also be absorbed from the rumen to be recycled back to the rumen, mainly in saliva. As a result, dietary protein not degraded in the rumen and microbial protein created in the rumen can be digested in the lower digestive tract. Collectively, these two protein sources represent the bulk of metabolisable protein (MP), and it is this fraction and its AA profile that has a substantial influence on cow performance.

How do we meet the high protein needs of dairy cows?

To successfully meet this demand, practical strategies for optimising cow performance, protein utilisation efficiency, and farm profitability include:

- Feeding dairy cows rations matched to their stage of lactation and level of production.
- Optimising rumen microbial protein outflow by

matching the supply of degradable protein to the needs for microbial growth.

- Balancing rations to supply the MP and metabolisable AA (MAA) needs of the cows.
- Utilising a variety of feedstuffs in rations and regularly confirming the quality of these feeds to eliminate the possibility of an imprecise ration formulation.

Checks and considerations for dairy managers

In the feed yard: Look for heat-damaged silage, which will appear dark brown to black, indicating that less of its protein will be utilised by the cows. Additionally, if the silage has a distinct butyric and/or ammonia smell, protein quality could be impaired.

Analyse silage for volatile fatty acids and ammonia. A concentration of butyric acid > 0,5% of dry matter (DM) indicates clostridial fermentation, which increases protein degradation in the silo, and if the silage ammonia nitrogen (N) concentration is between 12% and 15% of total silage N, it indicates high protein degradation in the silo. Consequently, excessive levels of rumen-degradable protein (and too little rumen-

undegraded protein) than is optimal would be supplied.

In the barn or milking parlour: Common first indicators that dietary protein supply is sub-optimal is a decline in milk production, low peak milk production in early lactation, and/or poor persistency in later lactation. A more subtle indicator is if milk protein content declines below the breed standard and/or the herd historical baseline. Another indicator is milk urea N levels outside the desired range of between 8 mg/dL and 14 mg/dL, where low values likely indicate low or heat-damaged protein consumption, and high values likely indicate excessive protein intake. Cows consuming too much protein may have profuse clear nasal discharge, although not well documented, but could be related to overfeeding of rumen-degradable protein.

Furthermore, excessive intake of rumen-degradable protein will likely cause loose manure. In contrast, if manure is darker in colour than

usual, and dry, it likely indicates heat-damaged silage in the diet. Feed sorting at the bunk is an often neglected factor that can cause simultaneous over- or under-supply of dietary protein among the cows in a pen. To avoid this, regularly confirm that rations are properly mixed, and that load delivery maintains proper mixing all along the feed bunk.

In the office: Regularly analyse rations to confirm targeted nutrient supply. For protein feeding, this should be between 14% and 17% of DM, with between 60% and 65% of it being rumen degradable. Since synchronised rumen fermentation of energy and protein is important for optimised rumen microbial growth, dietary non-fibre carbohydrates should be between 35% and 40% of DM. If heat damage is suspected in silage used in the rations, assay them for acid detergent insoluble protein, with a target level < 10% of total diet protein. **TDM**



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Despite differences between dairy farming in South Africa's Eastern Cape and the UK, the importance of conserved forage quality to business sustainability is unerringly familiar.



Dian Landman
082 656 4880

Forage quality underpins South African dairy farm's business resilience

Cut to Clamp

A Volac initiative



With bought-in feed expensive, maximising production from homegrown forage is essential for Dian Landman's 3 800-cow Jersey and Jersey x Holstein cross business, with mixed silage taken to the field on a daily basis to supplement grazing.

For South African dairy farmer Dian Landman, sustainability is now a key component of all decision making at his 3 800 cow Lactimar business, based in Tsitsikamma, Eastern Cape.

This includes a real focus on environmental impact and a highly responsible approach to human resources through employment. But more than anything, it means ensuring economic resilience for the enterprise.

In a location where bought-in feed is expensive – with transport costs alone potentially adding around £50 (R1 200) per tonne – maximising production from homegrown forage is even more essential than on farms operating in the United Kingdom. While Dian has the advantage of cows being at pasture all year round, seasonal variation in grass growth does mean there is a significant reliance on conserved forage to supplement grazing.

Dian says, "We have made huge strides in recent years in improving production efficiency, and a lot of that is down to having better forage quality.

"We have excellent genetics in our cows thanks to my father's longstanding commitment to breeding. Now we are maximising on this advantage, resulting in increased milk production from fewer cows."

Expansion

Dian joined his father in the Lactimar business in 2016, and has overseen considerable expansion and investment in infrastructure since that time, increasing cow numbers to the current optimum.

His focus on sustainability, which is now monitored through a scheme run by a milk buyer in the area, Woodlands Dairy, saw him recognised with a regional Young Farmer of the Year Award in 2023.

He says, "I am passionate about building greater sustainability into the business, across the board. In South Africa, it is probably fair to say we have been lagging behind other parts of the world in this area, but there is now recognition of the need to change, and I am determined to ensure that is the case at Lactimar."

Looking specifically at conserved forage quality, Dian lists a number of areas where he has made significant improvements, including very practical developments such as better silage bunkers to improve fermentation and the use of shear grabs at feed-out to keep a tidy face to reduce aerobic spoilage (heating).

He has also introduced more frequent cutting for baled grass silage, to ensure the focus is on quality and not just quantity. And Dian is a strong advocate for using effective, leading-edge technology, with his adoption of well-researched and proven silage inoculants being a good example.

Study tour

"I was fortunate enough to be able to do a study tour to the United Kingdom, organised by Volac, during which we visited farms and toured the Ecosyl research and manufacturing facilities in South Wales," he explains.

"Seeing this first-hand, and hearing about the

number of trials that have consistently shown benefits, convinced me to switch to Volac's products and we are now using Ecosyl for all our grass and triticale/oats silage and Ecocool for our maize silage. These proven inoculants have, without doubt, played their part in improving our forage quality and that has been important in reducing our reliance on bought-in feed."

Conserved forage is fed as part of a mixed ration at varying levels throughout the year, depending on the availability of grazed grass across an 850 ha milking platform. Around half the grazing area is irrigated, with the remaining ground being referred to as 'drylands', where the crop of choice is the more drought-tolerant lucerne.

"The lucerne, which we graze, will usually last six or seven years, but our other grazing land, on which we are growing a mixture of ryegrass, red clover, and chicory, has to be reseeded each year, such are the losses during the hot summer months. We do this with minimal soil disturbance, using a double-disc drill, and it is at this time when the supplementary forage is most needed.

"A typical forage mix is 10% grass silage, 33% maize, 22% triticale/oats, and 35% bought-in feed such as lucerne hay, oats hay, and citrus pulp, which we take out to the cows on a daily basis in a mixer wagon and feed on the ground along the fence line. It is important to ensure all cows have easy access, and they could be receiving as much as between 8 kg and 9 kg per cow per day when the grazing availability is at its lowest, or as little as 1 kg per cow per day at other times."

Well-balanced

Rations are calculated on a regular basis with Lactimar's concentrate feed supplier, to ensure a well-balanced diet is fed at all times.

The 3 800-cow business is spread across four farms, each with its own rotary parlour. Three of the farms have similar Jersey or Jersey x Holstein cows, averaging around 420 kg liveweight, while the fourth farm has relatively larger cows at around 535 kg liveweight.

"The smaller cows are averaging about 6 000 litres per lactation and will receive a target of 1,6 t of concentrates and between 12 t and 12,5 t of dry matter from pasture, whereas the larger cows are averaging 7 500 litres with 2,1 t of concentrate and between 12,5 t and 13 t of dry matter from pasture. The remainder of their diet will come from silage."

The vast majority of the crops for silage are grown away from the milking platform, on a dedicated 200 ha area, and there is also a separate 185 ha for heifer

rearing. Lactimar operates with distinct spring and autumn calving periods, with artificial insemination carried out using dairy semen to achieve a final replacement rate of 20%. The remaining cows are served to a Hereford to maximise the returns from beef cross calves.

Sustainability

The strong focus on fertility, which ultimately achieves an in-calf rate of between 66% and 70% at six weeks post calving – and results in heifers calving down at between 24 and 26 months – is all part of the drive for efficiency and sustainability that Dian is strongly committed to right across the business.

Through practices such as minimal cultivation and widespread use of compost, which allows reduced use of artificial fertilisers, Lactimar has recorded improvements in soil carbon levels, which now range between 4% and 10% across the farms. This, in itself, will be contributing to improved forage production, which is such a key part of overall sustainability.

Dian is also mindful of a responsibility to his staff, without whom none of the progress made in recent years would have been possible.

He says, "We have a great team of workers, who are an integral part of this family business. There are 80 permanent staff members, and we operate with a management team of 15 people that run the dairies, youngstock, pastures, and feeding, including my wife and her team on administration and financials. Our business would not be possible without all these people."

CAMPAIGN FOR BETTER SILAGE



As well as its Cut to Clamp initiative, Volac is proud to be one of the sponsors of Dairy Farmer's Campaign for Better Silage
www.fginsight.com/bettersilage.

For more information on Volac's Cut to Clamp initiative, visit
www.cuttoclamp.com

DIE KUILVOER- koning

deur René van der Vyver

As jy die woorde ‘Van Greunen’ en ‘graan’ langs mekaar sit, kry jy lekker alliterasie. Jy kry ook dié beste kuilvoer. Van Greunen Boerdery is op 28 November 2023 as die wenner van Plaas Media se Santam Landbou Nasionale Kuilvoerwedstyd bekroon. Dit is die tweede keer dat hulle die titel van kuilvoerkoning dra (2017 en 2023).

Wat is die kuilvoerproduksie-geheime van hierdie plaas by George in die Suid-Kaap? Die antwoorde kom oor 'n krakerige telefoonlyn, want aan die ander kant is hulle hoeka in die stroper, besig om kuilvoer te maak.

Bennie van Greunen is aan die spits van die kuilvoerafdeling by die Van Greunen Boerdery, waar hy en sy drie broers betrokke is. Daar is ook reeds drie seuns van die Van Greunen-broers wat saam woeker op die plaas, onder andere Bennie se seun wat deel van die kuilvoerspan is. Bennie sê die besluite oor al hulle produksieprosesse word geneem op grond van deurlopende ontledings van elke aspek van kuilvoermaak. Weeg en ontleed kan amper as die wenkreet beskryf word. Hierdie deurlopende ontledings het volgens Bennie ook daartoe gelei dat hy kon agterkom watter groot rol die regte kultivar in die sukses van jou kuilvoer speel. “Nee, 'n mielie is nie net 'n mielie nie,” beklemtoon hy wanneer hy verduidelik dat die regte kultivar vir jou plaas van kardinale belang is.

Van Greunen Boerdery se mielie-kuilvoer is deur Kemin ingeskryf vir die kompetisie. Kemin is die verskaffer van die Van Greunen Boerdery se inokulant waarmee hulle die mielies behandel om

kuilvoer te maak. Bennie sê daar is 'n verskil te bespeur tussen mielies wat glad nie behandel is nie, mielies wat behandel is, en mielies wat 100% rég behandel is. Die behandeling verbeter die mielies se houvermoë en stabiliteit.

Die Van Greunens is melkboere en daarom maak hulle erns met kuilvoer. Daar is steeds doelwitte vir verbetering wat Bennie uitlig. Hulle maak elke jaar 20 tot 30 hope mielie-kuilvoer, asook ander tipes kuilvoer, en Bennie sê dat hy daarheen mik dat elke hoop dieselfde standaard as die beste een het. “Ek moet elke hoop kan inskryf vir die kompetisie!” Gepraat van die kompetisie, het Bennie bevestig dat hy weer daaraan sal deelneem en ander boere sal aanmoedig om dit ook te doen.

2023 was die jaar van Santam Landbou se tiende nasionale kuilvoerwedstyd. Daar was 102 inskrywings, waarvan 72 mielie-vervaardigers, 16 hawer-vervaardigers, en 14 voersorghum-vervaardigers was. Kuilvoerbale kan sedert 2022 ook in die formele groepe ingesluit word, wanneer dit in die mielie-, sorghum-, of hawerkategorie ingeskryf word. Die formele kategorieë waarin finaliste gekies word, is dus: mielie-kuilvoer, voersorghum-kuilvoer, en hawer-kuilvoer.





Die finaliste waarteen Van Greunen Boerdery (formaat: kuil) as mieliekuilvoer-koning moes meeding het onder andere Maluti Beef (formaat: silosak) en Exact Silage (formaat: baal) ingesluit. Tydens die beoordelingsproses word daar voedingsontledings gedoen en die aërobiese stabiliteit, asook die bolaagverliese word bepaal. Moet egter nie van die baie belangrike reukbeoordeling vergeet nie! Boonop word daar op die plase gekuier om te kyk hoe die voer verwerk, gekompakteer en toegemaak word.

