AGRI PROBE

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Game ranching industry shows healthy growth

Partnerships and pledges to fast-track climate change resilience

Observations from the 10th ReNAPRI Stakeholders Conference

Research and news magazine of the Western Cape Department of Agriculture

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Setting the SCENE

by Dr Ilse Trautmann

POWER OF EXCHANGE

With this first edition of *Agriprobe*, we welcome you to 2024 – the year of the Green Wooden Dragon, according to the Chinese calendar. This symbol is considered the most powerful in Chinese astrology, representing **energy, strength and power.**

After a rather energy sapping 2023 with unprecedented challenges encountered in the global and agricultural environment, we need a "green wooden dragon" year with a vibrant agricultural sector supporting the livelihoods of the millions of people in the Western Cape.

We believe the sector will grow even more despite challenges like load-shedding and climate change. Overcoming these challenges will be grounded in the active partnerships we already have in place, and new ones like the Mediterranean Climate Action Partnership (MCAP), which the Western Cape Government signed at COP28 in Dubai.

And it is all about exchange – exchange of information, expertise and opportunities, like the Burgundy and Upper Austria Exchange Programmes and the recent Technology and Trade visits on invitation of the Taiwanese government.

In this edition we also take our readers on a journey of the new and innovative, like the First Provincial Veterinary Week, aspects to consider before starting a greenhouse endeavour and an article on the game ranching industry showing healthy growth, to name but a few.

An article on "67 minutes of Hope" brings us to a standstill – how do we make a difference in 2024 in a world of hopeless people? Do we have the **energy, strength and power** to change what we can change, do what we can do, and give hope to people every day in our daily lives? Dionne Warwick said: "My motto in life is 'If you think it, you can do it' and if we all apply that thought, we can end hunger the world over."

Enjoy this edition and have a Green Wooden Dragon year!

#ForTheLoveOfAgriculture AP

Ilse Trautmann

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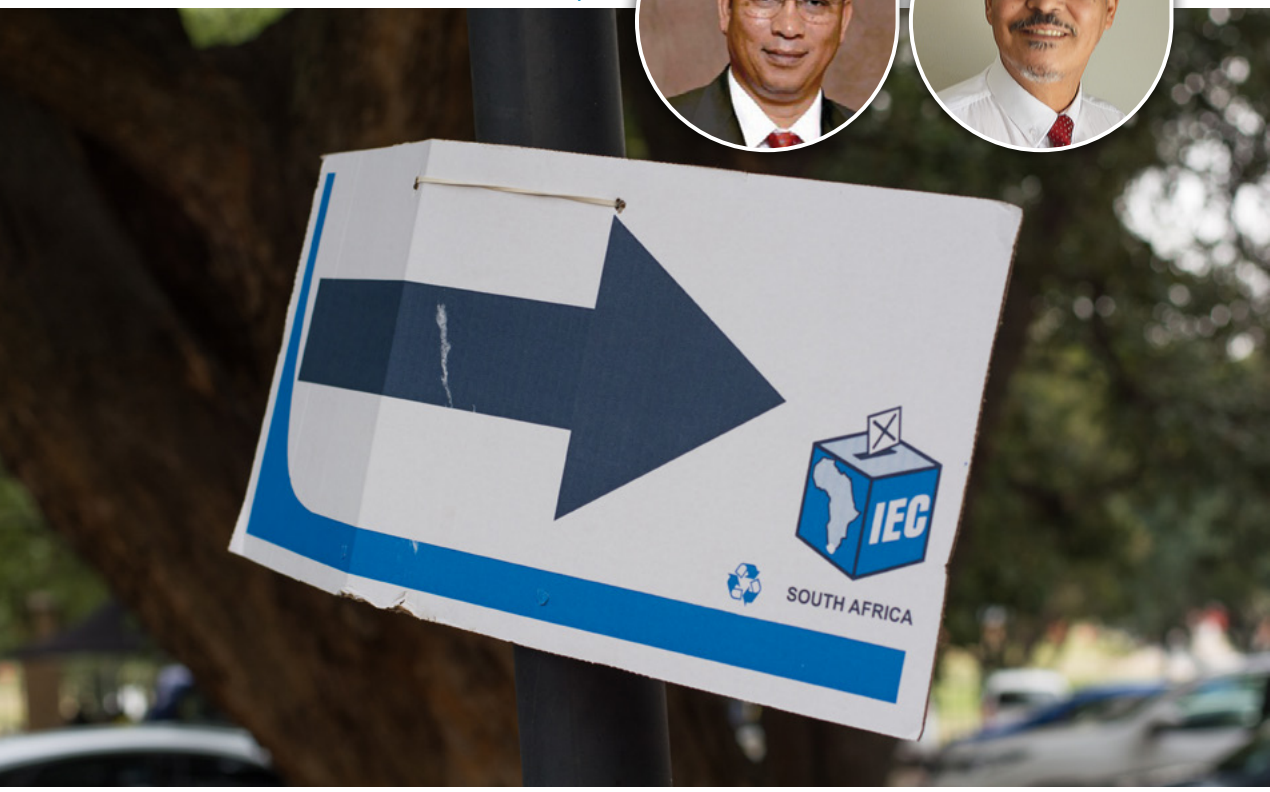
COVER INSPIRATION

AgriProbe magazine's cover exudes triumph in the face of climate challenges. Featuring Wasabi, a remarkable sable antelope *(Hippotragus niger)* bull, the spotlight is on the game ranching industry's groundbreaking achievement – over 50 000 animals formally sold during 2023 auctions. The article by Riaan Nowers on page 42 highlights the game ranching industry's pioneering use of electronic enhancements throughout its value chain, acknowledging its leadership. Celebrate these milestones and look into active strategies against climate change, making *AgriProbe* a compelling read for those passionate about wildlife conservation and sustainable practices.

COVER
Conceptual cover designed by Christopher Gara.
Photograph courtesy of Leopard Rock Game Breeders.

2024 is the election year!

by Minister Ivan Meyer & Daniel Johnson



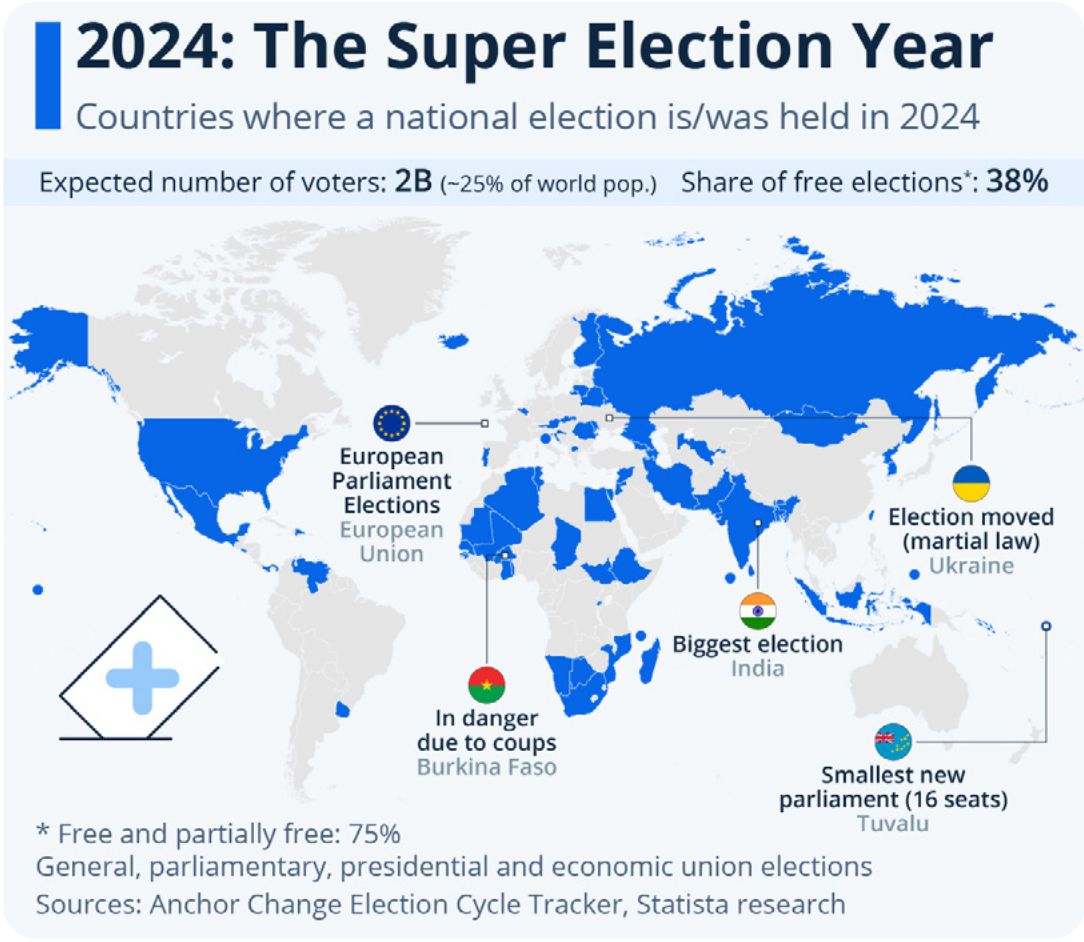
2023 was a tough year for the agricultural sector. Four major floods and recurring power outages had a devastating impact on an sector that finds it virtually impossible to function optimally without access to a reliable source of energy. But as the saying goes – *'n boer maak 'n plan*.

This can-do attitude was evident, for example, in the role farmers played in making the road accessible to Nampo Bothaville, the biggest agricultural show on the African continent. Farmers did so at their own expense.

2024 is described as not just an election year. It's perhaps the election year.

Scan the QR code or visit https://shorturl.at/iosEX to read the report: '2024 elections will make or break SA agriculture'.

Globally, more voters (estimated at more than two billion) than ever in history will head to the polls as at least 64 countries (plus the European Union) – representing a combined population of about 49% of the people in the world – are meant to hold



This chart shows countries where a national election is/was held in 2024.
Source: https://shorturl.at/djrU6

national elections, the results of which, for many, will prove consequential for years to come. For South Africa, this sentiment certainly rings true.

An emerging trend across various regions of Europe is the protests by farmers. Farmers in the Netherlands, Italy, Germany and France are demanding that their voices be heard and while their issues may differ, the overarching call is for a government that listens to them, cares for agriculture and has empathy for the tough conditions under which farmers operate.

11 January 2024. Hannover, Lower Saxony, Germany: Farmer protests in Lower Saxony at a large demonstration in Hanover. There are demonstrations against the dismantling of agricultural subsidies.
Photo © Jörg Hüttenhölscher

Watch this!
Scan the QR code or visit https://shorturl.at/oCY59 to watch the video: 'We have reached the end of our rope. Why farmers around the world are protesting'. Published by PBS NewsHour.

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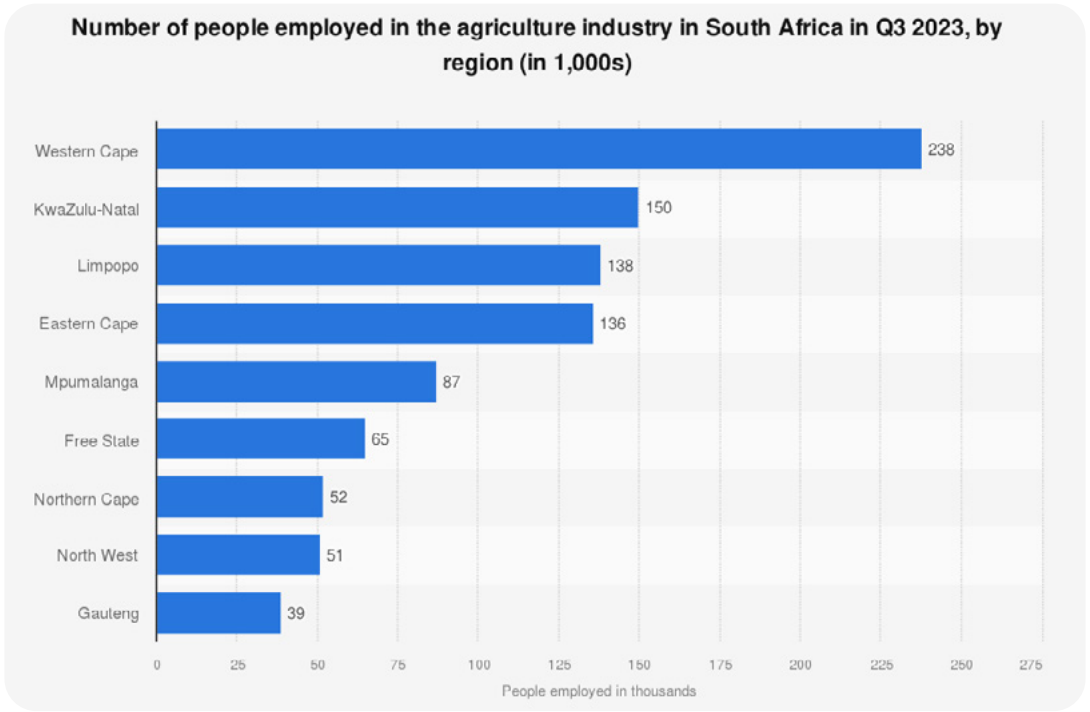
In the third quarter of 2023, approximately 238 000 South Africans residing in the Western Cape were working in the agricultural sectort, marking a year-on-year change increase of 35 000 people being employed.
Photo © Falang
Source: https://www.statista.com/statistics/

It is against this background that I frame my four key expectations for 2024 and the new government to be elected later this year. My expectations are further informed by the world's current macro international politics, the war in Ukraine and the untenable situation in the Middle East.

Firstly, a new National Government and a new National Department of Agriculture that is willing to take care of all farmers – subsistence, smallholder and commercial farmers.

Secondly, the privatisation of the Port of Cape Town. The Western Cape is responsible for 55% of South Africa's primary agricultural exports. Our port operations are, however, badly managed and considered to be inefficient and unproductive.

> **"The Western Cape is responsible for 55% of South Africa's primary agricultural exports."**



Number of people employed in the agricultural sector in South Africa in Q3 2023, by region.
Source: https://shorturl.at/gPT03

The current state of the ports places our agricultural economy and jobs at risk.

At the heart of the Western Cape government's economic action plan, 'Growth for Jobs' is the goal to triple Western Cape exports by 2035. The Western Cape government's research shows that if we can increase provincial Cape exports by 10%, our gross domestic product will grow by approximately 1%.

Source: https://shorturl.at/cBFIX

Thirdly, we need to rebuild South Africa. Agriculture, by its very nature, is about the care, cultivation and breeding of crops and animals. Farmers are trained to build! It is for this reason that I am a strong advocate for the establishment of more agricultural colleges and the introduction of more agricultural subjects at existing schools.

Doing so will inculcate the ethos of building up and not breaking down – sorely needed in South Africa.

Fourthly, I will encourage the new national Minister of Agriculture to publish his (or her) job description and performance agreement on a public website.

Doing so at the beginning of the new term of office will ensure that the agricultural sector is aware of what to expect from the new Minister of Agriculture.

I would also encourage the full new National Cabinet to meet with the sector at least once every three years.

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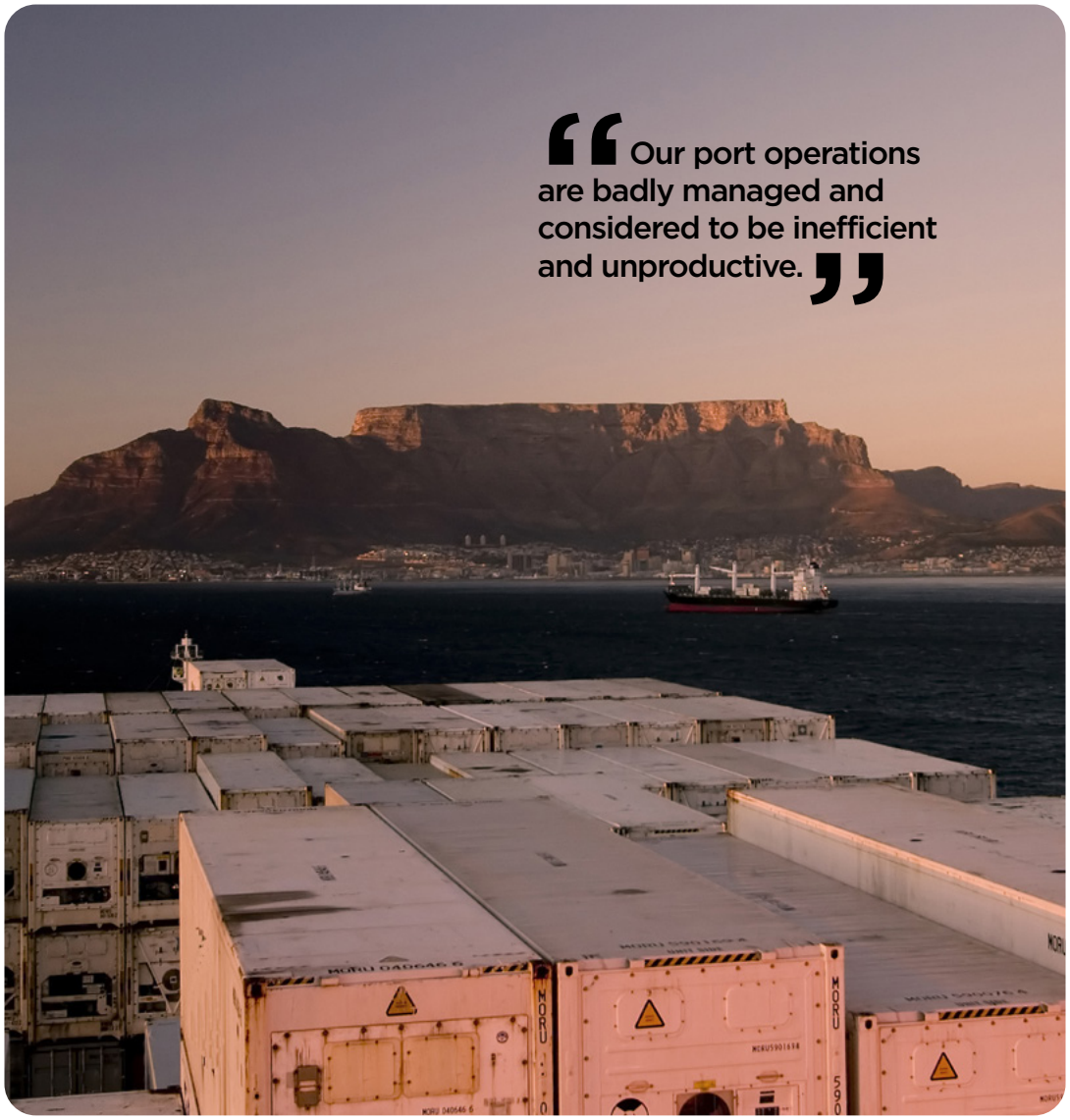


Photo © Don Victorio

Three other concerns that I have are the unsafe transport of agriworkers, few trade agreements, and the lack of any form of subsidies to farmers.

I am deeply concerned by the unsafe way agriworkers, and construction workers are often transported. I expect that a new national Department of Transport will tighten up the weakness in the national legislation so that our agriworkers can henceforth be transported in a dignified and safe manner.

Sixty-five per cent of the world’s middle-class population is projected to be situated in the Asia-Pacific region. Markets such as China, Hong Kong, Indonesia, Japan, Vietnam and the Philippines are strategic markets for South Africa and its key competitors. Sadly, unlike many of our competitors, South Africa lacks preferential access to these strategic markets.

Election 2024 must therefore produce a new government in South Africa that can negotiate and finalise preferential agreements for the agricultural sector.

I believe that it is patently unfair that farmers and producers have been forced to seek alternative sources of energy for their businesses over the past number of years. Farmers have had to divert budgets meant to expand the business and create more jobs to install alternative sources of energy as the current Eskom electricity supply is too unpredictable and hence risky for their businesses. The new Government should therefore subsidise those farming businesses that have installed green energy. The envisaged subsidy should not be hampered by unnecessary red tape.

Finally, I want to thank the farmers, agriworkers and the Vroue-Landbouvereniging (VLV) for their humanitarian support during the COVID-19 pandemic.

Agriculture is bigger than the Western Cape. So, thank you too to farmers and agriworkers across South Africa for working tirelessly to ensure South Africa and Africa's food security.

It will however be remiss of me to not thank the communicators and journalists who report on the agricultural sector. The agricultural media are ambassadors of hope. We are indebted to every communicator, journalist, editor and editorial team for carrying the sector's message of hope.

They do so #ForTheLoveOfAgriculture. AP

For more information, contact **Daniel Johnson**: ✉ daniel.johnson@westerncape.gov.za

First provincial veterinary week to become annual event

by Dr Ilse Trautmann

The first Provincial Veterinary Week of the Western Cape Department of Agriculture (WCDoA) was held during the latter part of September 2023 to coincide with World Rabies Day, which is annually held on 28 September. The aim of the week was to highlight the work of veterinarians and animal health technicians and emphasise the urgency of animal biosecurity.

World Rabies Day is a global health observance that started in 2007 to raise awareness about the world's deadliest infectious disease and brings together partners to enhance prevention and control efforts worldwide. It is an event designed to be inclusive, uniting people,

During 2022/2023, the WCDoA vaccinated 139 383 dogs and cats during its rabies outreach campaigns in communities in the Western Cape. This year's campaigns were held in Mitchells Plain, Caledon, Swellendam and Worcester. Photo © Helen Ross

organisations and stakeholders across all sectors against rabies – because together we can eliminate rabies!

With this concept of inclusivity, togetherness and unity in mind, the theme for the 2023 World Rabies Day was "Rabies: All for One, One Health for All".

Besides the focus on rabies, the Veterinary Week also included various veterinary activities, including a visit to the Zandam abattoir near Paarl, a Pig Farmers' Day in Chatsworth, Malmesbury, a visit to the Department's Veterinary Export Certification Office in Milnerton and a visit to Spar's Western Cape Distribution Centre in Philippi. Spar is one of the Veterinary Export Certification Office's biggest clients.

The highlight of the week undoubtedly was the launch of the Export Certificate Office System (ECOS).

Dr Ivan Meyer, Western Cape Minister of Agriculture, and an advocate of the slogan "biosecurity is a shared responsibility", attended the events.

Officials from the Departments' Programme Veterinary Services, Agricultural Producers' Support and Development Programme and several partners hosted an information day for smallholder pig farmers in Chatsworth, Malmesbury, to provide information and create awareness on African swine fever (ASF), biosecurity, pig feeding and health, and general pig farming questions.

The farmers were also urged to step up their biosecurity measures to protect their livestock. »

During the Pig Farmers' Day an autopsy was done to explain pig health principles to the smallholder farmers.

Minister Meyer at the welcome sign at the Spar Western Cape Distribution Centre in Philippi.