Richardt Venter, eienaar van Agsci en mede-koördineerder van die kompetisie, sê dat die inskrywings met hoëgehalte-kuilvoer gespog het. Hy is ook opgewonde oor die feit dat 2023 se kompetisie die meeste inskrywings van voersorghum-kuilvoer tot nog toe ontvang het. Die spil waarom die sukses van die kompetisie draai, bly volgens Richardt die unieke feit dat elke deelnemer 'n verslag ontvang met terugvoer oor hoe sy kuilvoer beoordeel is. Die deelnemer kan die verslag bestudeer om te sien hoe hy in elke kategorie presteer en waar hy teenoor die ander deelnemers lê, want dit stipuleer die gemiddelde, maksimum- en minimum-waardes van al die deelnemers. Bennie het ook hierdie verslag uitgelig as die hoogtepunt van die kompetisie,

want “die inligtingstuk sê vir jou wat is die norm en waar jy lê in terme van elke kategorie, wat beteken dat jy presies weet waarop jy moet fokus om te verbeter”.

Deidré Louw, bemakingskoördineerder van Plaas Media, sê die doel van die kompetisie is om te dien as “’n platform wat geskep is om die algemene standaard van kuilvoer in Suid-Afrika te verhoog”. Plaas Media se kernboodskap vir die kompetisie sluit hierby aan, naamlik “om ’n standaard vir goeie kuilvoer in Suid-Afrika te stel deur middel van wetenskaplike toetsing en deur terugvoer aan boere te gee sodat hulle kuilvoerpraktieke verbeter kan word en dit uiteindelik kan lei tot beter veeproduksie.”

“Van krag tot krag,” is hoe Deidré die momentum van die kuilvoer-kompetisie beskryf. Sy bevestig dat die kompetisie elke jaar groei met ’n klomp nuwe inskrywings, asook ’n groot aantal maatskappye wat as borge betrokke wil raak.

Die woorde ‘Van Greunen’ en ‘graan’ veroorsaak alliterasie, maar dit veroorsaak ook inspirasie; inspirasie vir verskeie boerderye om hul kuilvoerpraktieke optimaal te bestuur en by te dra tot die verbetering van Suid-Afrika se kuilvoerstandaard. **TDM**

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Also for lambs

TOP COWS AREN'T BORN, THEY ARE FORMED



With the genetic technologies available today, every calf born to the herd has the potential to become a top producer. However, the development of the heifer and management of the cow will determine to what extent its production potential can be realised. Therefore, developing a top milk cow starts by investing in the calf to unlock epigenetic effects during her development so that they can be put to use during lactation.

by Dr Daniël van der Merwe



Calf rearing

While nutrition and management of the dam in the final trimester play an important role in the development of the calf, in this section we will focus on post-natal calf development.

The first target of calf rearing is to ensure that the newborn calf ingests between 3 L and 4 L of colostrum within 12 hours after birth. This provides the calf with sufficient nutrients and immunoglobulins to develop its immune system. Thereafter, calves should be introduced to a nutritional programme consisting of milk or milk replacer to provide sufficient nutrients for their initial growth and development, as well as gradually being introduced to a starter feed to assist in developing the rumen prior to weaning.

During this initial growth phase, the calf is at its most vulnerable. It is, therefore, essential to enforce hygienic conditions around the calf pens as well as with any equipment used to mix and provide milk to the calves. Use only high-quality, fresh milk and feed to nourish the calves and prevent the incidence of scours. The effects of stress or disease (such as pneumonia or scours) impinge on the health of the calves and hamper

their development as well, thereby reducing milk production during the first lactation. Therefore, improving hygiene factors around the calf-rearing unit as well as utilising drenches, probiotics, and trace minerals to reduce the risk of diseases would be beneficial to the calf's future performance.

Heifer rearing

It is firstly important that heifers are weaned at an appropriate weaning weight, depending on the breed and level of dry matter intake (DMI). A higher DMI at weaning has been correlated with higher milk production in the first lactation. This may be because calves that exhibit higher feed intakes at weaning would consequently have a higher body weight and so attain the target body weight at first calving. Remember to maintain heifer health and keep up to date with the relevant vaccination schedules.

Nutritionally, after weaning, the goal is to continue developing the rumen, using good-quality forage and supplementing sufficient nutrients to promote heifer growth. During this stage, take advantage of the higher growth efficiency of the



young animals. But remember that too rapid a growth rate, especially before attaining puberty, is undesirable as fat deposition increases and an accumulation of fat around the mammary gland is undesirable for milk production. The expected growth rate up to 24 months of age is around 0,7 kg/day for Holsteins and 0,5 kg/day for Jersey heifers. The target liveweights for heifers when bred at 15 months would be in between 320 kg and 365 kg for Holsteins and 215 kg and 240 kg for Jerseys. For heifers to calve at an earlier age, they must attain these target weights before conception to ensure that they have developed properly and to benefit milk production in the first lactation. Furthermore, attaining the correct target weights reduces the risk of dystocia during calving. The main reason for early calving is to reduce the time and cost of feeding unproductive heifers. Observations made by Muller and De Waal (2016) showed that

the productive lifetime of a cow increases when the age at first calving is between 22 and 29 months. Likewise, milk production increases with age at first calving when that takes place between 20 and 25 months, after which it would decrease. It is, therefore, recommended that heifers calve down for the first time around 24 months of age at target body weights of between 520 kg and 570 kg for Holsteins and 360 kg and 390 kg for Jerseys.

During the last three months before calving, the nutritional requirements of the heifer and the foetus increase considerably. Therefore, the amount of concentrate supplemented must be increased to meet the demand, although supplementation must be managed to ensure that heifers calve down at a body condition score of 3,0. Heifers with a body condition score of 3,5 have an increased risks of calving problems.

First lactation

After two years of rearing and preparing, the heifer finally calves and comes into milk. Milk production of first-lactation cows is usually lower than that of multiparous cows, but this is the baseline where milk production is set and then built on until the cow achieves 'top cow' status. Remember that during this period, the cow is still growing to a mature body weight, while at the same time the onset of milk production further elevates her nutritional requirements. The challenge in this period is to increase the DMI of the cows during early lactation to support increasing milk production so that they reach peak production after 60 days, as well as support the involution of the uterus to allow earlier recovery and conception. Fortunately, a well-managed heifer is less prone to metabolic disorders during the first lactation; nevertheless, proper adaptation to

the lactation ration and stress management are critical in supporting intake and milk production. First lactation cows are at a greater risk of developing ruminal acidosis, which is detrimental to consistent feed intake and production. Adaptation, ration density, feed supply, and stress management are key factors that need to be accounted for to maintain consistent, increasing feed intake. As dry matter intake during early lactation is closely linked to production, it must be managed to achieve an early, optimal peak milk production.

Subsequent lactations

Should the cow perform well and conceive during her first lactation, the foundation for her to achieve 'top cow' status has been properly laid. The principles of drying off and preparing the cow for the next lactation come into play. Body condition management remains very important to ensure that there are sufficient reserves for lactation. From the second lactation, the risk of cows developing metabolic disorders, such as milk fever and ketosis, increases. Therefore, attention needs to be given to the transition period during steam-up and early lactation to ensure that the cows stay healthy and can maintain a high level of nutrient intake for lactation.

If a cow is to become a leader in the herd in terms of milk production and lifetime productivity, preparations begin from the colostrum intake after birth, with proper growth and health management into the first lactation. During lactation, emphasis is placed on enhancing feed intake to support higher milk production, while still maintaining the health of the cow and managing stress so that she is able to milk optimally. **TDM**



Reference

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PRACTICAL GUIDELINES

for national procurement of veterinary vaccines



Veterinary vaccines, when associated with other measures, have proved to be powerful tools to prevent, control, and eradicate animal diseases. An effective procurement process ensures that safe and effective vaccines that meet internationally recognised quality standards are available at the right time, in the right quantities, and at a fair price. Establishing effective procurement procedures can be quite challenging, especially during disease emergencies. Many countries have realised that their national procurement processes regarding veterinary products are unclear, inefficient, or simply non-existent.

Developed by the World Organisation for Animal Health (WOAH)

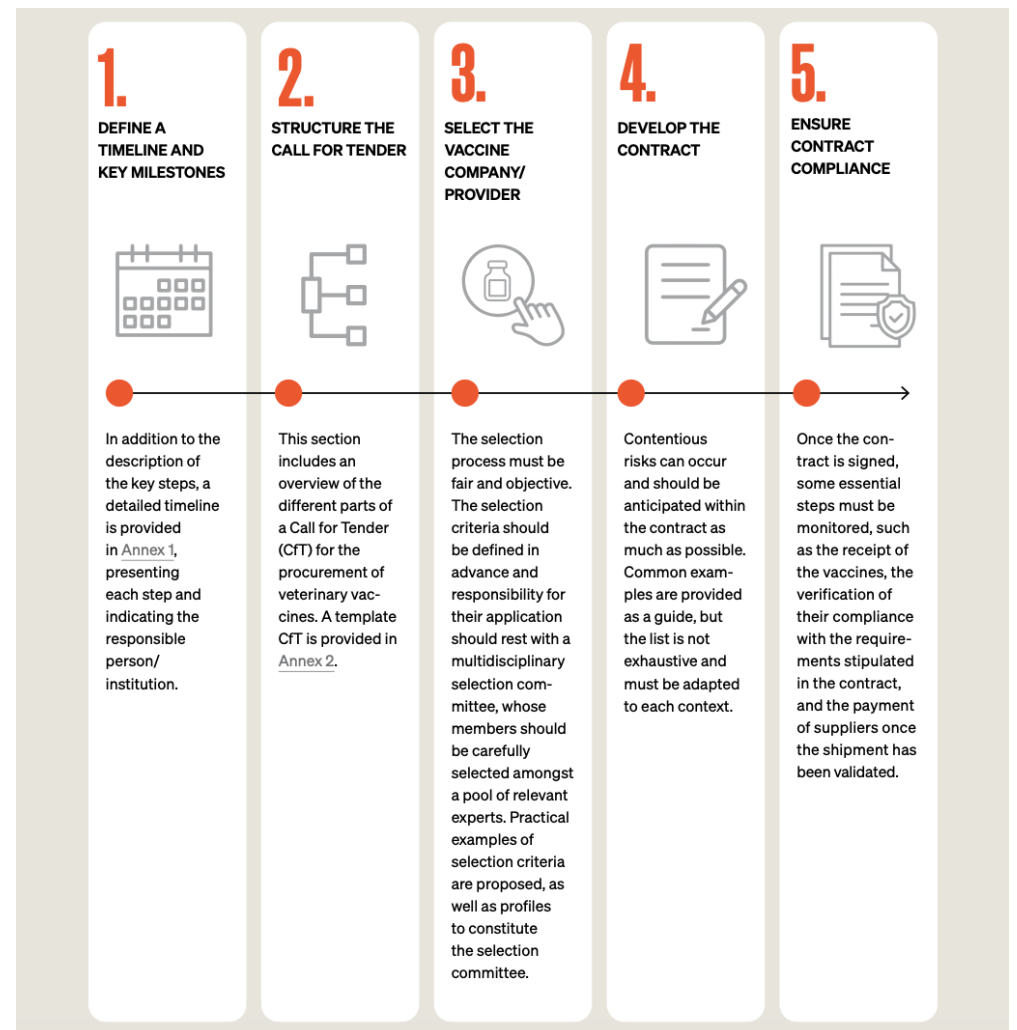
In this context, the World Organisation for Animal Health (WOAH), as the international organisations responsible for improving animal health worldwide, has developed these practical guidelines to support its members in the process of identifying and procuring quality assured veterinary vaccines, as well as to provide clear guidance on the information regarding the vaccines and the manufacturers required for the procurement process.

Vaccines differ from other veterinary products in many ways and must be given special consideration during their purchase. For example, most vaccines are temperature-sensitive, which

means that the reliability and adequacy of cold chain capacity are critical throughout the supply chain to ensure that the vaccines are effective in the field. Assessing the robustness of the cold chain procedure is important during the procurement process.

Selection must be done carefully and should be based on the circulating pathogen strains and on the objectives set by the vaccination strategy to ensure a successful campaign. For a given disease, there may be a range of vaccines such as live attenuated formulations, inactivated products and/or recombinant or new generation

Figure 1 Five main steps of the vaccine procurement phase



products, offering various advantages depending on their use and objectives.