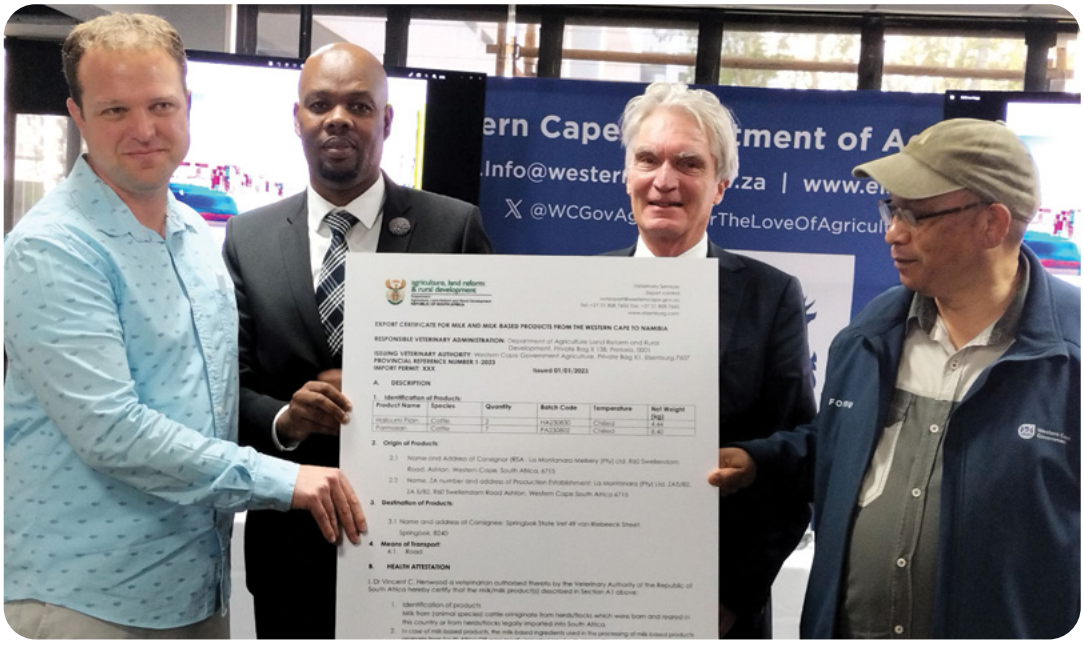
ECOS is a cutting-edge electronic system created to guarantee compliance in the South African food and animal products sector. This platform provides permit templates that are in line with the import permits of different countries, making the export process more efficient while adhering to global standards.

Learn more!
Scan the QR code or visit https://shorturl.at/dikMN to download ECOS Frequently Asked Questions.

At the launch of the innovative Export Certificate Office System (ECOS) during the inaugural Veterinary Week, Dr Vincent Henwood (WCDoA Head of the Veterinary Export Certification Office), explained that ECOS is an online electronic system that seeks to ensure compliance in South Africa's food and animal products industry. The platform provides permit templates aligned with importing countries' import permits, streamlining the export process, and ensuring compliance with international standards. ECOS enables tracking of products, including animal-derived ones, back to their source farms, thus ensuring transparency throughout the supply chain.

Speaking at the launch, Dr Ivan Meyer welcomed ECOS as an innovative platform that focused on improving the Western Cape Government's services to our customers. ECOS provides the customer with a 24-hour export facilitation service that reduces the export certificate application process from days to minutes.

The Western Cape currently exports 55% of South Africa's primary agricultural products. ECOS will also assist in increasing these exports to at least 60%. Exports contribute to foreign exchange earnings and a 5% increase in exports will lead to approximately 22 000 new jobs in the sector. Dr Meyer further stated that in light of our endemic diseases, our rich diversity of wildlife and our animal health system we need to have a systems approach to disease (human and animal)



Dr Vincent Henwood (WCDoA Head of the Veterinary Export Certification Office and project leader of ECOS), Theo Pongolo (Department of Agriculture, Land Reform and Rural Development), Dr Lex Morette (Technical Advisor of The Netherlands) and Dr Ivan Meyer (Western Cape Minister of Agriculture) at the launch of ECOS.

risk mitigation and international trade in animal products. Due to the many role-players communication and coordination are key. This is challenging in a resource-constrained environment. ECOS can help to coordinate communication and increase cooperation between authorities at food processing establishments.

Heidi Fourie from La Montanara (Pty) Ltd, a cheese factory in Ashton, has already been using the ECOS. She said: "As a small dairy business we do not have time to struggle to complete the significant paperwork that accompanies an export certificate application. The wait often negatively impacts product shelf life and quality. ECOS has changed this. While uploading my company's profile onto the ECOS platform was initially time-consuming, it now takes approximately five minutes to get an export certificate approved."

Commenting on the future of ECOS, Minister Meyer said with the support of the National Department of Agriculture, Land Reform and Rural Development, ECOS should and could be rolled out nationally. This will create a comprehensive system that ensures the traceability and compliance of all relevant products on a national scale. It will also greatly enhance the smooth movement of products and reduce the administrative burden on rural producers to get access to veterinary certification.

Due to the success of the first Provincial Veterinary Week, it will be an annual event on the Departments' calendar. A special word of thanks to the officials of the Programme Veterinary Services for their selfless work and commitment to the wellbeing and health of animals in the Western Cape and upholding biosecurity measures in support of the economic sustainability of the livestock sector. AP

For more information, contact **Dr Ilse Trautmann**: ✉ ilse.trautmann@westerncape.gov.za

WCDoA and Griquas unite to combat food insecurity on World Food Day

By Vusumzi Zwelendaba and Robyn Carstens

From left: Dr Ivan Meyer (Minister of Agriculture in Western Cape), Dr Mogale Sebopetsa (Head of Department of Agriculture), and Dr Keith du Plessis (Chief Executive Officer of Casidra) marking the World Food Day and promoting the One Home One Garden Campaign.

World Food Day (WFD), globally celebrated on 16 October, was founded in 1945 by the Food and Agriculture Organisation (FAO) of the United Nations (UN). WFD serves as a reminder of the need for efficient, inclusive, resilient and sustainable agri-food systems.

The Western Cape Department of Agriculture (WCDoA), in collaboration with Griquas, took meaningful action on last year's WFD, embodying the theme: "Water is Life, Water is Food: Leave No One Behind."

From left: Councillor Dave Swart (Executive Mayor: Bitou Municipality), Councillor Memory Booysen (Executive Mayor: Garden Route District Municipality), Dr Mogale Sebopetsa (Head of the Department of Agriculture in the Western Cape), Mbulelo Memani (Municipal Manager: Bitou Municipality) and Darryl Jacobs (Deputy Director General: Agricultural Development and Support Services).

On 6 October 2023, the WCDoA, alongside the Bitou Municipality and Casidra, spearheaded World Food Day celebrations at the Kranshoek Sports Field in Plettenberg Bay. This initiative aimed not only to address food insecurity but to actively contribute resources and efforts towards practical solutions.

The event began with meticulous planning, profiling and approval of 123 households. Basic training in vegetable production and chicken keeping followed, equipping communities in Kranshoek, New Horizon, Wittedrift, Crags and KwaNokuthula with valuable skills. The implementation included the establishment of three community food gardens, two school food gardens and support for 123 households to kickstart their vegetable gardens. Seven households received 10 chickens for egg production along with chicken production training.

The project showcased impressive statistics with its food security interventions, including 63 household food gardens in Kranshoek, 17 in Crags, 24 in KwaNokuthula, 9 in New Horizon and 10 in Wittedrift. In addition, five more projects within the Bitou municipal area, namely Kranshoek Primary School, Phakamisani Primary School, Immanuel Church, Michael Mackay Project and ABC Farming, received infrastructure, production inputs and equipment. »

Dr Mogale Sebopetsa, Head of the Department of Agriculture in Western Cape, addressing members of the public during the World Food Day event held in Kranshoek, Plettenberg Bay.

The food mountain displayed in front of the dignitaries and the members of the public.

As per tradition, the WCDoA continued the "Plant One Tree, Eat For Free" initiative, planting 112 indigenous and 125 fruit trees in support of households' gardens and projects. This not only promoted food security but also created temporary job opportunities in the participating communities by sourcing unemployed youth from the Bitou Municipality's Job Seekers Database. About 237 trees were sponsored by the Department of Environment, Forestry and Fisheries and planted by the Expanded Public Works Programme workers.

A cycle tour led by the HoD, Dr Mogale Sebopetsa, showcased commitment, with cyclists Jerry Aries and Grant Jepthas covering routes from Wilderness to Knysna, engaging communities and dignitaries along the way. On the N2 near Wittedrift, the three were joined by 30 more cyclists from the KwaNokuthula Cycling Academy, mostly young people from disadvantaged areas.

The end of the cycle tour was the start of the main event at Kranshoek Sports Field. The Agri-processing on Wheels initiative, launched in 2022, demonstrated the potential of value-adding and preservation beyond primary production. While the exhibition trailer couldn't cater to the large crowd, it showcased processed products and distributed informative pamphlets. However, the community enjoyed a cup of soup and bread from Shoprite's Mobile Soup Kitchen and the children received a hotdog thanks to the generous support from Building the Walls NGO from Bitou Local Municipality.

Acknowledgements
The event would not have been possible without the invaluable support of strategic partners, including the Department of Social Development, Shoprite, Fenwick Sikazwe, Chamomile Enterprise, Potato SA, Fruitways, SAB, Building The Walls and WCDoA staff. The food collected was donated to local NGOs/NPOs, prioritising organisations supporting children, women, youth, the elderly and people with disabilities. Recipients of the 2023 food mountain was Moreson Soup Kitchen (Crags), Little Tummies Community Kitchen (Wittedrift), Pine Trees Soup Kitchen (First Step Educare Centre) (New Horizon), House of Hope & Glory (Kranshoek) and Building Blocks Educare Centre (KwaNokuthula).

Recognising the importance of instilling food security values at a young age, the WCDoA together with the Western Cape Department of Education initiated a school competition involving Kranshoek Primary School and Phakamisani Primary School. Categories included poster drawing, writing and 3D design or model creation, fostering creativity and awareness among students. The winners were announced at a prize giving ceremony on 19 October 2023 at the respective schools.

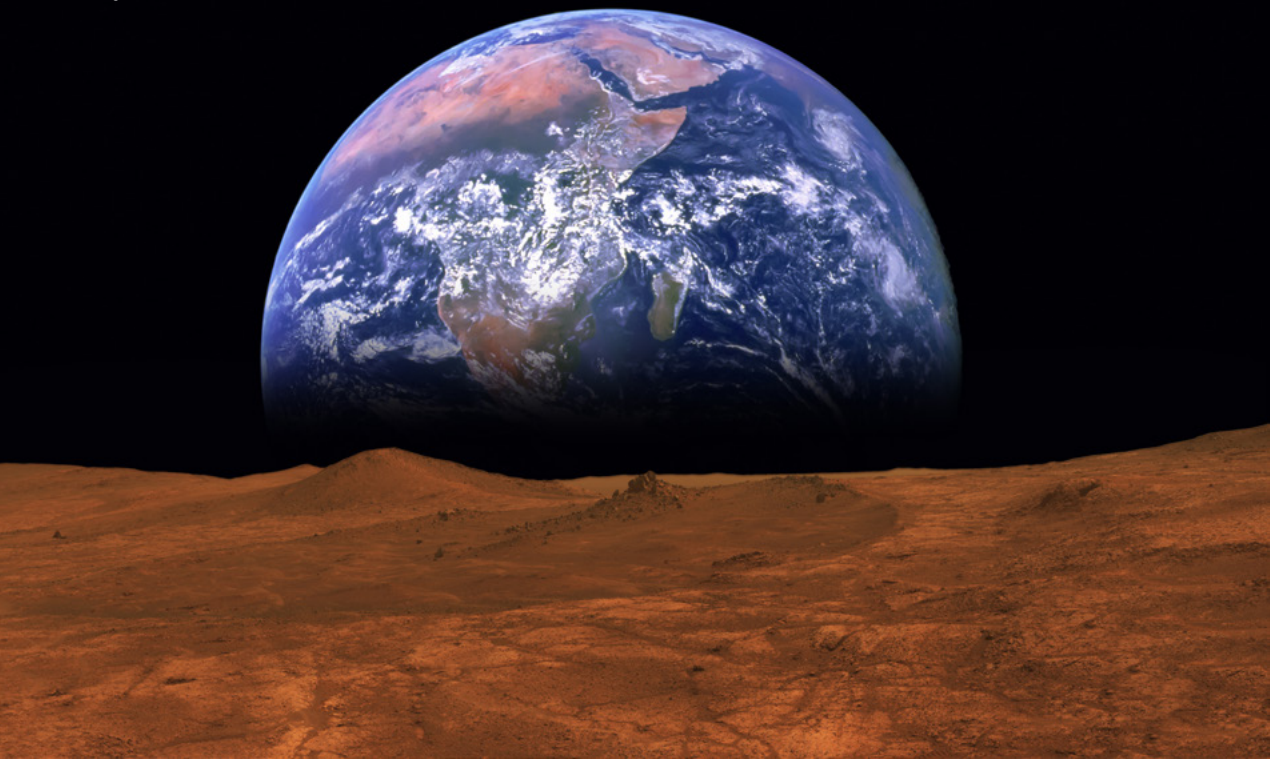
The collaboration between the WCDoA and Griquas surrounding all the WFD initiatives exemplifies a commitment to addressing food insecurity at grassroots level, creating sustainable solutions and leaving no one behind. Through strategic partnerships and community engagement, the initiative stands as a beacon of hope in the ongoing fight against food insecurity. AP

Vegetables displayed outside after harvesting.

For more information, contact **Vusumzi Zwelendaba**: ✉ vusumzi.zwelendaba@westerncape.gov.za and **Robyn Carstens**: ✉ robyn.carstens@westerncape.gov.za

Provincial and **international partnerships** and pledges to fast track **climate change resilience**

by Dr Ilse Trautmann



Climate change projections for the Western Cape suggest a likelihood of more frequent and more intense extreme weather events threatening food security and economic growth in South Africa and the Western Cape. Climate change modelling shows that annual temperatures are rising, and the number of colder days will decrease. Droughts, floods and heat waves will become more regular, and these trends highlight the need for a coordinated response from governments, tertiary institutions and the private sector to mitigate against and adapt to the impact of climate change.

Three groundbreaking events concluded the 2023 actions of the Western Cape Department of Agriculture and the Western Cape Government (WCG) to ensure and bolster a climate-resilient future for the province.

Front from left: Gerhard Gerber (Head of Department, Western Cape Department of Environmental Affairs and Development Planning), Prof. Louise Warnich (Dean: Faculty of Science, Stellenbosch University); Dr Mogale Sebopetsa (Head of Department, Western Cape Department of Agriculture)
Directly behind them from left: Dr Ilse Trautmann (Deputy Director General: Agricultural Research and Regulatory Services), Ashia Petersen (Programme Manager: Sustainable Resource Use Management, Western Cape Department of Agriculture); Prof. Sibusiso Moyo (Deputy Vice-Chancellor: Research, Innovation and Postgraduate Studies, Stellenbosch University), Minister Ivan Meyer, Western Cape Minister of Agriculture) and Darryl Jacobs (Deputy Director General: Agricultural Development and Support Services).
Back from left: Sibusiso Lukhele (project coordinator at SU); Goosain Isaacs (Director: Climate Change, Department of Environmental Affairs and Development Planning, Western Cape Government); Minister Anton Bredell (Western Cape Minister of Local Government, Environmental Affairs and Development Planning), Karen Shippey (Chief Director, Environmental Sustainability, Western Cape Department of Environmental Affairs and Development Planning), Prof. Stephanie Midgley (Specialist Scientist: Climate Change, WCDoA) and Prof. Danie Brink (Dean: Faculty of AgriSciences, SU). Photo © Stefan Els

1 During November 2023, the Departments of Agriculture and of Environmental Affairs and Development Planning signed a Memorandum of Agreement (MOA) with Stellenbosch University's School for Climate Studies. The School, launched in 2021, creates a transdisciplinary capacity to combine the climate-related knowledge systems of its faculties, the public sector's climate policies and initiatives, the private sector's climate redress and innovation capacities and the social impact mission of the university in both academic and applied ways – all in support of the just transition to a climate-resilient society and a sustainable, low-carbon economy.

According to Ministers Ivan Meyer and Anton Bredell, co-leaders of Climate Change governance in the Western Cape, the signing of this agreement is testimony to the Western Cape Government's drive towards climate change resilience.

Minister Meyer stated: "The MOA underscores the value it holds towards partnerships and collaboration to advance the Western Cape as a leading province in job creation, economic development and capacity building across disciplines. Guided by the Western Cape Climate Change Response Strategy (revised in 2022) and the SmartAgri plan (launched in 2016 as the first provincial climate change response sector plan for the agricultural sector), an effective response to climate change amidst global and local disaster events is now urgent.

The ultimate goal is a green, low-carbon and climate-resilient province by 2050. Minister Bredell highlighted that the MOA will provide a solid and enabling platform to pursue local and international research and capacity-building opportunities (including joint projects) to build the climate change knowledge base in the Western Cape. He stated that it will also enable the exchange of scientific and institutional expertise within the partnership and with global partners to drive a more rapid transition towards climate change adaptation and mitigation and a climate-resilient province. »

1 December 2023: World Heads of State pose for a group photo at Al Wasl during the UN Climate Change Conference COP28 at Expo City Dubai, United Arab Emirates. Photo © COP28 / Mahmoud Khaled

Following the signing of this agreement, Dr Ilse Trautmann, Deputy Director General: Agricultural Research and Regulatory Services, travelled to Dubai, United Arab Emirates to attend COP28.

2 A bi-lateral Memorandum of Understanding (MOU) was signed on **11 March 2022** between the Western Cape and the California Department of Food and Agriculture. During further visits and discussions in 2023, the forming of a Mediterranean Agriculture and Climate Change Group (MACCG) was discussed.

This event, the 28th annual United Nations Climate Change Conference, brought together state parties to the United Nations Framework Convention on Climate Change (UNFCCC), as well as thousands of experts, journalists, climate activists, community members and representatives from businesses and non-governmental groups to discuss how to confront the climate crisis that is taking a growing toll on human rights around the globe.

Al Waha Theatre during the UN Climate Change Conference COP28 at Expo City Dubai, United Arab Emirates.
Photo © COP28 / Mark Field

Photo © COP28 / Kiara Worth

A formal invitation to the Mediterranean Climate Action Partnership (MCAP) event at COP28 was received during November 2023 from the office of Wade Crowfoot, California Secretary for Natural Resources, and David Mascort, Minister of Climate Action, Food and Rural Agenda, Government of Catalonia, Spain, stating that governments with Mediterranean climates will be coming together to build the partnership that aims to support government leaders facing shared climate challenges in Mediterranean regions to deploy the most effective climate action at the pace and scale required by science to combat climate change and protect our people.

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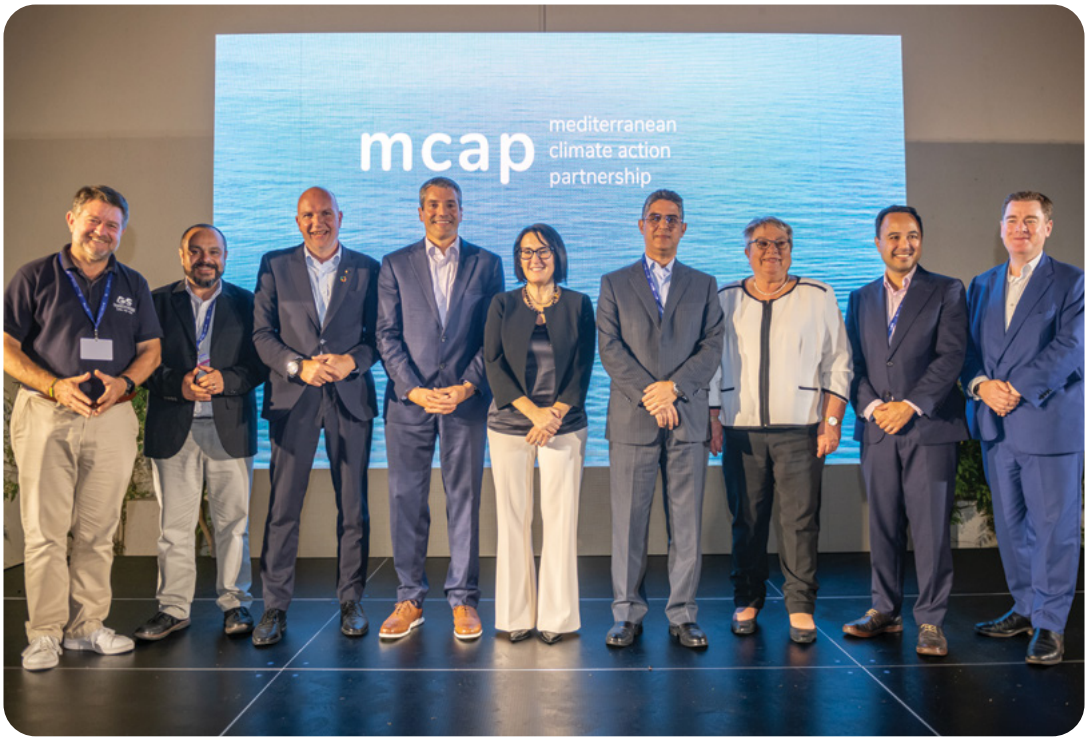


2 December 2023: Signatories of Statement of Commitment to MCAP.

Catalonia and California have initiated this effort, recognising that many subnational governments around the world are taking bold, concrete steps against climate change, and partnerships with governments taking similar action will help the collective move more quickly and effectively towards meaningful and lasting climate action.

In their closing comments, Messrs Crowfoot and Mascort invited the Western Cape to join them as a founding member of the Mediterranean Climate Action Partnership (MCAP) and to launch this partnership at COP28 in Dubai. Partnership members will commit to accelerating delivery of climate solutions through information exchanges and knowledge sharing, elevating awareness through a common voice, aligning and implementing policies and solutions to build resilience and tackle the climate crisis, producing an outcomes-based roadmap and create an ongoing programme of meetings and exchange, taking advantage of the most relevant international interactions, and driving and reporting on measurable outcomes.

Conference delegates attending the Apolitical COP28 RoundTable event, "Building Climate Capable Governments".

Learn more!
Read the press release on the launch of MCAP here: https://shorturl.at/iASZ7

Watch this!
Scan the QR code or visit https://shorturl.at/InsyB to watch the video: 'Mediterranean Climate Action Partnership'. Published by ICLEI Global.

3 During the launch and press conference on **2 December 2023**, Dr Trautmann signed a Statement of Commitment on behalf of the Western Cape government to become a partner of the Mediterranean Climate Action Partnership (MCAP). With her is Minister David Mascort of Catalonia, Spain (left) and Secretary Wade Crowfoot from California, USA.

A comprehensive action agenda (2024 – 2026) was discussed during the event and discussions have already started on actions between the regions. More information will be shared at a later stage in *AgriProbe*.

The WCG represented by the Department of the Premier has recently developed a partnership with Apolitical, the global learning platform for government, and together with the support of the Department of Environmental Affairs and Development Planning, developed a Government Climate Campus for the Western Cape. During COP28, Dr Trautmann also took part in the Apolitical COP28 RoundTable event, "Building Climate Capable Governments", and delivered a pledge, **"Recognising the importance of skilful, government-wide and evidence-based climate and environment action, we will aim to mainstream this in the induction and growth of every Western Cape Government staff member"**, on behalf of the Western Cape Government. AP

Scan the QR code or visit https://shorturl.at/qvNQY to download a copy of the MCAP 2024-2026 ACTION AGENDA FRAMEWORK PROPOSAL_ DECEMBER 2023.