Compliance with internationally recognised standards for manufacturing quality, safety, and efficacy is critical; in addition, other selection criteria, such as price, delivery time, and vial size, are also relevant for the procurement process. Vaccine 'quality', as demonstrated by meeting WOAAH standards as defined in the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual) should always be the first criterion to be considered and is more important than attractive low prices. Hence, in a successful procurement process, a technical evaluation is undertaken before any assessment of the financial proposal.

These guidelines provide practical guidance on the essential steps for an efficient and transparent procurement process of quality-assured veterinary vaccines. The target audience is primarily the persons in charge of managing vaccine procurement in the veterinary services, aquatic animal health services, or relevant governmental agencies, and the objective is to accompany them through each stage of the process by proposing clear and practical guidance.



However, these guidelines can also be useful to the following stakeholders:

- WOAAH delegates or chief veterinary officers, to inform decision makers of the specifics of veterinary vaccine procurement and the importance and benefits of a transparent process that prioritises vaccine quality over price.
- Vaccine manufacturers and distributors, to enable them to better understand countries' requirements when purchasing veterinary vaccines and provide clear, comprehensive responses to the Call for Tender (CFT).

How should the guidelines be used?

These guidelines offer a short summary of the prerequisites for any procurement process. They provide key information to assist those responsible for procurement to successfully select the right vaccines, as well as references to relevant international standards and other references to support decision-making.

The guidelines focus on the procurement phase. They are structured around the five main steps highlighted in Figure 1, designed to provide countries with practical guidance on how to conduct their purchasing process. **TDM**



The complete guideline can be downloaded from <https://www.woah.org/app/uploads/2024/01/en-guidelines-procurement-vet-vaccines.pdf>.



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MASTITIS TREATMENT IN DAIRY CATTLE

Part 1:

Leading the fight against antimicrobial resistance

by Dr Inge-Marié Petzer

IN THIS SHORT SERIES, WE WILL LOOK AT:

- Antimicrobials, resistance against them, and the current situation of antibiotic resistance to mastitis-causing bacteria in South Africa.
- Understanding mastitis, the disease, and investigating its economic impact.
- Bottomline indicators of udder health – how to diagnose clinical and subclinical mastitis.
- Treatment success, and:
 - ❖ the choice of antibiotic and the use thereof;
 - ❖ the effect of the bacteria involved;
 - ❖ the role of the cow;
 - ❖ the role of the treatment method; and
 - ❖ supportive treatment.
- Monitor treatment success.
- Mastitis treatment in the future.

Over the last six decades, antibiotics have become the main tool to manage and reduce disease and to help prevent death caused by infectious organisms. Salvarsan was the first antibiotic that was discovered in 1910 and it was then used for treatment of syphilis. This was followed by the discovery of penicillin in 1928 – which was only put into use ten years later, in 1938. This is now 86 years ago, so most of us cannot imagine life without antibiotics. The discovery of new antibiotics peaked in the mid-1950s but the most recent antibiotic class was discovered in 1997 (Lewis, 2013). The decline in the discovery of new antibiotics and the increase in the development of resistance by bacteria to existing antibiotics, has led to the current antimicrobial resistance (AMR) crisis. Antimicrobial resistance does not only make infections more difficult to treat, but also increases the risk of other medical procedures such as surgery, caesarean sections, and cancer chemotherapy (WHO, 2021).

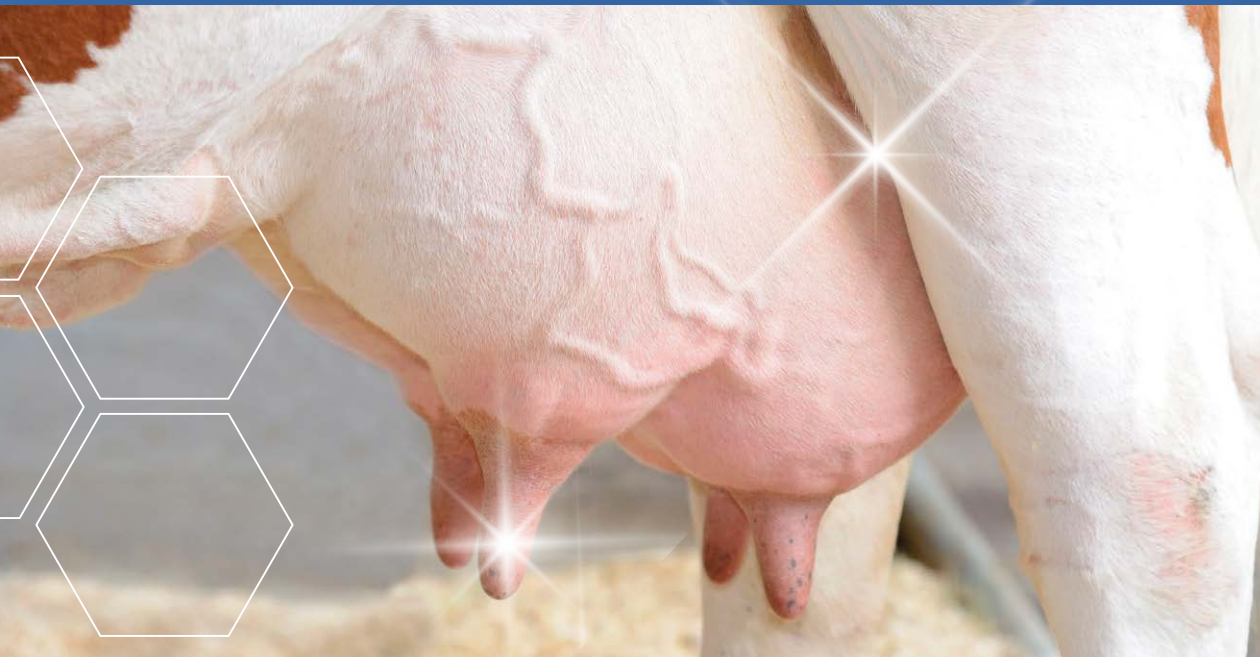
Antimicrobials are products used to inactivate or destroy microorganisms. There are three major groups of antimicrobials, namely antiseptics (chemicals used on the living body, mostly the skin and wounds – such as teat dips), disinfectants (products used on non-living surfaces like those used to clean the milking machine and the working surfaces), and antibiotics (medications that fight infections caused by microorganisms inside humans and animals). The principles that we will discuss for antibiotic treatment are

Why is there so much talk about antimicrobials and antimicrobial resistance lately?

What Steven Gould said makes us look differently at our health challenges, “On any possible, reasonable, or fair criterion, bacteria are and have always been the dominant form of life on earth,” (*Planet of the Bacteria*, 1996).


The development of antibiotics is, therefore, seen as one of medicine’s greatest achievements.

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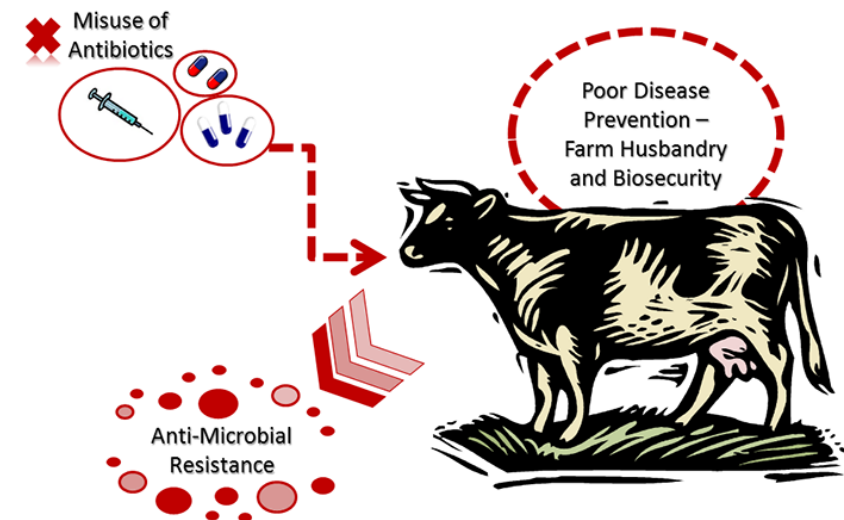
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Factors that cause the Development of Antimicrobial Resistance



equally important when using antiseptics and disinfectants on the farm and in our homes.

The World Health Organization (WHO) declared in 2014 that AMR is one of the top 10 global public health threats facing humanity. They set targets that included a reduction in antibiotic use by 20% by 2030 (compared to 2019) and that at least 65% of the antibiotics used should be from the 'access group' (least restricted antibiotics).

What is the extent of antimicrobials usage in South Africa?

According to the National Department of Health, South Africa imported 6,2 t of antimicrobials in 2015. Of this, between 23% and 36% was for use in the animal sector. Of the total antimicrobial consumption in South Africa, humans consume 98% of all penicillin and streptomycin, and about 69% of the other antibiotics.

The World Organisation for Animal Health includes growth promoters in their antimicrobial usage statistics. For the period 2014 to 2015, the predominant antibiotic group used in animal health in South Africa was growth promoters (62%) followed by tetracyclines (17%). What is worrying is that there was a substantial increase

in use of growth promoters and other antibiotics in South Africa during 2015 (NDH, 2018).

The utilisation of antibiotics for the treatment of mastitis

Livestock farming relies on the use of antimicrobials to prevent, control, and treat disease and for growth promotion. Mastitis is recognised as the costliest disease in First World countries and is responsible for between 60% and 80% of antimicrobial use in dairy cattle (Van Werven, 2018). However, the overall treatment success of mastitis is low. There are several reasons for the poor treatment success:

- There is currently not a single intramammary antibiotic that has all the qualities necessary to function effectively in the udder tissue at an adequate concentration for the required time period. When the animal is injected with an antibiotic, the product should have a low build-up in other organs of the body and be able to cross the blood-udder barrier effectively in order to reach the infected area in the udder.
- Inflammation of the udder tissue changes the blood circulation to the infected area, the pH, and causes abnormalities in the milk, all of

which will interfere with treatment success. Some bacteria cause abscesses to form inside the udder, which antibiotics cannot penetrate.

- Mastitis is caused by many different bacteria that often require different strategies to prevent and to treat successfully. Bacteria may differ in location within the udder tissue, the ability to survive in the udder, and the degree of potential udder tissue damage (Hensen *et. al.*, 2000).
- The risk of mastitis in individual animals in a herd varies depending on the challenges present in their environment, their teat canal score, stress encountered, milk yield, lactation number, days in milk, and mineral and energy status.

Antimicrobial resistance (AMR)

Some bacteria are naturally resistant to certain antibiotics, but mostly AMR is acquired. Antimicrobial resistance is a natural process that happens over time, but the main cause of antibiotic resistance is antibiotic use! The more we use an antibiotic, the greater the risk that the bacteria may become resistant to it. Resistance can increase sharply, however, when antibiotics are misused.

Bacteria are constantly developing new mechanisms to survive and overcome the effects of antibiotics. Some can break the antibiotic down with enzymes; other bacteria change their outer membrane to prevent the antibiotic from entering, and others develop a pump system that removes the antibiotic as it penetrates the bacteria.

Antibiotic resistance trends of mastitis-causing bacteria in South Africa

In a South African study, using 6 069 bacteria isolated from milk samples, antibiotic resistance of *Staphylococcus aureus* was compared for three time periods: 2010–2011, 2015–2016, and 2020–2021. These results were concerning.

The resistance of *Staph. aureus*, a well-known mastitis-causing bacteria, changed against six antibiotics over the three time periods. Ampicillin has been on the South African market for many

years and is present in various intramammary products. The resistance of *Staph. aureus* to ampicillin decreased slightly from 2010–2011 to 2015–2016, but then sharply increased to 71,5% in 2020–2021.