Regions around the world with a Mediterranean climate are particularly vulnerable to the impacts of the climate crisis. That's why we formed MCAP at COP28! #medclimate #mediterranean #COP28

Learn more!
https://www.medclimate.org/

Watch this!
Scan the QR code or visit https://shorturl.at/oCK56 to watch the video: 'Building Climate Capable Governments'. Published by Paris Committee on Capacity-building.

For more information, contact **Dr Ilse Trautmann**: ✉ ilse.trautmann@westerncape.gov.za

Observations from the 10th ReNAPRI Stakeholders Conference

by Dr Dirk Troskie

Victoria Falls, Zimbabwe. Photo © Jixin Yu

The Regional Network of Agricultural Policy Research Institutes (ReNAPRI) was formed in 2012 as a network of African national agricultural policy research institutions with the objective of promoting evidence-based policymaking. The original seven members have since expanded to 16 members from 15 countries in central, east, west and southern Africa.

South Africa is represented by the Bureau for Food and Agricultural Policy (BFAP), which is one of the founder members of the organisation.

Victoria Falls is a waterfall on the Zambezi River in southern Africa, which provides habitat for several unique species of plants and animals. It is located on the border between Zambia and Zimbabwe and is one of the world's largest waterfalls, with a width of 1 708 m (5 604 ft). The population of the Zambezi River Valley is estimated to be about 32 million. About 80% of the population of the valley is dependent on agriculture, and the upper river's floodplains provide good agricultural land.

Photo © Darren Baker

Every year ReNAPRI holds a meeting of member institutes, and the author was honoured to represent the Western Cape Department of Agriculture at the 10th ReNAPRI Stakeholders Conference that was held from in November 2023 at Victoria Falls, Zimbabwe.

It is not possible to present a full report of all the discussions within the limitations of this article. Nevertheless, the main observations can be summarised as follows:

a) If soil health, associated with the availability of fertiliser and (quality seeds) are not addressed, the vision of African agriculture feeding the continent’s people will not be reached.

b) Seed trade is hampered by border, infrastructure and regulatory challenges. An initiative by the SADC and Comesa is in the process of creating a system whereby a cultivar can be registered for trade in all member countries. It would be valuable if this initiative, or something similar, could be expanded to include agricultural chemicals.

c) The targets for Sustainable Development Goal (SDG) 2 will probably not be met by 2030. To meet this goal substantial changes in strategies will have to be implemented throughout Africa and it is doubtful whether the political will exists in most African countries.

d) The Private Sector Value Chain Analysis (PPVC) approach is innovative and may be implemented at a provincial level in South Africa. Hence, it should be brought to the attention of the other eight provinces.

e) A recurring challenge is how to build African institutions rather than focusing only on the development of the individual people. Failing in achieving the former will lead to African talent leaving the continent for more stable institutions abroad.

f) Genetically modified organisms (GMOs) are prohibited in most Sub-Saharan African countries with it only being allowed in a few countries, such as South Africa and Kenya. It seems as if there is general mistrust regarding GMOs on the African continent leaving questions regarding the achievement of agricultural development goals.

g) All indications are that agricultural production in Zimbabwe is stabilising and they are even producing a surplus of wheat. However, the whole system, including markets and prices, is government controlled and import substitution is a goal on its own (partly to relieve pressures on foreign currency reserves). Central control and planning leaves them vulnerable to the impacts of Climate Change.

»

Geographical map of the Sahara, the Sahel and sub-Saharan Africa. Image © M Bitton

h) The highly necessary process to increase yields and productivity in Sub-Saharan farming will force smallholders out of farming. Alternative livelihoods must be found for them. However, there seems to be very little political and policy appetite to follow this route in all earnest with the result that agricultural transformation seems to be a long way off.

i) In some circles there seems to be a general distrust of the various components of a well-developed agricultural value chain and "... middlemen are just out to fleece honest and hard-working farmers ..." is a common sentiment.

j) There is a fundamental tension in Africa: provide an appropriate product price ensuring decent income to smallholder farmers on the one hand versus stable and nutritional household food supply at affordable prices to consumers on the other.

A word of appreciation needs to be extended to the Western Cape Province for allowing the author to attend the event and to ReNAPRI for covering his cost of participation. If any *AgriProbe* reader is interested in the full report or additional information, they are more than welcome to contact the author. AP

ReNAPRI

10TH ANNUAL ReNAPRI STAKEHOLDER CONFERENCE

14-16 November, 2023

At

Elephant Hills Resort, Victoria Falls, Zimbabwe

Hosted by

The Department of Agricultural Business Development and Economics

Faculty of Agriculture, Environment and Food Systems

University of Zimbabwe

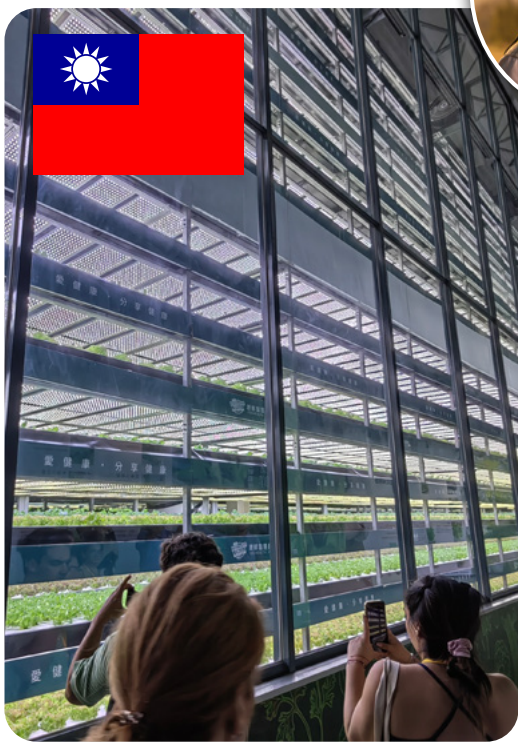
Learn more!

Learn more! Scan the QR code or visit https://www.renapri.org/2023-conference/ to access the conference video recordings and 10th ReNAPRI Stakeholders Conference Report.

For more information, contact **Dr Dirk Troskie**: ✉ dirk.troskie@westerncape.gov.za

Unlocking Agricultural Innovation: A glimpse into Taiwan

by Arie van Ravenswaay



YesHealth indoor vertical farm.

A visit to the YesHealth indoor vertical farm was one of the highlights of Arie's trip.

Learn more!
Scan the QR code or visit
https://shorturl.at/GJWY6

Recently, I had the privilege of visiting Taiwan on a mission to explore the cutting-edge world of agricultural technology. What I discovered left an indelible mark on my perception of farming and sustainability.

Taiwan, though small in size, boasts a remarkable agricultural sector that thrives on innovation. With limited land, farmers have harnessed technology to maximise productivity. They employ green technology, drones, sensors for monitoring insects and even high-tech tunnels and greenhouse structures to optimise crop growth. Taiwan's ability to cultivate three crop cycles annually on small plots stands in stark contrast to traditional agriculture, especially with the same problems aligned by climate change.

One standout innovation was the vertical farming system, designed by a former TV engineer. This unique system utilises LED lights with customised spectrums to enhance plant growth. They also use a jelly-like nutrient medium instead of soil, making the entire process more efficient and environmentally friendly.

»

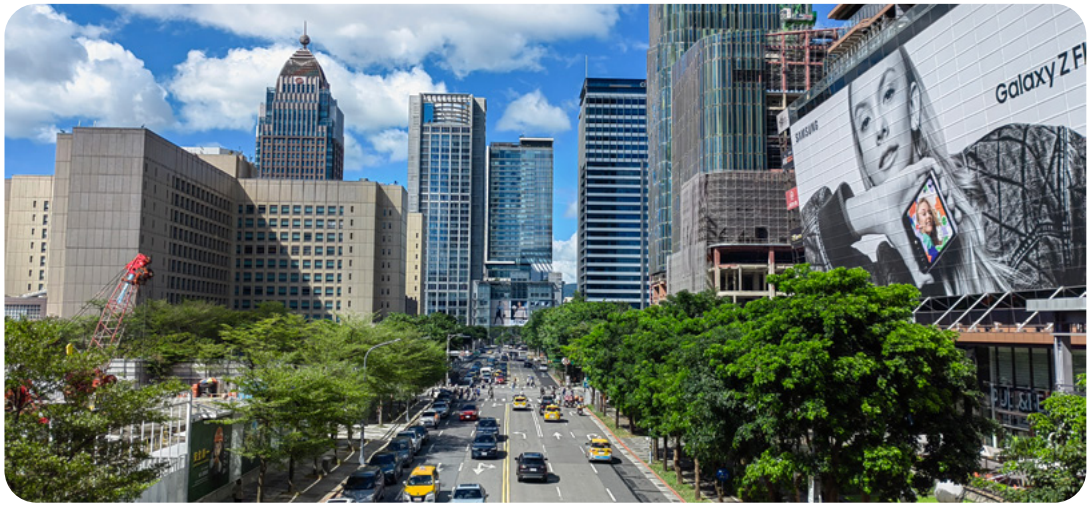
Furthermore, Taiwan's approach to artificial intelligence (AI) and disease analysis was enlightening. They employ drones and AI to monitor and analyse insect populations, thus enabling quick and precise interventions. Farmers utilise sensor technology and add them to a local station on a farm. This allows the farmer to monitor his crops, even from his phone, and switch devices on or off as needed. Smart devices also automatically mix nutrients in tanks before spraying, all dependent on the sensor readings.

A modern greenhouse filled with various sensors and cameras.

Watch this!
Scan the QR code or visit https://shorturl.at/IRX16 to watch the video: 'YesHealth iFarm Corporate Video'.

Workshop delegates are given a demonstration at a drone manufacturing company.

Arie with some of the other workshop delegates.



A beautiful view of one of the busiest streets in Taipei.

Because of the aging populations of the agricultural sector, Taiwan has managed to get younger people with backgrounds in engineering and programming to start farming or assist farmers. This has a positive impact on the way they farm and how much they can produce.

The skillsets between technology and agriculture are becoming narrower and thus improving precision agriculture. This not only improves income and crop quality, but also assists in fighting the effects of climate change.

While our two countries share some agricultural challenges related to climate change and an aging workforce, Taiwan's innovative solutions and open mindset left a profound impact. The trip reinforced the importance of embracing technology and fostering innovation for a sustainable future. AP

For more information, contact **Arie van Ravenswaay**:
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Western Cape/Upper Austria exchange programme 2023

Sharing the vibrancy of our sector and our province

by Dr Ilse Trautmann

Seven years after the signing of a Memorandum of Understanding (MOU) in 2016 between Minister Hiegelsberger, Minister of Agriculture in Upper Austria, and the then Minister of Agriculture of the Western Cape, Minister Alan Winde, the partnership and exchange programme is flourishing despite the impact of COVID-19 on international travelling.

One of the key outcomes of the MOU was the exchange of youth from the two agricultural schools, HLBLA St Florian and HBLA Elmberg in Upper Austria, and the Western Cape agricultural schools and students from Elsenburg. The first exchange visit took place in 2018 and the Western Cape group travelled to Upper Austria in 2019.

Learn more!
Scan the QR code or visit https://shorturl.at/cjnAI to download a copy of the MOU.

The Upper Austrian group officially welcomed by Minister Ivan Meyer (back, middle). On his left Dr Ilse Trautmann (Deputy Director General: Agricultural Research and Regulatory Services, WCDoA, co-organiser), and on the far-left Paul Rockman, Chief Director: Operational Support Services, co-organiser) with the students and teachers Magdalena Sophie (HBLA Elmberg) (second from left, front) and Christa Möslinger-Gehmayer (HLBLA St. Florian) (front, right).

Boland Agricultural School near Paarl.