The results did not only show a large increase

Figure 1 The resistance trends of *Staph. aureus* against different antibiotics

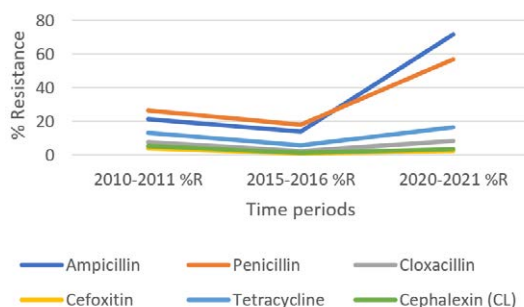
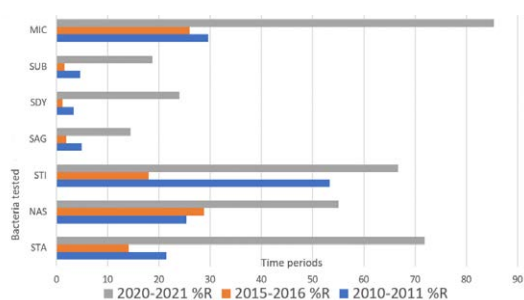


Figure 2 Resistance trends of seven mastitis-causing bacteria to ampicillin



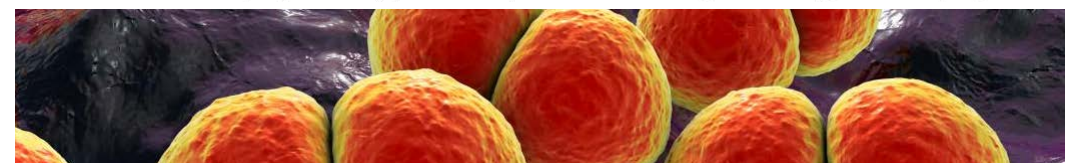
in resistance of *Staph. aureus* but they also showed increases for all seven bacteria species tested: *Micrococcus* (MIC), *Strep. uberis* (SUB), *Strep. dysgalactiae* (SDY), *Strep. agalactiae* (SAG), *Staph. intermedius* (STI), Non-*aureus* staphylococci (NAS), and *Staph. aureus* (STA) (Figure 2).

Gram-negative bacteria and non-*aureus* staphylococci were responsible for most clinical cases isolated in the milk laboratory at the University of Pretoria during 2010–2011. This was not surprising as 73% of all bacteria isolated from milk samples at that stage were non-*aureus* staphylococci. This situation changed drastically

Table 1 Bacteria isolated from clinical mastitis cases tested in South Africa for the three time periods

	2010/2011	2015/2016	2020/2021
	% Bacteria (n=2181)	% Bacteria (n=1491)	% Bacteria (n=1808)
Gram-negative	15.2	10.8	11.5
Non- <i>aureus</i> staph.	27.7	24.8	23.5
<i>Strep. agalactiae</i>	13.2	7.5	4.3
<i>Strep. dysgalactiae</i>	7.7	6.3	5.7
<i>Strep. uberis</i>	13.9	33.3	31.9
<i>Staph. aureus</i>	11.0	14.6	21.7

Non-*aureus* staphylococci, previously known as coagulase negative staphylococci



from 2015/16 when *Strep. uberis* became the leading mastitis-causing bacteria isolated at the same laboratory. In addition, *Staph. aureus* cases, that were decreasing in past years, again emerged as a main cause for clinical mastitis. Both *Staph. aureus* and *Strep. uberis* live inside the cell of the host, making them more difficult to treat effectively and for the immune system of the body to deal with them. Although relatively few Gram-negative bacteria are currently isolated from the milk of individuals when herds are tested, they remain an important cause of clinical mastitis in South African herds.

In the next issue, we will be exploring mastitis – the disease and its economic impact. TDM

Reference

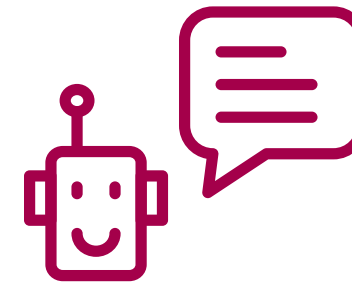
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THE FACTS ABOUT BRUCELLOSIS

PART 2

By Dr Mark Chimes

In this instalment of our series on brucellosis, our focus will be on the spread of the disease, how to prevent it, and what your responsibility is when your herd tests positive for brucellosis.

How *Brucella* spreads from one farm to another

The most common way in which *Brucella* spreads from one farm to another is through the movement of infected animals between farms. Transmission commonly occurs when an infected animal calves normally or has an abortion, as this process releases millions of *Brucella* bacteria into the environment and these can easily infect other animals.

- Cattle normally become infected by eating contaminated fodder, drinking contaminated water, or licking the afterbirth or vaginal mucous secretion of an infected cow that has aborted or calved.
- Keep cows that have tested positive separate from the other cattle and slaughter them as soon as possible. When a cow calves or aborts, she secretes large numbers of organisms that infect the environment. Clean and disinfect these areas if possible and keep other animals away from these areas.
- Since *Brucella* bacteria need cool, moist areas to survive, lush vegetation in wet and muddy calving camps plays an important role in the transmission of *Brucella*.

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- 4 Fortitude® EDC - tried and trusted:**
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ARE GRAM-NEGATIVE PATHOGENS A PROBLEM ON YOUR FARM?:

If your answer is yes, please consult your herd veterinarian to advise on the most effective dry cow therapy for you. An over-the-counter (OTC) product will likely not be the best choice, due to their known lack of efficacy against gram-negative bacteria.

This is evident from the table adapted from Bradley (2006)¹, where ampicillin and cloxacillin, both show a poor spectrum of activity against gram-negative bacteria. In fact, look at an intra-mammary pathogen antimicrobial sensitivity test (AST) report from an accredited lab - it's likely that they don't routinely include ampicillin or cloxacillin in the panel of antibiotics tested against gram negative-bacteria, due to their known lack of efficacy.

TYPICAL SPECTRUM OF ACTIVITY OF ANTIBIOTICS COMMONLY FOUND IN DRY COW THERAPY (DCT) FORMULATIONS IN THE UK.¹

	Gram +ves	β-Lactamase <i>Staphylococcus aureus</i>	Gram -ves
Penicillins/Penethemate	+++	-	-
Ampicillin	++	-	+
Cloxacillin/Nafcillin	+++	+++	-
Cephalonium	++	++	++
Cefquinome	++	++	++
Dihydrostreptomycin	+	++	+++
Framycetin/Neomycin	++	++	+++

Adapted from Bradley¹



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Reference:
1. Bradley AJ, Green MJ. The use of antibiotics in the treatment of intramammary infections at drying off. World Buiatrics Congress 2006 - Nice, France.
2. Kietzmann et al. Tissue distribution of cloxacillin after intramammary administration in the isolated perfused bovine udder. BMC Veterinary Research 2010 6:46.
3. CEESA sales data - South Africa 2020 - 2023

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- Heifers that were born from infected cows often test negative before they have calved and only test positive after their first calf is born. Newly bought-in heifers pose a high risk and should ideally be kept separate from the rest of the herd until they have calved and have tested negative for brucellosis.
- Predators and scavengers, such as roaming dogs, jackals, seagulls, and crows, may carry infected material (aborted fetuses and afterbirths) between farms. Ensure that all aborted material is disposed of properly by burning or burying. Do not leave any material lying around.
- Flies that feed on infected material may spread the bacteria mechanically after feeding on infected material and then sitting on the mucous membranes of animals.

Keep your herd clean and vaccinate

- The only person who can protect your cattle herd against brucellosis is YOU!
- When buying cattle, insist on proof of vaccination records and recent negative herd tests for the farm of origin.
- For biosecurity reasons, it is always advisable to isolate any cattle bought into the herd. Keep them isolated until you get the test results back before introducing them to your herd.

- All heifers between four and eight months of age must be vaccinated once with an effective vaccine for brucellosis (currently the only approved vaccines available are Strain 19 and RB51). Strain 19 may only be used in heifers between four and eight months of age and may not be repeated. Follow-up vaccinations with RB51 for female animals may be administered, but only with the written permission of the responsible state veterinarian.
- No bulls may be vaccinated, regardless of their age, since the vaccine will cause sterility in male animals.
- If all cattle have been removed from a farm for one month and all facilities have been disinfected, no further infection will usually occur.

“Cattle normally become infected by eating contaminated fodder, drinking contaminated water, or licking the afterbirth or vaginal mucous secretion of an infected cow that has aborted or calved.”

It is a herd disease

- Animals that become infected may take up to three years before they test positive but will remain a danger to cattle and people on the farm.
- If one animal in your herd tests positive for brucellosis, the whole herd is considered infected and can be placed under quarantine. This is due to the chronic (long-term) nature of the disease and slow onset of symptoms caused by *Brucella*.
- Animals that tested negative at first will often test positive in another round of tests.
- There is no cure, and all cases must be reported to State Veterinary Services, as this is a controlled disease.

- It affects your pocket! Be careful – don't ruin your farm and your future.

What happens if your herd tests positive for brucellosis?

Your responsibilities

- It is important to understand that brucellosis is a herd disease. If one animal tests positive, then the **whole herd** is classified as positive and quarantined.
- Even if the other animals in the herd test negative, they must be treated as suspect since they could carry the organism for quite some time before their test results become positive.
- Animals that test negative in the first test can often test positive in the next round of tests.
- Section 11 of the Animal Diseases Act (35 of 1984) provides that livestock owners must take reasonable steps to prevent their animals from becoming infected and to prevent the spread of disease.

- An owner is not allowed to knowingly buy infected animals and bring them into his herd.
- An owner who becomes aware of the presence of a controlled disease (such as brucellosis) in his livestock must inform the following groups of people:

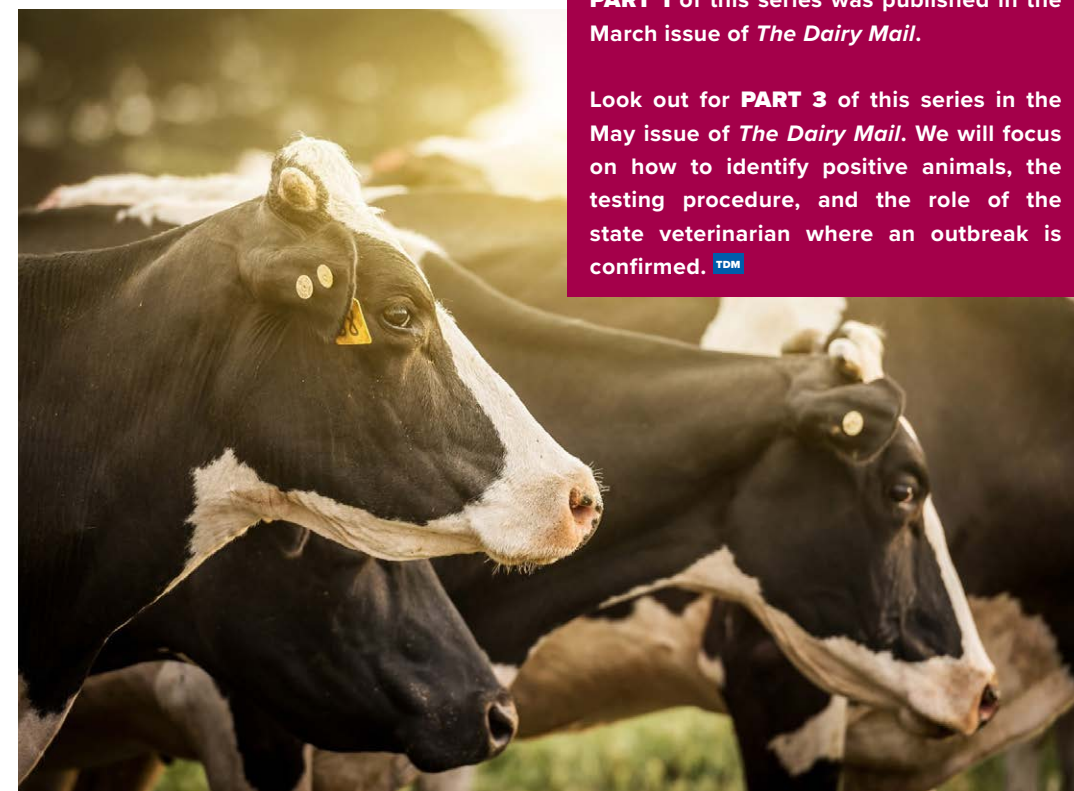
- o all his neighbours,
- o all prospective buyers; and
- o all buyers who bought animals from him within the preceding 30 days.

This is the case even if the disease has not yet been confirmed but is suspected.

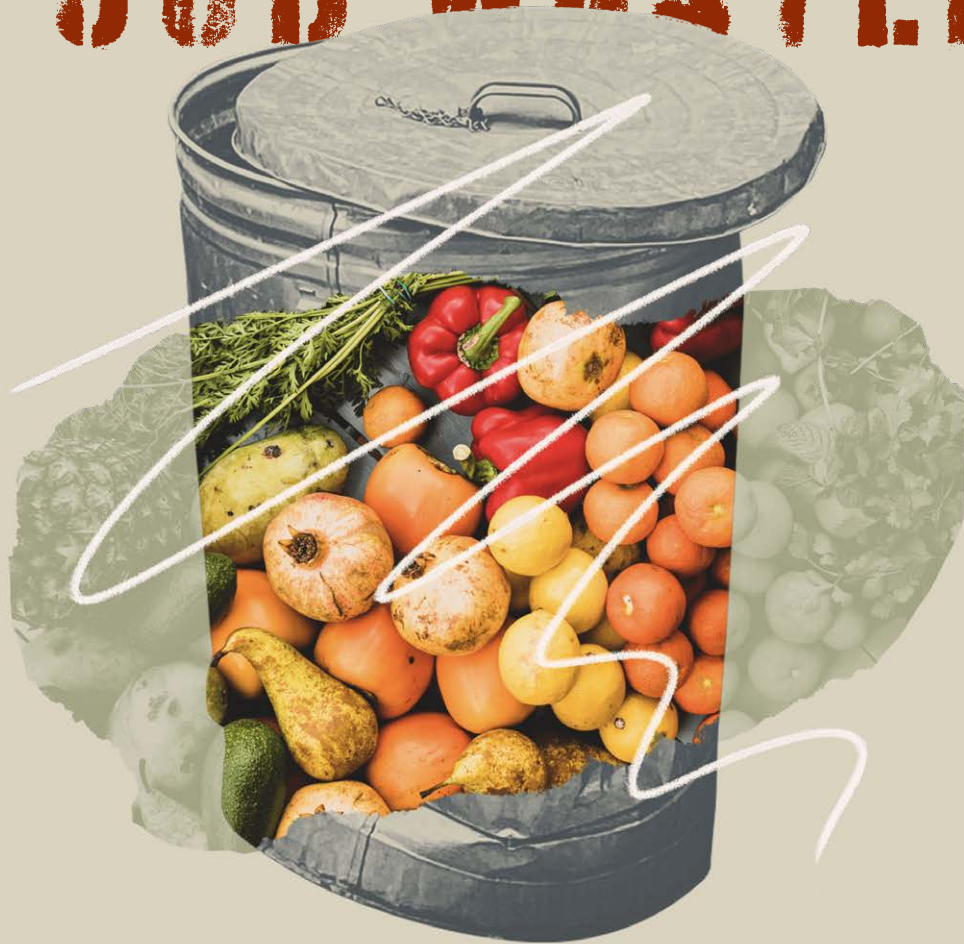


PART 1 of this series was published in the March issue of *The Dairy Mail*.

Look out for **PART 3** of this series in the May issue of *The Dairy Mail*. We will focus on how to identify positive animals, the testing procedure, and the role of the state veterinarian where an outbreak is confirmed. **TDM**



TRANSFORMING FOOD WASTED



INTO FEED WON!

Empowering dairy farmers amid carbon tax initiatives

by Soné Nell, Steyn Research Group

One-third (approximately 1,3 billion tonnes) of the global food supply is wasted annually. The dairy industry plays a crucial role in diverting much of this waste away from landfills and converting it into meat and milk. However, will South African farmers face penalties when carbon taxes are enforced in the country?

The global dairy industry has made significant progress towards becoming carbon neutral by the year 2050. Carbon credits serve as an added incentive for farmers to focus on reducing the carbon footprint of their operations. These credits represent the amount of greenhouse gases a farm can emit into the atmosphere, obtained through carbon capture or emission reduction. Each credit earned permits the emission of one tonne of greenhouse gases. Farmers can accumulate credits for future use in areas where mitigation is challenging or sell them to private companies. However, to earn credits, farms must calculate their carbon footprint and provide evidence of mitigation efforts. This raises the question: Will our farmers face unnecessary penalties?

The human food chain

The human food chain generates substantial quantities of by-products and waste products annually, posing a significant threat to food security, the economy, and the environment.

Disposing of food not only squanders the nutrients it contains, but also the resources expended in its production, including water, energy, fertilisers, and transportation. Food loss occurs at various stages of the food chain, from production and post-harvest handling to processing, and culminates at the retailer and consumer levels where edible food is discarded unnecessarily.

There is a notable disparity between low- and high-income countries regarding the stages at which food loss occurs. In low- and middle-income nations, over 40% of food loss occurs during post-harvest and processing stages, attributed to inadequate technology, suboptimal harvesting methods, and insufficient cold-storage infrastructure. Conversely, in high-income countries, over 40% of food loss transpires at the retail and consumer levels, primarily due to mismatches between food supply and demand.

Human food loss and waste (FLW), while unsuitable for direct human consumption, originates from food production and encompasses portions that can be repurposed as ingredients in ani-

FOOD WASTE in high-income countries (222 billion kg) is almost as high as the total annual **FOOD PRODUCTION** (230 billion kg) in sub-Saharan Africa.

mal feed. Increasing the utilisation of FLW in animal feed has been suggested as a strategy to enhance resource efficiency and mitigate competition between feed and food. Moreover, incorporating FLW from the human food industry can modify the carbon footprint of ruminant production systems, affecting methane emissions – an issue of significant concern for the dairy industry presently.

Methane produced from human food waste on landfills

In landfills, microbes decompose organic materials under anaerobic conditions, generating landfill gas. This gas comprises between 50% and 60% methane, 40% and 50% carbon dioxide, and 2% and 5% nitrogen, along with trace amounts of other gases. Methane, a potent greenhouse gas, contributes significantly to global warming by trapping heat within the atmosphere. Landfills rank **third** among sources

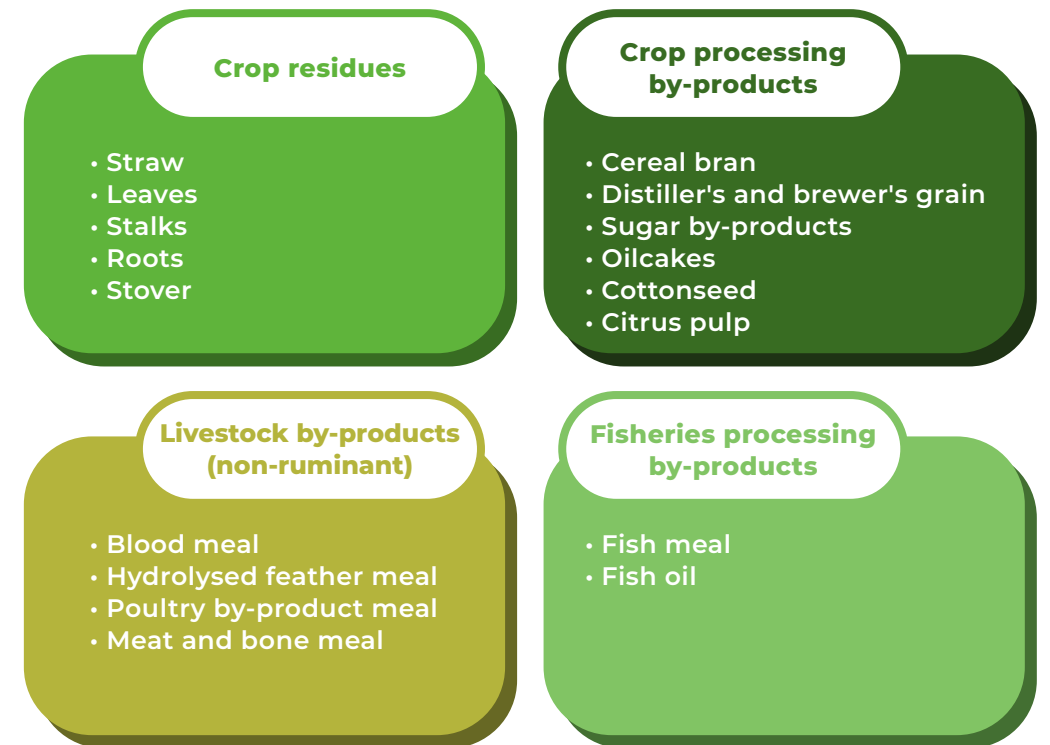
of human-origin greenhouse gases, underscoring the environmental threat posed by food waste. When human food waste is disposed of, valuable nutrients that could be converted to energy for humans or animals instead contribute to greenhouse gas emissions. Ruminants offer a potential solution to mitigate this issue.

How cattle turn food wasted into feed won

Dairy cattle frequently face criticism for their contribution to global warming through the emission of greenhouse gases, notably methane and carbon dioxide. Ruminants possess the capability to convert feed into volatile fatty acids for energy production. However, during the degradation of carbohydrates in the rumen, methane-producing microbes generate methane and carbon dioxide, which are expelled from the body through eructation, or burping. Methane production is heightened when animals consume



Figure 1 Categorisation of food system by-products typically used in animal feeds



high-fibre feed, as the production of acetic acid promotes methane formation.

Dairy rations commonly incorporate by-products and waste products from the human food industry, which can be classified into four categories (Figure 1). Utilising crop residues and crop processing by-products is standard in the ruminant feed industry. However, since these products often contain elevated levels of fibre, their use is linked to increased methane production.

While incorporating food system by-products into dairy rations may lead to increased greenhouse gas emissions, it effectively diverts valuable nutrients away from the landfills, where they would contribute to greenhouse gas production. Redirecting these by-products towards the production of meat and milk for human consumption offers a sustainable alternative. Farmers who utilise human food waste deserve



recognition for their efforts, as they not only reduce the landfill gas production but also convert wasted food into valuable resources. Establishing criteria for compensating dairy farmers who utilise human food system by-products will require focused research to understand their contributions, especially as carbon tax and carbon credits become a reality in South Africa. **TDM**



50 MILLION MIGHT BE **WITHOUT** **WATER** IN AFRICA IN 25 YEARS

Interview with Philip Kofi Adom

Research reveals that from 2050, Africa will suffer from food and water scarcity, with accompanying job losses in agriculture, unless climate change mitigation measures are put in place.

African countries will suffer significant economic loss after 2050 if global warming is not restricted to below 2 °C, a new study by the Centre for Global Development has found.

Environment and energy economist Philip Kofi Adom is the author of the report. He synchronised many years of research by climate change scientists and researchers and found that West and East Africa will fare worst. *The Conversation* asked him about his findings.

“You have found that climate change will reduce Africa’s crop earnings by 30%. How will this affect people?”

“If climate change continues on its current trend, crop production in Africa will decline by 2,9% in 2030 and by 18% by 2050. About 200 million people risk suffering extreme hunger by 2050. The crop revenue loss of approximately 30% will cause a rise in poverty of between 20% and 30% compared to a no-climate-change scenario.

“How this will happen is that climate change will drive agricultural production down, so crop sales will suffer although scarcity will raise prices.

“In Africa, 42,5% of the working class is employed in the agricultural sector. The incomes

of those, mostly rural, workers will decline. Already, a higher share of people living in rural areas are poor and most impoverished people in Africa are concentrated in the rural areas. The decline of the agricultural sector is likely to push more people into severe poverty.

“We will also face food security issues and those who work in the agricultural sector will face the risk of losing their jobs. Rural farmers who rely only on rain and have no irrigation systems to grow their crops will suffer the most.”

“You project a long-term Africa-wide gross domestic product (GDP) decline of 7,12%. What impact will this have?”

“When we speak of the long term, we are looking at 2050 and beyond. Gross domestic product tells us the wealth status of economies at any point in time. Through wealth creation, businesses emerge and jobs are created. Taxes collected pay for infrastructural investment, investment in social services and provision of social support like health insurance and unemployment insurance. With a 7,12% decline in GDP, these wealth-creating potentials in the economy are going to be severely affected should climate change continue at the current pace.





“Country-level projections have suggested much greater economic losses in GDP, ranging between 11,2% and 26,6% in the long term, in the most affected regions of Africa. When economies shrink in size, businesses could close down, certain jobs would be destroyed and new jobs would not be created.

“For the people of Africa, this is very significant because it is predicted that in the coming years, the continent’s population will reach over 2 billion. The African population is the world’s most youthful. So if African economies shrink, where would those young people find their source of livelihood? That is a great concern.”

“50 million Africans are likely to be pushed into water distress. What does this mean?”

“It means severe water shortages in homes and industries. For example, if you used to have access to water all day, you are going to have a much lower supply – a quantity so low that it does not meet your needs. This is a demand and supply issue. There will be higher demand for water resources but because of the short supply, water prices will shoot up. Going into the future, if nothing is done, water across Africa will be very expensive.”

“Can adaptation and mitigation help us avoid this disaster?”

“When we talk about climate change it is community or collective action. Obviously, governments are the big players. The government has to foster the change efforts that are required by supporting private initiatives in climate

adaptation and mitigation – either directly or through incentive designs.