After the pandemic planning started again to welcome the second group of students from Upper Austria to the Western Cape. Eight students and two teachers from the two schools respectively landed on Western Cape soil during the latter part of September 2023 amidst a winter storm, followed by the most pleasant weather the Cape of Storms could offer!

The group was officially welcomed by Dr Ivan Meyer, Minister of Agriculture Western Cape, and Dr Mogale Sebopetsa, Head of Department, WCDoA.

A bumper programme followed for the next twelve days, showcasing the best the agricultural sector, our agricultural schools and our region could offer. The group visited Oakdale Agricultural School in Riversdale, as well as Boland Agricultural School near Paarl and spent some quality time with their learners and teachers and the facilities on offer.

“One of the key outcomes of the MOU was the exchange of youth from the two agricultural schools.”

Visits were also paid to Eureka Mills, our Outeniqua Research Farm near George, the Lancewood factory, Mosstrich abattoir in Mossel Bay and Diemersfontein wine farm, to name but a few. »

Outeniqua Research Farm near George.

On the fun and tourism side, a number of *braais* were enjoyed, as well as whale watching in Hermanus, a safari game drive at Botlierskop Private Game Reserve, visits to Indalu Game Reserve and Table Mountain, and a typical Cape Malay lunch at the Bo-Kaap Kombuis in Cape Town.

After returning to Upper Austria, the students presented their presentation to the teachers and other students, as well as Hubert Huber, the Head of the Department of Agriculture in Upper Austria. According to one of the visiting teachers, Christa Möslinger-Gehmayer: "Everybody was deeply impressed by your elaborate and outstanding programme."

Elephant walk and interaction at Indalu Game Reserve, Mossel Bay.

Simon Kaiblinger, 18 years – Trip to Boland Agricultural High School

Oakdale High School was an impressive trip for me. The students were respectful, and we already felt at home in just a few minutes. The picture shows the unique school uniforms, which I personally found very cool. In South Africa, there is a standard competition to present animals like sheep, goats, cows, or even chickens to a jury, and they decide which animals make it to the podium. Every student has his own animal to train with. For me, it was one of the many highlights during the trip.

Emely Wimmer, 18 years – The Nelson Mandela Memorial

Nelson Mandela, I deeply admire him. His unwavering commitment to justice and freedom in South Africa is awe-inspiring. His ability to act without resentment after 27 years of wrongful imprisonment is remarkable. I personally believe that this determination reflects the general attitude of the people in South Africa. The resilience and determination to overcome injustice are admirable traits of this nation. Mandela and the people of South Africa have shown that collective efforts and a belief in change can bring about extraordinary transformations.

Day visitors centre, Botlierskop Private Game Reserve, Garden Route.

Lorenz Baumgartner, 19 years – My impression of agriculture in South Africa

For me, dealing with climate change and environmental changes in agriculture in South Africa was particularly exciting. Whereas organic farming is becoming increasingly important in Europe, it hardly plays a role in South Africa. Climate change, especially the handling of water in the Western Cape, was interesting to see. In contrast to Austria, schools already teach about irrigation, and every single farmer has his own dam. In conclusion, I believe there is a great need for support from the government in the Western Cape to turn agriculture towards sustainability and climate change mitigation and adaptation, but also to improve the distribution of food to the people in need.

A special word of thanks to Paul Rockman, Chief Director: Operational Support Services, and his team (especially John Constable, Deputy Director: External Development Initiatives) for making this exchange a most memorable one for our Upper Austrian visitors. AP

For more information, contact **Dr Ilse Trautmann**: ✉ ilse.trautmann@westerncape.gov.za

Vivian Jakobs: WCPAA Winner 2023

by Franco Williams

Vivian Jakobs' journey is a testimony that it's never too late in life to pursue your dreams. At the rich age of 49, the father of four was awarded the accolade of 2023 Western Cape Prestige Agri-Worker of the Year and as a result became the newest member to serve on the Western Cape Prestige Agri-Worker Forum (WCPAWF).

Vivian was crowned at a prestige function hosted by the Western Cape Department of Agriculture at the Protea Hotel, Technopark in Stellenbosch on 4 November 2023. Vivian became the third winner from the Witzenberg region to win this award. Jaffie Galant and Wimpie Paulse, who currently serves as the Chairperson of the WCPAWF, previously won this award.

Watch this!
Scan the QR code or visit https://shorturl.at/nGOW8 to watch the video: '2023 Western Cape Prestige Agri Awards Gala Ceremony'. Published by the Western Cape Department of Agriculture.

As a young man, Vivian grew up on a farm in Ceres in the Witzenberg. In a community that often celebrates young, successful people, it's easy to start thinking that you're never going to be successful after a certain age. However, Vivian is an example that proves that argument wrong.

Vivian Jakobs

Many people give up on following their dreams because the work becomes too difficult, tedious or tiresome but often, you're closer to the finish line than you may think, and if you push just a little harder, you will succeed. Vivian's hard work, determination and dedication inspired him to pursue his dreams.

Vivian started working as a contractor in 1997, and in 2000 on the farm Swaarmoed. During 2003 he was promoted to the position of packhouse manager. He gained experience and joined Crispy Farming on Coshla Farm in 2015 as an assistant production manager. In 2016 he was promoted to junior production manager and in 2018 he became a unit production manager.

Vivian is responsible for the management of 68 hectares of apples and pears. He manages all aspects of production with a team of 76 agri-workers during the year, and 200 during peak season.

During the 2023 Western Cape Prestige Agri-Worker Competition Vivian was described as a hardworking, humble, self-confident, people's person that is passionate about his work.

He believes in self-development. He matriculated from Ceres Secondary School in 1994, and in 2008 he obtained a NQF 4 certificate via the Kouebokkeveld Training Centre. He is currently enrolled for various leadership development courses. Vivian's long-term goal is to own majority shares in a BBEE company. He wants to become a farmer and land owner. The Western Cape Agri-Awards inspired him to build a legacy for the next generation. AP

Vivian's induction was held at the WCPAWF meeting held on 24 November 2023 at the Premier's official residence, Leeuwenhof. The Department of Agriculture also sponsored Vivian to go on an overseas trip to Germany and the Netherlands to expand his agricultural knowledge.

For more information, contact **Franco Williams**: ✉ franco.williams@westerncape.gov.za

2023 Graduation Day

by Sandile Mkhwanazi and Zenovia Parker

Class of 2023

On Saturday, 2 December 2023, 187 proud students received their qualifications at the Elsenburg Agricultural Training Institute (EATI). The Elsenburg Annual Graduation Ceremony is a culmination of hard work and dedication, not only from the students, but the staff as well.

The graduation ceremony coincided with the celebration of the College's 125th year of existence where we paid homage to Elsenburg's rich history that tells a story of resilience, rebirth and growth. In the words of Dr Ivan Meyer, Western Cape Minister of Agriculture, the College provides **HOPE** – **H**igher **O**pportunities for **P**eople to **E**xcel, and will continue to do so in the years to come.

Dr Ivan Meyer, Minister of Agriculture, Western Cape:

"Class of 2023, if asked what you received at this graduation, your answer must be as follows: 'I received the power of emotional intelligence, spiritual intelligence and now I fully understand the power of rational intelligence and all three are of equal importance.'"

Minister Ivan Meyer (left) with Albertus van Zyl.

Learn more!
Scan the QR code or visit https://shorturl.at/gqIS8 to download the *125 Year Book*.

Watch this!
Scan the QR code or visit https://shorturl.at/KQX57 to watch the video: 'Elsenburg College Graduation 2023'. Published by Western Cape Department of Agriculture.

Dr Mogale Sebopetsa, Head of Department:

"Education is about growth and not just about the greats. Class of 2023, you have indeed adapted and grown in this difficult time, which has enriched you and added to your academic success."

Zaakiyah Cader (right) with Dr Mogale Sebopetsa.

Mawande Siduka (left), graduate of 2023.

For more information!
Scan the QR code or visit: https://rb.gy/9sj4rx for more information on the College and courses offered.

Darryl Jacobs, Acting Principal, Deputy Director General:

"You will move the tassel on your graduation caps from right to left. This act of moving the tassel is to show that you have moved from College to another stage in your life."

Minister Ivan Meyer (right) with Lu-Ann Fisher.

Dr Mogale Sebopetsa (middle) proposing a toast at 125th celebration.

Prof. William Gumede, Honorary Professor, Elsenburg Agricultural College:

"Success is about striving to develop to your full potential, to become the best version of you. It is about doing your best, continuously learning, and improving."

For more information, contact **Sandile Mkhwanazi**: ✉ sandile.mkhwanazi@westerncape.gov.za or **Zenovia Parker**: ✉ zenovia.parker@westerncape.gov.za

Central Karoo walks away with a full house at the WC SEA!

by Deona Strydom

During last year's provincial Service Excellence Awards (SEA) a new category was added to give recognition to individual citizens who live out the values of the Western Cape (WC).

The Western Cape Department of Agriculture's Rural Development programme entered three deserving citizens residing in the Central Karoo and great was the surprise when they came back with Bronze, Silver and Gold!

To qualify for the category Best Citizen Performance (Individual), nominees had to meet the following criteria:

1. Nominee to demonstrate innovative/creative ways in delivering a service/s within the community.
2. Nominee must be a South African citizen and residing in the WC.
3. He/she must be doing excellent work (voluntary, without compensation) for a minimum of six months.
4. The contribution/value add should be during the qualifying period (1 Oct 2020 – 31 March 2022).
5. Must clearly be an individual contribution (not representing a team).
6. Individual must demonstrate leadership/role model qualities in the community issue(s) resulting in positive changes in the community.

Annemarie Verwey and Alan Winde, premier of the Western Cape.

Gold trophy

Annemarie Verwey (72), fondly known as Suster Ann or Mammie, runs a feeding scheme from her house in the rural town of Murraysburg near the border of the Eastern Cape. The scheme runs purely on donations from churches, locals and people from outside of town. Suster Ann has been involved in voluntary community activities in her hometown for more than 22 years and serves on numerous associations, councils and any other type of platform to ensure the plight of the impoverished rural town is heard. As she is well known throughout the Karoo and beyond, she uses this innovatively to attract donations, support and opportunities for the community of Murraysburg.

At the 2023 Western Cape Prestige Agri-Awards Annemarie Verwey received the following Ministerial/ Departmental Acknowledgements from MEC for Agriculture, Dr Ivan Meyer: Certificate for her contribution towards social innovation and social inclusion in the Central Karoo and an award from Father Mike Mernagh from the Marathon Trust in Ireland.

»

Christo Farao and Alan Winde, premier of the Western Cape.

Silver trophy

Christo Farao (48), the self-elected president of the United States of Merweville, as he is often referred to, has a deep love for people and sport. After a short search for greener pastures in the city, he returned to Merweville to put his hometown on the map.

He initially started out as a facilitator at the Karoobossies Centre for the Elderly, but soon realised he could incorporate his love for sport with his passion for people. He is the coordinator of the Golden Games (events for people over 60) and Indigenous Games (events for people14-59). Christo is also the secretariat of the Central Karoo Rugby Federation. He takes pride in his sport teams and truly believes an active body hosts a healthy mind, no matter your age. When he is not on the sport field, he assists at the Caring Hands feeding scheme that provides food to 68 community members.

At the 2023 Western Cape Prestige Agri-Awards Christo Farao received the following Ministerial/Departmental Acknowledgement from MEC for Agriculture, Dr Ivan Meyer: Certificate for his contribution towards development in rural communities (Merweville). From left: Dr Ivan Meyer, Christo Farao and Dr Mogale Sebopetsa.

Raymond Swartz and Alan Winde, premier of the Western Cape.