“No attempts at adaptation and mitigation are too small. If these small efforts are coordinated, we can expect to see results. Individual households and individual businesses can do a lot. For example, people can cut down on the amount of meat and dairy eaten or change the way they use transport – resorting to cycling, walking or public transport when possible. At home, energy-saving practices can be adopted. And green spaces must be respected and protected.

“People who use banks should ensure they conduct responsible investment. It is always important to know what kind of investment the bank is using money for. If it is not something that is climate-friendly, customers and clients could speak out on the matter.

“Whatever the side effects will be, everyone will be at the receiving end. Everyone has a voice and it is important to use it on climate-related issues.”

“What should African leaders be doing?”

“Climate change is an ongoing and impending environmental crisis. Luckily there is an opportunity to do something about it before the unthinkable happens. I urge African leaders to be very proactive in their climate change and mitigation efforts. The agricultural sector is the economic mainstay for most economies in Africa and climate change poses a grave danger to it. Climate change may create a state of perpetual economic distress if we fail to act now.”

PHILIP KOFI ADOM an Associate Professor at the University of Witwatersrand's School of Economics and Finance.

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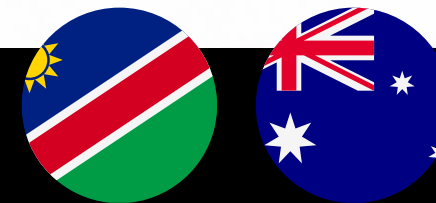


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IDENTIFICATION AND TRACEABILITY SYSTEMS are working well in **Namibia** and **Australia**

by Fidelis Zvomuya

Africa boasts various traceability systems, with southern African countries like Botswana and Namibia leading the way with their well-established systems. Namibia's Livestock Identification and Traceability System (NamLITS) has evolved over the years. While there have been challenges, valuable lessons have been learned along the way.

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Dr Janett-Star Erastus, chief veterinarian in the Directorate of Veterinary Services, sub-division: Traceability, Medicine Control and Advisory Services, under the Namibian Ministry of Agriculture, Water and Land Reform, sheds light on the journey and the key insights gained.

Addressing the Livestock Identification and Traceability System Webinar hosted by the LITS-SA committee (LITS SA being livestock identification and traceability system of South Africa), Dr said NamLITS processes began as early as 1995 with a manual system that involved branding of livestock and eventually identification using approved devices – single-ear tagging versus double-ear tagging.

“In 2006, we implemented a computerised system south of the veterinary cordon fence. This is a ‘red line’, a pest-exclusion fence separating northern Namibia from the central and southern regions. Seven years later, we expanded it to the northern areas to trace the cattle of communal farmers. Their cattle were ear-tagged and captured on NamLITS, ensuring that full traceability was in place,” she said.

Importance of NamLITS

The importance of NamLITS includes issuing livestock movement permits for animals moving from farm to farm, gathering at events like auctions, and being transported to abattoirs for slaughter. It also provides reports such as herd statements, which are a summary of all the livestock registered on a livestock keeper's stock brand, and 90/40-day reports for animals moving to an export abattoir for slaughter, such as MeatCo and Beefcor.

Challenges

According to Dr Erastus, notwithstanding the advantages of traceability systems, challenges persist in their implementation.

“Namibia's experience highlights several hurdles, including compliance and enforcement. Ensuring adherence to regulations poses a significant challenge, requiring robust enforcement mechanisms. High capital and maintenance



costs are another issue faced in Namibia. Establishing and maintaining traceability systems demand substantial financial investment, posing financial strains. The shortage of skilled personnel, such as statisticians and software engineers, impedes the effective operation of the system,” she explained.

Remote areas encounter connectivity challenges, impeding data transmission and system functionality. Additionally, inadequate staffing levels further strain the system's efficacy, requiring enhanced recruitment and training efforts. “Continuous monitoring and evaluation are crucial for system optimisation, yet pose logistical challenges in practice. Ensuring alignment with existing legislation and adapting to evolving regulatory requirements presents ongoing challenges,” Dr Erastus explained.

Amid these challenges, Namibia has garnered invaluable lessons. Collaboration and engagement have proven essential, involving stakeholders and leveraging partnerships for the system's success and sustainability.

Quality and reputation

In the same webinar, Jane Rindfleish, manager of traceability and biosecurity programmes at the New South Wales Department of Primary Industries, high-lighted the significance of the national livestock identification system (NLIS) in protecting and enhancing Australia's reputation as a producer of quality beef and sheep meat.

Rindfleish said the NLIS is a permanent life-time traceability system that incorporates visual or electronic ear tags, a property identification code (PIC) for physical location identification, and an online database to store and correlate data.

“The NLIS is a key partnership between the industry and the government across Australia. It underpins access to inter-national markets for Australian livestock products and plays a crucial role in ensuring the quality and safety of our beef and sheep meat,” stated Rindfleish.

The system allows for the traceability of livestock using permanent identifiers, movement documents, and database records. This comprehensive approach ensures that Australia's animal products are free from chemical residues and exotic diseases.

Detail

The NLIS database holds detailed information on livestock movements from birth to slaughter, providing valuable insights to protect and enhance Australia's reputation as a producer of high-quality animal products. In New South Wales, the NLIS is supported by the Biosecurity (National Livestock Identification System) Regulation 2017, further reinforcing its importance in the region.

Rindfleish also highlighted that the NLIS serves as a critical tool in responding swiftly to major food safety or disease incidents. By utilising the NLIS database, Australia can effectively trace and

manage any potential risks, safeguarding both consumers and the livestock industry. The NLIS is a testament to the strong collaboration between industry stakeholders and government agencies across the country.

“The NLIS for cattle was introduced in New South Wales on 1 July 2004, with electronic identification and recording of all cattle movements in the NLIS database. Cattle are identified using approved NLIS ear devices or rumen boluses, along with a matching ear tag. All cattle movements, whether for sale, slaughter, or relocation, are meticulously recorded in the NLIS database,” she told the online seminar.

Sheep and goats

For sheep and goats, the NLIS was introduced on 1 January 2006, and currently operates as a mob-based system in New South Wales. It involves visually readable ear tags printed with a PIC, accompanied by an NLIS movement document for every mob of sheep or goats. All movements of these animals are recorded in the NLIS database, ensuring traceability.

“In February 2018, the NLIS for pigs was introduced, also utilising a mob-based tracing

approach. Individual pigs are identified with a tattoo or tag and recorded as a group, ensuring efficient and effective traceability,” Rindfleish added.

Looking ahead, she mentioned that individual electronic identification (eID) for sheep and managed goats will commence on 1 January 2025, as part of a national initiative. Farmers may be eligible for funding to support the implementation of the eID system.

The success of Australia's agricultural industries and their communities heavily relies on the red meat integrity system, which encompasses biosecurity, food safety, product integrity, international market access, and other industry-related purposes. The comprehensive traceability measures in place ensure that Australia maintains its position as a trusted and reliable source of high-quality red meat products.

Review and auditing

Australia's NLIS plays a vital role in safe-guarding the quality and reputation of the country's beef and sheep meat.

“Regular review and auditing of the system help identify gaps and areas for improvement, ensuring ongoing efficacy. Also investing in training programmes and raising awareness among stakeholders enhances system understanding and compliance. The embracing of technological advancements has widened the system's scope and improved functionality over time,” said Rindfleish.

Dr Erastus emphasised the importance of continuous improvement and adaptation in overcoming implementation challenges. She underscored the pivotal role of collaboration, technology, and stakeholder engagement in ensuring the effectiveness and sustainability of livestock traceability systems. **TDM**



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THE LINK BETWEEN FOOD SECURITY



AND CYBERSECURITY

by Aloma Swanepoel

Technology has improved productivity, efficiency, and communication in every industry across the globe, and agriculture is no exception. Once considered a traditionally low-tech industry, the increased use of email, online monitoring tools, remote controls, and payment systems – together with automated smart farming equipment such as internet-connected tractors – means the digital threat level has increased for farmers, says Carey van Vlaanderen, chief executive officer of ESET Southern Africa.

“As is the case in many industries across the globe, a growing reliance on online, connected technologies means businesses are more vulnerable to cyberattacks. The use of smart devices, including sensors and analytics, Internet of Things' devices, robotics, drones, and precision farming, have all transformed the agricultural landscape for the better. These tools also gather extensive quantities of sensitive information that could be lucrative to criminals seeking financial gain,” notes Van Vlaanderen.



Carey van Vlaanderen – CEO at ESET Southern Africa.

In a report released in 2023, South Africa ranked number five globally in a list of countries worst affected by cybercrime. Disruptions in Transnet's information technology applications following a cyberattack brought agricultural imports and exports to a standstill in July last year. “In a world increasingly reliant on digital technology, the agricultural sector's vulnerability to cyberattacks not only threatens individual agricultural businesses but poses a risk to national food security, making robust cybersecurity measures of critical importance.”

Van Vlaanderen says that the threat is certainly not unique to South Africa, as a report from the University of Cambridge found that smart farming technology such as automatic crop sprayers and robotic harvesters could be hacked and the likelihood of this happening is increasing. Cybercriminals recognise the global reliance on

food and agriculture as an opportunity to target the industry with cyberattacks either to achieve financial gain through ransomware or to create social and economic disruption. Ransomware attacks can be particularly malicious, for example, by erasing backups or threatening to publish confidential information online as a strategy to pressure an organisation into paying the ransom with little risk of being caught and apprehended. “Today, almost every farmer and agricultural enterprise will use some form of technology to do business. For smaller businesses, simple security solutions such as the automatic updating of software, antivirus software, and multi-factor authentication are critical. However, larger, more intensive farming operations using automated farming systems may require more complex security measures.”

Agriculture in general has historically been shown to have a low level of cyber security in place since attacks are not perceived as being as prevalent as in the financial sector. “There is a prevailing myth among some sectors of the South African farming community that their businesses simply aren't an attractive target for cybercriminals. But given the vast amounts of data inherent in many agricultural activities, as well as the substantial financial transactions involved, it is preferable to take a proactive approach to digital security in the face of sophisticated cyber threats,” says Van Vlaanderen.

While addressing cybersecurity challenges in agriculture can be complex, she adds that there are steps agricultural firms can take to reduce their exposure, limit the damage of an existing

“Employees can be just as susceptible to cyber threats and should be reminded on an ongoing basis of the risks that are out there and the impact that this can have on them and the farming business.”



attack, and position their employees as the first line of defence. “A necessary first step in strengthening defences is to identify where critical infrastructure is vulnerable to attack. This will be different for each business. Some operations may require more investment in cloud security or vulnerability discovery, while businesses may need to extend their cybersecurity efforts to include safeguarding themselves from cyber threats in the form of phishing emails from the companies they partner with and procure from.”

With almost 88% of data breaches being caused by an employee error, Van Vlaanderen says a strong human risk management programme with regular employee training and cybersecurity awareness is a crucial element of any cybersecurity strategy. “Employees can be just as susceptible to cyber threats and should

be reminded on an ongoing basis of the risks that are out there and the impact that this can have on them and the farming business. Humans are prone to mistakes, but these mistakes, ranging from failure to properly delete data from devices to preventable errors like clicking on links in phishing emails, are also preventable.”

The farming industry is vital to the world’s food industry and requires the utmost protection from cyberattacks. “From basics such as implementing password managers and using cutting-edge security technology to withstand an attack on big farming service companies, much more can be done to ensure farmers are supported with the very best cybersecurity strategies and solutions,” says Van Vlaanderen. ^{TDM}



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KAN 'N WERKGEWER 'N WERKNEMER WAT IN DIE TRONK IS, ONTSLAAN?

In die konteks van die Suid-Afrikaanse arbeidswetgewing is die vraag of 'n werkgewer 'n werknemer kan ontslaan terwyl hy/sy in die tronk is, 'n ingewikkelde en sensitiewe aangeleentheid. Hierdie situasie bring verskeie regsaspekte na vore wat beide die werkgewer en die werknemer se regte beskerm.

Mag ek my werknemer ontslaan omdat die persoon in die tronk is?

Summiere ontslag is nie moontlik nie. Werkgewers moet onderskeid tref tussen strafreg en

arbeidsreg. Daar kan nie as vanselfsprekend aanvaar word dat iemand wat in terme van strafreg skuldig bevind word, outomaties skuldig bevind word in terme van arbeidsreg nie.