Bronze trophy

Raymond Swartz (50), also referred to as Rambo in his hometown in Leeu-Gamka, is a community hero. His secret power? He does not take no for an answer when it comes to his community. His dreams for the small town next to the N1 with a population of 2 727 (Census: 2011), which the average traveller doesn't even notice, is to be prosperous, safe and for every citizen to have food on the table. Raymond has taken it upon himself to voice the needs and challenges of his community on every available platform, be it in person, on the phone, via email or WhatsApp. When he hears about developments in other areas, he asks himself: "Why not in Leeu-Gamka?" And then he goes after anything that could benefit his community. When he gets no for an answer, he will keep on knocking on the door or go to a different door.

We would like to encourage colleagues to nominate deserving citizens throughout the province. Sometimes recognition is worth a lot more than monetary support.

At the 2023 Western Cape Prestige Agri-Awards Raymond Swartz received the following Ministerial/ Departmental Acknowledgement from MEC for Agriculture, Dr Ivan Meyer: Certificate for his contribution towards development in rural communities (Leeu-Gamka).

Meeting Western Cape Premier Alan Winde, receiving the trophies and being in the spotlight meant the world to these citizens and they now feel even more motivated to make a change in their communities. AP

For more information, contact **Deona Strydom**: ✉ deona.strydom@westerncape.gov.za

Game ranching industry shows healthy growth

by Riaan Nowers

Sable antelope (*Hippotragus niger*) bull, Wasabi. Sought-after sable genetics were offered during 2023 auctions – refer to page 47 for selected auction insights. Photo courtesy of Leopard Rock Game Breeders.

The South African game ranching industry arguable started off as a by-product from cattle farmers and some private game ranches and has subsequently developed into one of the major success stories of the South African environmental economy.

What started off as the response to an enquiry received from an animal scientist within the agricultural sector, led to the tracking of all game auctions within South Africa. This was done *inter alia* to track the growth of the game ranching industry specifically through the live selling of game species, thereby monitoring any structural changes that took place or are taking place in this sector. Also, this enabled proper responses to price queries regarding individual game species prices, which are based on verifiable data sources, thus as scientific as possible.

In 1991 some 8 292 game were sold through game auctions resulting in a turnover of R8 999 871. The first proper records of game auctions were however initiated a decade or so later in 2002 when 35 game auctions were monitored resulting in a turnover of R105,1 million with 20 022 head of game been transacted. The number of game auctions grew steadily each year with increases in the number of animals sold as well as income generated.

Some game ranchers, economists and environmentalists warned about the so-called bubble effect that may await the industry and it became clear that game sales indeed did reach a peak during 2014 to 2016. These record turnovers were fuelled by especially high prices for colour variant species and some high value species, such as buffalo and sable antelope.

The interesting part of this monitoring exercise was that the basic principles of Economics 101 started to realise within the game auction 'economy' where supply and demand started to generate more realistic prices to that of today. This phenomenon is observable when viewing individual datasets of each species and are available from the author.

> **"For the first time in the game ranching's history, more than 50 000 animals were formally sold."**

Obviously good genetics demand and do reach higher prices, which is rational where managers/owners strive to improve genetic vigour within their herds.

Two interesting observations came to the fore – firstly the prices of colour variant showed a dramatic decline from 2014's peak down to 2020. Secondly, plains game species' prices showed healthy increases. The interesting fact about the colour variants is that since the COVID-19 year of 2020 a renewed interest in these species were noticed with prices showing growth, though not nearly to the levels of pre-2014/15. In fact, some 12.0% of all animals were colour variants, which may not be good news for some environmental purists who get worried when numbers sold exceed 10% of all animals.

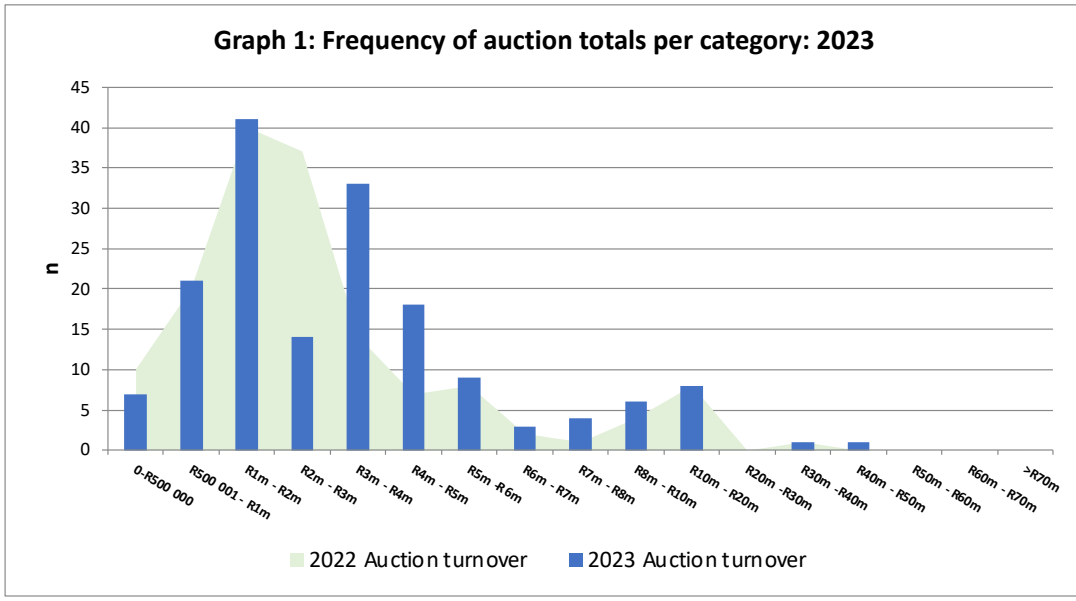
Did the COVID-19 pandemic impact on the game auction industry? Yes, it surely did. And game auctioneers and ranchers responded! Although the ban on live auctions inhibited game sales, the advent and strengthening of electronic online auctions led to the sale of 28 567 animals in 2020. Where normally the ratio between timed online auctions and live auctions are in the order of 20%:80% it changed to 67%:33% during the pandemic year of 2020. This may have been a blessing in disguise as it enabled the game industry to go virtual and sharpen its electronic capabilities. This was advantageous to both the sellers and buyers.

More information details were now available to enhance decision-making when game transactions are contemplated. In this aspect the game ranching industry is in many ways a leader in utilising electronic enhancements during its value chain. »

So, moving on to what happened during the 2023 auction year. Several records were established. Although the annual financial turnover was not close to those 'good' years of 2014-2016, the turnover of R648,3 million was still 29.4% higher than that of the previous year (2022) and the highest since the covid-year. A new record of 166 game auctions took place, which is 14 more than the previous year's record. For the first time in the game ranching's history, more than 50 000 animals were formally sold with the 54 296 officially improving on 2022's record of 49 512.

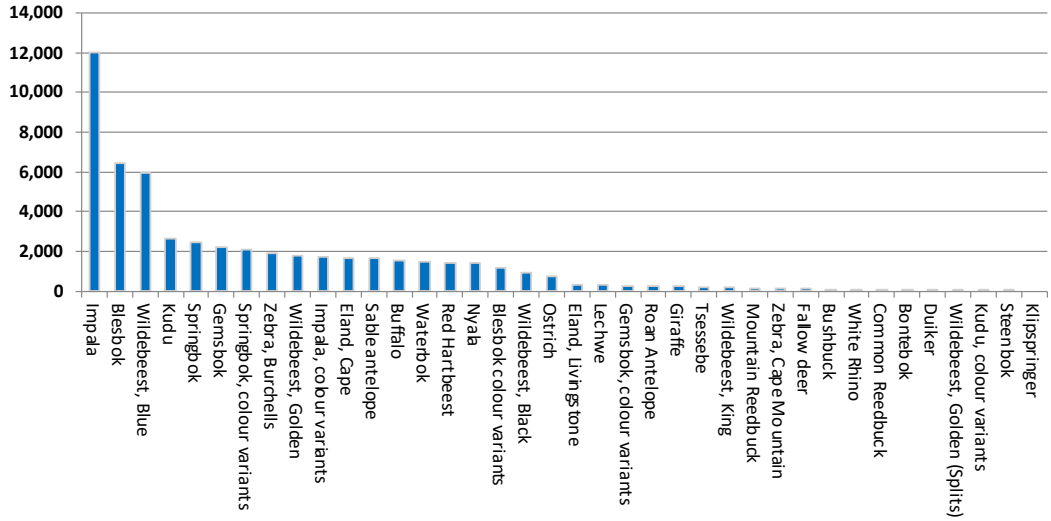
African buffalo *(Syncerus caffer)* bull, Duncan on boma. Photo courtesy of Ukujabula.

Ukujabula Game Breeders 50"+ buffalo bull sold for R1 825 000 at the Bloodline Africa auction on 9 June 2023.



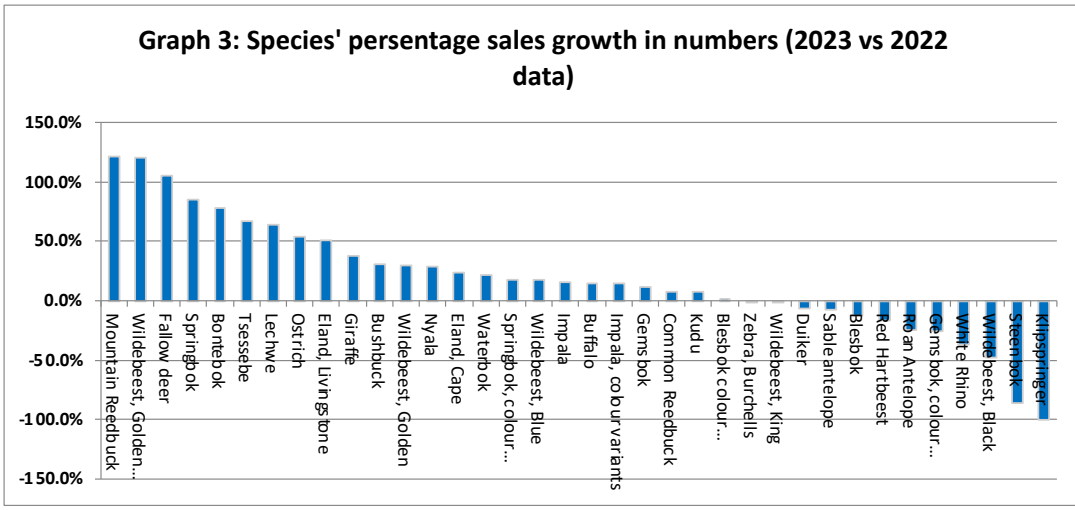
Some interesting statistics is revealed by **Graph 1** where results from 2022 and 2023 are shown. Although more than 25% of all auction turnovers were in the R1-2 million bracket, it was exciting to see that the R3-4 million (20%) and R4-5 million (11%) categories showed growth, thereby promising a strong anticipated growth for this year. *Watch this space!*

Graph 2: Number of animals per species sold during 2023

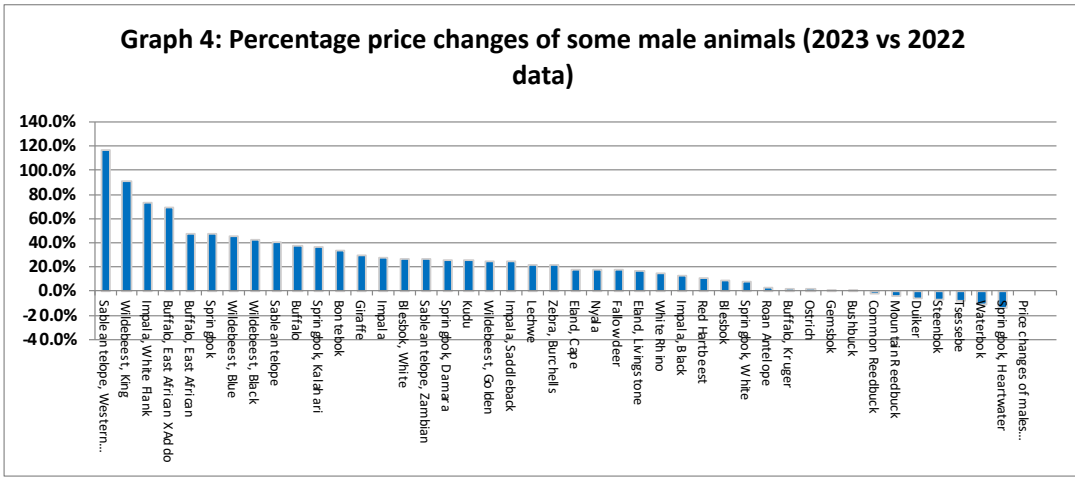


Graph 2 reveals no surprises and as anticipated, plains game dominated the sales with impala (12 016), blesbok (6 461), blue wildebeest (5 933), springbok (2 456), oryx (2 250) and Burchell's zebra (1 941) recording the most sales. Cape eland, waterbuck and red hartebeest also showed good numbers, as did buffalo and sable antelope. »

White-flanked impala *(Aepyceros melampus)* ram.
Photo courtesy of Lasarus Game Farm, Albertina.