Dissiplinêre verhoor

'n Werkgewer sal nie 'n dissiplinêre verhoor kan hou omdat die werknemer gearresteer is nie, maar wel vir afwesigheid in die geval waar die werkgewer nie bewus was van die arrestasie nie, of nie in kennis gestel is van die rede vir die werknemer se afwesigheid nie. Let wel, indien die



werkgewer bewus gemaak is van die arrestasie, sal die dissiplinêre verhoor eers gehou kan word wanneer die werknemer uit is op borg, of die werknemer se gevangenydperk verby is en hy/sy vrygelaat is. Dit is van kardinale belang dat die werknemer die kennisgewing van verhoor ontvang en beskikbaar sal wees om die verhoor by te woon.

Indien die werknemer skuldig bevind word, kan die persoon nie ontslaan word nie, behalwe wanneer die misdryf op die werkgewer se perseel plaasgevind het of verband hou met die werksplek, byvoorbeeld diefstal van die werkgewer se eiendom. Daarna kan dissiplinêre aksie teen die werknemer geneem word, omrede dit 'n invloed op die werksplekverhouding sal hê en omrede diefstal 'n ontslagbare oortreding is.

Wat moet die werkgewer doen?

Die werkgewer moet ondersoek instel, en na gelang van die ondersoek moet die werkgewer bepaal of ontslag die gewenste sanksie sal wees, in lyn met die werksplek se dissiplinêre kode, waarna 'n dissiplinêre verhoor gehou sal word. Verhoorprosedures verskil ook in hierdie gevalle,

en 'n arbeidsregkenner moet wel geraadpleeg word vir bystand om te verseker dat prosedurele regverdigheid nagekom word.

Wenke vir werkgewers

Indien die werknemer afwesig is van die werksplek sonder die nodige toestemming, moet die werkgewer alles in sy vermoë doen om die werknemer te probeer opspoor (naamlik SMS, foonoproep of 'n naasbestaande te skakel). Indien daar wel 'n arrestasie plaasgevind het, moet die werkgewer in kontak probeer bly met die owerhede oor die vordering van die saak. Die werkgewer moet tydens hierdie proses ook enige dissiplinêre aksies vermy sodat daar genoegsame bewyse teen die werknemer is. Sou 'n dissiplinêre verhoor gehou word, moet alle relevante bewyse beskikbaar wees. Ontslag moet oorweeg word slegs wanneer die onderneming skade daardeur gely het.

Moenie 'n werknemer vervang tot en tyd en wyl die werkgewer seker is daarvan dat die werknemer nie gaan terugkom nie, of dat die werknemer se dienste wettiglik beëindig is nie.

In Suid-Afrika word die reg op 'n regverdige proses hoog aangeslaan en is die ontslag van 'n werknemer wat in die tronk is, 'n uiters komplekse aangeleentheid. Hierdie situasie vereis sorgvuldige oorweging van al die relevante faktore om te verseker dat regverdigheid en billikheid in ag geneem word. [TDM](#)



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LEADING CHANGE IN A TURBULENT WORLD

Leadership is a concept as old as the world itself. Leaders are a different breed of people; they present different attributes and act differently from most people. Throughout history, leaders have emerged and shaped a future for next generations; they have challenged the status quo, built empires, enabled breakthroughs, and, most important of all, they embraced change.

by Higgs Venter, CEO Agri Voice

Descriptions of leadership found in literature can be defined as the art of influencing individuals to achieve a specific outcome, or that a leader is characterised as someone who prioritises the mission, acts ethically, and keeps an eye on the future. However, leadership can also be delineated as possessing a vision and a plan that utilises strategies to enact change. The competitive nature of the business world and the need for strategic adaptability compel numerous organisations and sectors to establish and execute new objectives.

Identified struggles among leaders across various sectors are remarkably similar, falling into three nearly universal categories: leading organisational change, strategic thinking and creative problem solving, and developing new leaders while communicating effectively. Unfortunately, within each organisation and sector, during periods of change, individuals with egocentric, narcissistic, my-way-or-the-highway attitudes, along with the deceivers and those who evade responsibility, often occupy key positions. These intimidating, inappropriately focused leaders, including those at senior levels, significantly influence employees and their performance. In today's evolving landscape, where organisational values must promote the triple bottom line encompassing people, planet,

and profit, leaders are compelled to radically transform both their actions and methodologies.

Despite the significant rate of change and the reported failure of change implementation in organisations and sectors globally, researchers have intensively examined the crucial individual and contextual factors contributing to the success and sustainability of organisational change. Among these factors, a manager's leadership style emerges as the most influential. This encompasses their dedication and readiness to embrace and adhere to the organisation's strategic direction and new objectives. Navigating through the swiftly evolving landscape requires leadership, not mere management, to steer an organisation effectively.

The concept of leadership underwent a significant transformation from the Great Man theory in the early 1800s. Subsequent studies in leadership behaviour aimed to identify the traits of effective and ineffective leaders, establishing a conceptual framework to delineate the ideal leader. While leadership can be acquired through learning, a leader's knowledge and skills are often influenced by personal attributes such as values, beliefs, character, and ethics. These attributes contribute to the unique characteristics of a leader, shaping the way they influence others. According to literature, leadership skills can be cultivated by setting objectives such as organising and motivating

Leadership style	Characteristics
Autocratic leadership	Very strict leaders with full control over the decision-making.
Bureaucratic leadership	Relies heavily on hierarchy, enforces regulations.
Democratic leadership	Values follower participation, fosters creativity.
Laissez-faire leadership	Hands-off approach, followers make decisions, effective with experienced teams.
Situational leadership	Adapts styles to follower needs, effective in various organisations.
Servant leadership	Shares power and decision-making, promotes diversity and morale.
Transactional leadership	Uses rewards for motivation, effective in reward-driven environments.
Transformational leadership	Inspires positive environments, fosters confidence and accountability, effective in interactive settings.
Charismatic leadership	Inspires followers, likable, effective in boosting morale.

others; setting goals; demonstrating perseverance in challenging situations; taking responsibility for mistakes or poor decisions; and understanding the needs of their followers.

Leadership, therefore, emerges as a blend of various attributes and characteristics inherent in an individual, ultimately determining their effectiveness as a leader. Commonly, there are nine distinct leadership styles, each possessing its own set attributes and characteristics that evolve with changing circumstances. The table above illustrates these characteristics.

Leadership in every organisation and sector is widely recognised as a critical component for success. It involves guiding a group's activities towards a common objective. John Quincy Adams, the sixth president of the United States defined leadership as follows:

“If your actions inspire others to dream more, learn more, do more, and become more, you are a leader.”

This quote provides a holistic view of leadership. It attributes leadership to one's intrinsic qualities, suggesting a connection to a higher purpose and the capacity to motivate others. It

emphasises the importance of going beyond mere duty, encouraging continuous learning and action. These aspects encapsulated in the president's quote highlight the multifaceted nature of effective leadership.

Whenever individuals share common values or objectives, the emergence of a leader becomes inevitable, as leadership appears to be a natural outcome of human interaction. According to John Maxwell, the capacity for change is a key characteristic of effective leadership. He also notes that individuals typically change jobs between fifteen and twenty times throughout their career, underscoring the importance and adaptability of leaders in navigating change. Understanding and effectively managing change are essential qualities for leaders across all organisations and sectors.

Different leadership styles have diverse impacts on individuals. For employees, the most significant aspect of their work life is the influence of their immediate leader or manager and their leadership style. The primary role of a change leader is to keep employees engaged. Engaged employees consistently show up to work and are more likely to remain in their positions for longer durations.

The following roles are crucial for leading change:


- 1 Communicator:** A change leader must effectively communicate the reasons for the changes and the consequences of not changing. They adeptly convey complex messages across the organisation.
- 2 Advocate:** The change leader actively supports the change through both words and actions.
- 3 Liaison:** The leader balances the needs of project and business teams to achieve organisational goals, acting as a bridge between different stakeholders.
- 4 Coach:** A leader coaches employees through the change process, preparing them and clearly explaining new performance expectations.
- 5 Resistance management:** Identifying and managing resistance is crucial. Timely responses to questions and concerns help address resistance effectively.

It is important to acknowledge that change leaders possess the ability to articulate a clear vision, exude charisma, and inspire employees through intellectual stimulation by introducing them to novel and intricate modes of thinking. Consequently, leaders must maintain high levels of employees' engagement regarding the change, ensuring active participation throughout the process.

Competent change leaders significantly impact employees' cognitive processes and the enhancement of their organisational and sector knowledge. These leaders are change-orientated and adept at motivating employees to embrace various changes. They can shape employees' self-concept and foster beliefs that enable them to confront high-risk demands effectively.

Change leaders enhance employees' self-change efficiency through the following approaches:

- 1 Role modelling:** Change leaders must exemplify the desired behaviours for employees to emulate.
- 2 Previous experiences:** Drawing on past successes helps change leaders to provide relevant guidance.
- 3 Verbal persuasion:** Effective communication ensures understanding and buy-in from employees.

The 'zero moment of truth', a term coined by Google in 2011, signifies the online research conducted about a product, organisation, or service before any action is taken. This moment drives the discovery of our businesses and change leaders alike. For leaders in a constantly evolving world, the moment of truth lies in realising that leading change begins with a shift in mindset towards innovative approaches to traditional practices. 

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Positive effects of essential oils on ruminants



by Cara Wessels Wells

Scientific studies researching the use of essential oils in livestock have investigated various essential oils for prevention and treatment of microbial infection and parasites as well as to enhance milk production, animal performance, and rumen function. Essential oils derived from plants can provide biological impacts to livestock species.

Despite the availability of several commercial products containing essential oils to promote animal health and production, the vast number of essential oils, modes of application, and effective concentrations of essential oils suggest there are more opportunities for essential oils to be utilised in commercial livestock production and veterinary medicine.

Animal production is defined as the production of animal goods such as meat, dairy, wool, and leather. The production of animal products is a multi-billion-dollar-per-year industry and accounts for over half the value of United States agricultural products.

To reach full production potential, production animals must be in peak health. Optimising animal health and performance includes the control of pathogens and disease while maximising growth and feed efficiency. As modern livestock production practices move away from the use of antibiotics and ionophores to generate these outcomes, the use of natural feed additives, such as essential oils, is gaining momentum as possible alternatives to antibiotics to modify ruminal fermentation and enhance feed efficiency of ruminants.

Improved nutrition, genetic progression, and dairy management systems have allowed milk production to double per cow in the last 40 years. These advancements in genetic gains and rearing practices improve animal health, confirmation, and nutrient utilisation to increase the volume and improve the quality of milk produced. Increasing productivity per animal has positive economic and sustainability benefits. To further improve dairy cattle performance and health, several studies have investigated the role essential oils play when introduced into the diet of dairy cows. Various studies have reported inconsistent and inconclusive findings.

To best understand how essential oils can improve the dairy industry, this present review will examine current literature to identify compounds with high potential to influence a positive biological impact and report associated findings. It is also understood that essential oils

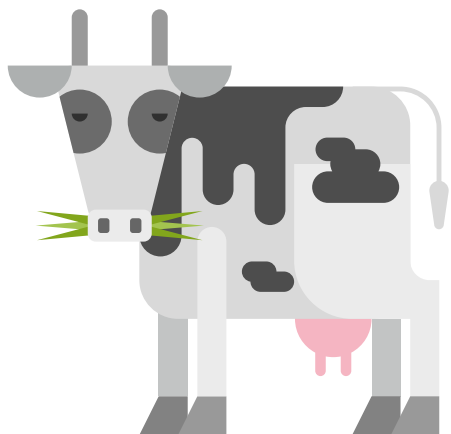


may have a greater effect when administered in combination, so it is likely additive and synergistic effects of multiple essential oils will be necessary to generate a favourable biological impact for the dairy industry.

In a study comparing the effects of a low dosage blend of cloves, oregano, and juniper (2,5 g/head per day), a high dosage blend of cloves, oregano, and juniper (5,0 g/head per day), and a control that received no treatment, it was found that cattle consuming the low dosage blend produced 4,3 % more milk than the non-supplemented cows during the treatment period, and also demonstrated improved feed efficiency, increased milk protein, increased milk lactose, and reduced bacterial cell and somatic cell counts.

The authors of this study recommend supplementing lower doses of essential oils to induce positive production traits without compromising or inhibiting rumen microbial populations.

In addition to increasing milk production, essential oils may play a role to enhance the transport of calcium ion (Ca^{2+}), which can aid in the prevention of hypocalcaemia or milk fever. To further examine these potential effects, a commercially available mix of menthol, eugenol, and anethol (PerformaNat GmbH) was fed to Holstein cattle and it was found that it significantly increased milk yield. Additionally, these researchers found the essential oils blend was associated with increased rise in plasma calcium levels, likely due to stimulated ruminal uptake of dietary calcium from the rumen into the blood. An increase of availability of blood Ca^{2+} can prevent hypocalcaemia after calving.



Despite the potential role of essential oils to provide beneficial biological impacts on animal health, production, and performance, there are limitations. With over 3 000 discovered essential oils, studying the effects of each oil's effect on an animal's biological response is difficult.

Additionally, many studies utilised a blend of essential oils, making it difficult to understand which essential oil induced the observed response or if it is necessary to administer the oils together to induce the desired response. Ruminant animals have complex organ systems, and it is critical that administration of any oral

or topical agent does not negatively disrupt their normal physiological function, harm the beneficial microflora in the ruminant microbiome, or, in the case of antimicrobial purposes, cause pathogen resistance to nutraceutical agents.

As many essential oils are safe for use on animals intended for human consumption, there is a large commercial opportunity to develop more feed additives and topical agents containing essential oils for the prevention and treatment of infection and disease to promote growth and milk yield, to reduce heat stress, and to reduce methane emissions. This market potential will create a need for more research pertaining to the animal's response to essential oils, which should address the limitations and unknowns to these compounds to optimise the use of essential oils most effectively in livestock production operations.

In conclusion, many studies have demonstrated essential oils can provide a beneficial biological effect to ruminant animals without causing detrimental effects to animal or human health and, therefore, should be considered as an important component in animal health programmes. **TDM**



It's back!

The 2024 Santam/NWGA photo competition is ready to receive entries



Ready, set – cheese! Get your cameras ready for the highly successful Santam/National Wool Growers' Organisation's (NWGA) photographic competition, which is back this year. The outcome of our 2016 and 2017 photo competitions was so successful and the images were used on so many platforms and websites, that the NWGA decided to launch another.

Santam is the main sponsor of the competition and will be awarding R12 500 to the person who takes the winning photo. The runner-up will receive R6 500 and the second runner up will receive R3 500. Santam will also pick their favourite 'wild-card' entry from the top 10 photo's (excluding the winners of course). The person who took that photo will also receive R2500. The NWGA invites farmers and wool industry friends alike, to enter their best work into the competition. The theme of the competition is sustainable wool and sheep production. Photographers can enter into three categories: lambs, shearing, and sheep in the veld. The minimum size of a photo should be 1 MB.

Liza Bohlmann, the former national chairperson of Agricultural Writers South Africa, who is also the media liaison and communications manager at Bayer Crop Science, and Charl van Rooyen, deputy editor of *Landbouweekblad* will be the judges. Big prizes are up for grabs this year, so make sure you feature the wool industry in the best light!

The competition closing date is **15 May 2024**. The winner will be announced at the NWGA's national annual congress in June. Please participate by sending your images to Bonita at nwga@nwga.co.za.



Franci Swart submitted this winning picture for the 2016 photo competition.

TAKING A LEAD IN CONSUMER EDUCATION



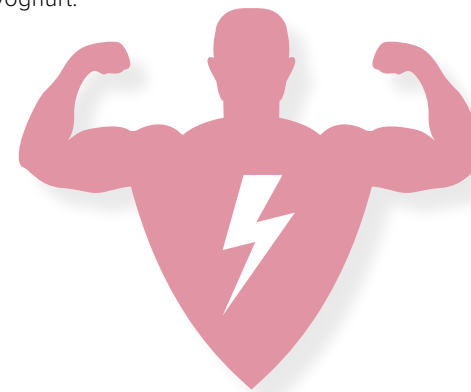
When buying yoghurt –
make sure it's *real*

When we talk about yoghurt, we are not only discussing a delightful addition to your breakfast or snack routine, but we also are celebrating a real health hero. Authentic yoghurt contains a minimum of 2 g of milk protein per 100 g; this is not just a statistic, it is a marker of the genuine benefits that yoghurt offers your health.

Packed with goodness

With that commendable punch of milk protein, real yoghurt is your trusted ally in muscle development, repair, and overall bodily function. It houses probiotics that nurture your gut microbiome, aiding digestion and supporting your immune system. A happy gut translates into a happy mind, simply because 95% of the body's serotonin is produced in the gut. Beyond supporting muscles and a content gut, yoghurt offers a natural wellspring of calcium, accompanied by an array of nutrients like vitamin B₁₂, potassium, and magnesium.

Grocery store shelves are lined with an ever-increasing variety of options, and it is not uncommon to find ourselves contemplating the choices available in the yoghurt aisle. However, amid the array of genuine yoghurts, a sly intruder hides in plain sight – the 'dairy snack'. It is time we unmasked this yoghurt imposter and explore why it is crucial to distinguish it from authentic yoghurt.



The sneaky invader

Disguised with appealing packaging and often mistaken for real yoghurt, dairy snacks lower the bar of health due to their meagre composition of 1,5 g of milk protein per 100 g. Dairy snacks fall short in providing the muscle-building benefits that authentic yoghurt delivers. Probiotics, the guardians of gut health, are often insufficient in dairy snacks, depriving you and your family of the digestive benefits yoghurt can offer. Unsurprisingly, dairy snacks often lack the comprehensive nutritional profile that makes yoghurt a smart dietary choice.

Many consumers are encountering dairy snacks for the first time and often make the reasonable assumption that these products, like their yoghurt counterparts, are packed with essential vitamins and nutrients. Unfortunately, this is not the case.

A missed opportunity


The implications of these sneaky marketing tactics are profound. When someone consumes dairy snacks under the guise of genuine yoghurt, they are unknowingly missing out on the authentic and robust benefits that real yoghurts have to offer. Vitamins, minerals, and high-quality protein, the hallmarks of yoghurt's nutritional value, are significantly diluted in dairy snacks.

The way forward

To unlock the real benefits of yoghurt, consumers must become more discerning. The label is your ally in this endeavour! Pay careful attention and choose authentic, wholesome, and locally-produced dairy products. In doing so, you not only protect your health, but also support the local dairy industry.

Join us in advocating for the real deal – authentic yoghurt. Let us take a collective stand for transparency, nutrition, and the well-being of our bodies and the dairy industry.

Choose wisely, choose local

The next time you reach for a dairy product in the yoghurt aisle, take a moment to closely examine the label. Yoghurt is more than just a good addition to your eating plan, it is a commitment to your health and well-being. Make informed choices that celebrate the authenticity and goodness of real, local dairy! 



Support and follow the Love Local Dairy campaign on Facebook and Instagram.





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HYBRID AND ELECTRIC BAKKIES COMING TO SOUTH AFRICA IN 2024



South Africa's bakkie landscape can expect a major shake-up this year, as there are at least three different models with an electrified drivetrain expected to touch down on local roads, and potentially more.



This time last year, there wasn't a single hybrid or electric bakkie in the country, but this is something that is rapidly changing with South Africa already having access to its first battery-electric double cab – the Maxus T90 EV.

Since then, four car makers, namely Ford, GWM, JAC, and Toyota, have announced their intention to bring either an electric or plug-in hybrid bakkie to the tip of Africa.

New power, same utility

The first new-energy double cab coming to South Africa will be a mild-hybrid electric vehicle (MHEV) version of the sought-after Toyota Hilux.

The Hilux, along with the Fortuner SUV, is receiving a new powertrain in March that pairs the brand's 2.8 L GD-6 turbocharged diesel



engine and six-speed automatic gearbox with a small electric motor and 48 V battery.

This adds 12 kW and 65 Nm of boost when accelerating from a standstill, an 'advanced' Start/Stop system, and regenerative braking abilities; and reduces the idling speed to 600 rpm and the fuel consumption by as much as 10%.



Another confirmed entry for South Africa is the JAC T9, which will be available with both a plug-in hybrid electric vehicle (PHEV) and battery-electric vehicle (BEV) powerplant.

The flagship double cab was launched last year with a single turbo-diesel engine, and the manufacturer now plans to follow this in 2024 with electrified plants as well as a turbo-petrol unit.

Unfortunately, the launch window for both electrics is still to be announced and few details

for the PHEV are available, although we know it will have a 2.0 L turbo-petrol plant with a 26,8 kWh battery and be able to achieve a low average fuel consumption of 3,3 L/100 km.

The BEV was recently launched in China, where it was revealed that it uses a 70 kW/176 Nm front motor and 160 kW/342 Nm rear motor, and is powered by an 88,02 kWh battery pack, giving it a range of 500 km.



The final entry that will appear later this year is a PHEV version of the Ford Ranger, although not in the form you might expect.

The new-energy Ranger will be produced locally at the brand's Silverton plant for export to markets including Australia and New Zealand, but the Blue Oval has yet to confirm whether it will go on sale in South Africa.

When asked about the possibility of a domestic introduction at a recent media event, Ford's domestic subsidiary said that it is "not going to talk about that right now" – hinting that there may be plans down the line to make the Ranger PHEV available.

The bakkie employs a 2.3 L turbo-petrol engine with an 11,8 kWh battery and a 75 kW motor, and can drive for roughly 45 km on nothing but electricity.

The car maker has spent R5,2 billion to prepare its facility for the new model's production, which is scheduled to take effect in late 2024.



One more unit worth mentioning is the GWM Shanghai Cannon, which was recently confirmed for a South African introduction in the second half of the year.

As with the JAC T9, the Chinese car maker is following a strategy of only releasing the double cab with turbo-diesel and petrol plants at launch, and will debut a hybrid and battery-powered option at a later stage.

Given that the bakkie is only arriving later in 2024, it is likely that the PHEV and BEV models will only come to South Africa in 2025 and beyond. TDM

Die laaste sê



Is konstante leer die kortpad na sukses?


deur Higgs Venter, hoof- uitvoerende beampte, Agri Voice

Yuval Noah Harari beskryf in sy boek *Homo Deus* die mensdom se roetine wanneer hulle ná 'n nag se rus wakker word as universeel dieselfde: 'n roetine van opstaan, gesig was en kyk hoeveel plooi ons bygekry het. Dit is min of meer wat ons almal doen, waarna die ketel aangeskakel word vir koffie. Wat die meeste mense wel dadelik doen, is om na hul slimfone te kyk: Wie het my plasing van gisteraand gelees wat op verskeie sosialemediaplatforms geplaas is? Dan kyk ons na ons dagboek en die dag wat vir ons voorlê. Ons hele lewe is vasgevang in 'n warrelwind van tegnologie wat deur 'n kennisrewolusie aangedryf word. Die impak is so groot dat ons lewens onwetend deur algoritmes bepaal word.

Ons word oorval met soveel inligting van verskillende aspekte van menswees en sukses. Een van die algemeenste kenniskategorieë is dié van 'selfhelp', wat wissel van persoonlike ontwikkeling tot opinies oor wat die sleutels tot sukses is. Die sukses van boeke in hierdie kategorie is 'n bevestiging van die mensdom se soeke na 'n kortpad na sukses. Is dít waaraan sukses gemeet word dalk van korte duur in 'n wêreld wat konstant bly verander? Of is sukses van korte duur omdat alles so vinnig verander?

Die Griekse filosoof Aristoteles het 'n rangorde gehad met verwysing na werk, waarvan intellektuele beredenering die belangrikste was, en die onvermoë om idees prakties toe te pas die laagste. Dit is na my mening regtig belangrik om die relevansie hiervan in vandag se tyd van radikale verandering van die wêreld van werk te verstaan, en die belangrikheid van konstante leer om deel te wees van Aristoteles se boonste vlak in die rangorde.

In Mark Batterson se boek *Wild Goose Chase* verwys hy na die 'An Geadh-Glas' of 'Wild Goose', wat die naam vir die Heilige Gees vir Keltiese Christene is. Werk is vir my as gelowige 'n roeping wat uitgeleef word. 'n *Wild Goose* wat gejaag moet word, of dan die pad wat die Here vir my in gedagte het. Teen hierdie agtergrond glo ek dat ons roeping nie 'n konstante is nie, maar juis iets wat saam met die seisoene van ons lewens verander. Om aktief jou roeping uit te leef is dit soms nodig om te beweeg of om te spring of selfs te hardloop!

Die uitleef en nastreef van ons roeping is seker een van die grootste verantwoordelikhede wat ons het. Die belangrikste is om nie op te hou beweeg nie, hou aan om jou *Wild Goose* te jaag, want elkeen van ons het 'n unieke rol wat ons in die samelewing moet vervul. Binne die werklikheid van konstante verandering in die omgewing waarin ons werk, moet ons weer na Aristoteles luister en aanhou leer sodat ons in 'n tegnologiese wêreld deel van die groep mense kan wees wat bepaal hoe die wêreld lyk waarin ons leef en werk! 

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SAVE THE DATE

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Key themes

- Hoof health
- Successful transitioning
- The high-fertility cycle
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