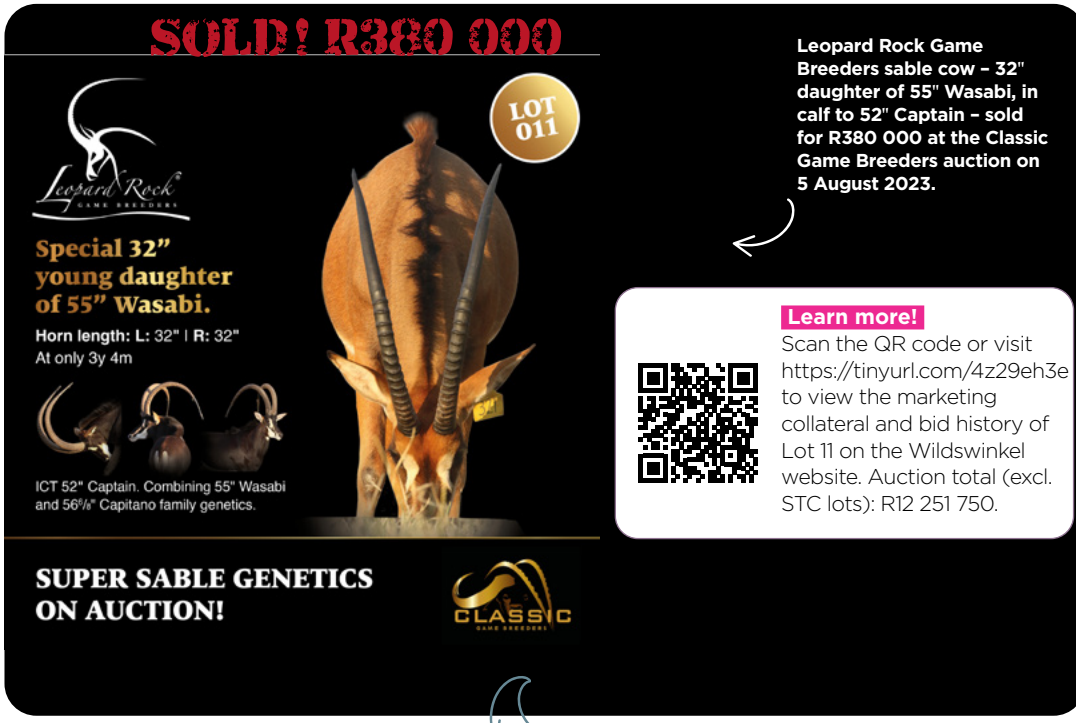
Graph 3 shows that mountain reedbuck, golden split wildebeest, fallow deer and springbok showed the greatest growth in sales when compared with the previous year while black wildebeest and roan antelope showed a decline in sales during the same period.



It was interesting to note the price changes of species when compared to a year ago. For this purpose, it was decided to compare selected male animals' price changes with each other.

Graph 4 revealed that Matetsi sables, black springbok, Zambian sable crosses, Western Zambian sables, king wildebeest and white flanked impala all revealed extremely good prices followed by East African buffalo, springbok rams and blue wildebeest bulls. Springbok (heartwater), waterbuck, tsessebe, steenbok, grey duiker, mountain reedbuck and bushbuck male animals realised negative price growth.

In summary, the South African game ranching industry showed a remarkable recovery from the 2020 setback year with record sales in terms of animals sold as well as auctions that took place. These records of active selling and buying are healthy indicators of gene transfers amongst animal species, which is so necessary for a healthy game industry as well as for the immediate environment. It is also apparent that the game ranching industry clearly do not shy away from technology and utilises electronic media to its fullest when needed.



Leopard Rock Game Breeders sable cow – 32" daughter of 55" Wasabi, in calf to 52" Captain – sold for R380 000 at the Classic Game Breeders auction on 5 August 2023.

Learn more!
Scan the QR code or visit https://tinyurl.com/4z29eh3e to view the marketing collateral and bid history of Lot 11 on the Wildswinkel website. Auction total (excl. STC lots): R12 251 750.

An often-neglected group within the supply/demand chain is the auction houses themselves who in most cases share their data so diligently and responsively with all. This enables more accurate and timely analysis of game species data.

May all role-players, ranchers, agriworkers, auctioneers, the media and the public experience another positive year with our South African social economy and environment benefitting from past experiences and new innovations.

Here is looking forward to an exciting 2024! AP

For more information, contact **Riaan Nowers**: ✉ riaan.nowers@westerncape.gov.za

67 Minutes of Hope

by Ronald van de Wetering

In July the State Veterinary Office Oudtshoorn joined the Cango Wildlife Ranch and Animal Care team South Africa (a local animal NPO) for a community outreach. The outreach was to Volmoed, a nearby settlement on the outskirts of Oudtshoorn.

This was done in memory of Nelson Mandela – to spend 67 minutes to reach out to those in need, in memory of all the humanitarian work that he did for South Africa.

Watch this!
Scan the QR code or visit https://shorturl.at/hAFO9 to watch the video: 'Nobel Peace Prize Award Ceremony 1993'. Published by SABC News.

i Nobel Square in the V&A Waterfront, Cape Town pays tribute to South Africa's four Nobel Peace Prize Laureates: the late Nkosi Albert Luthuli, Archbishop Emeritus Desmond Tutu, former State President FW de Klerk and former President Nelson Mandela.

Prior to the outreach the organisations collected dog and cat food, blankets, sweets, toys, food and linen to be handed out to the community. The Cango Wildlife Ranch together with their Turtles Restaurant donated sixty litres of soup and bread to be handed out to the community. Leftover sweets were donated to the Volmoed Crèche, which was used as the venue.

During the outreach volunteers from the Cango Wildlife Ranch helped to hand out the soup and all the other items to a very thankful Volmoed community.

Grateful doggo.

Volunteer with puppy.

This included a quick general health check whereafter the dogs and cats received a rabies vaccination as well as a dewormer and treatment against tick and fleas. During the outreach we managed to also help just over 50 animals and a list was created for a return visit during which a sterilisation campaign would be held. The sterilisations are provided by the community clinic based at the State Vet Office Oudtshoorn. These sterilisations will in turn assist with disease control and ensure animal numbers are limited to the amount of food and care available in the community.

Part of the volunteers was a group of pre-vet and vet students from a programme called Loop Abroad. These students assisted the Oudtshoorn State Veterinary Office in providing basic animal health care to dogs and cats in the community.

The Western Cape Government has six core values that its employees strive for, one being Caring. This event encompassed that by displaying compassion towards all citizens, caring for everyone's wellbeing, including their animals, and to treat every-one with the same dignity and respect.

Joint events such as these enable us to be even more active within local communities by providing lower-income households the opportunity to receive basic animal health care at their doorstep. AP

Acknowledgements

A special thank you should go out to the Cango Wildlife Ranch for facilitating and bringing all the different role players to the table. And thank you to the volunteers and Animal Care Team that assisted with handing out all the treats and gifts to the people of Volmoed.

isiXhosa summary

Ngelokuhlonipha uMnu Nelson Mandela, iOfisi yoNyango lweMfuyo yoLuntu nguRhulumente e-Oudtshoorn, iCango Wildlife Ranch, kunye neqela loo gqirha kuLondolozo lweMfuyo baququzelele ukufikelela kuluntu lwase Volmoed. Eli phulo liquka iminikelo yokutya kwezinja neekati, iingubo, kunye negalelo lokuphakelwa isuphu nesonka ngesisa. Amavolontiya, kubandakanywa abancedisi boogqirha kunye nabafundi abangekazigqibi izifundo zabo zobugqirha kunyango lweMfuyo, babonelele ngemisebenzi yokukhathalela impilo yemfuyo, begxininisa ixabiso likaRhulumente weNtshona Koloni "lokuKhathalela" ngokukhuthaza uvelwano nesidima kuluntu.

Learn More!
Download the full translation
https://shorturl.at/egkvG

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How to taste red wine

by Brenton Maarman

Van Loveren Family Vineyards wine tasting in cellar.
Photos courtesy of Van Loveren Family Vineyards.

Red wine is mostly associated with wintertime. There is something magical about uncorking a bottle of red wine in front of a fireplace.

But before uncorking a bottle of red wine, it has to be produced. Red wine is made from dark-coloured grapes that were macerated (grape skins are left in the grape juice). The colour varies from intense violet, which is typical of young wines, to brick red for mature wines and brown for older red wines. Red grapes have a greenish-white juice colour when pressed but it turns red when left on grape skins to ferment.

There are different red wine grape varietals throughout the world. The most popular red grape varietals in South Africa are Cabernet Sauvignon, Shiraz, Pinotage and Merlot.

i

Continuing their sustainability journey Van Loveren Family Vineyards recently received the Carbon Hero recognition award from Blue North Sustainability. This is part of their Confronting Climate Change (CCC) initiative, which encourages wine farms to calculate and understand their carbon emissions.

Red wine is made from dark-coloured grapes that were macerated (grape skins are left in the grape juice).

Red wine production:

There are different red wine styles, such as still wine, sparkling wine and dessert wine.

Red wine can also be classified as **light-bodied** (wine with less than 12.5% alcohol, low tannins with moderate acidity), **medium-bodied** (wine with alcohol content between 12.5% and 13.5% more tannins than a light-bodied red wine but less than a full-bodied red wine) and **full-bodied** (wine with more than 13.5 % alcohol, complex flavours and richer mouthfeel).

The focus of this article will be on still wines.

There are four basic wine-tasting steps.

1 Visual appearance

Pour 75-90 ml red wine into a wine glass and look at the colour. Remember that red wine gets lighter in colour as it ages. Sometimes there can be sediment in the glass due to the age of the wine. The older the wine, the more sediment will occur.

2 Smell/aroma

Bring the glass to the nose. The distance between the glass and the nose must be approximately 2cm. The smell or aroma of wine comes from grapes and alcoholic fermentation where the grape juice is converted to wine. These aromas are formed by compounds referred to as esters (organic acids). Esters are produced when yeast breaks down sugar through glycolysis and then undergoes lipid and acetyl-CoA metabolism. The most significant esters, such as ethyl acetate, have fruity aromas, while isoamyl acetate has pear aromas. Esters can also have aromas such as plum, cherry, strawberry, raspberry, blackcurrant, blackberry and honey. Red wine aromas can also develop during maturation in wine barrels. Aromas such as vanilla, hazelnut, smokiness and coconut are prevalent in wines that were matured in barrels.

3 Taste

There are five basic tastes: sweet, salty, bitter, sour and umami (savoury taste). Red wines can also be classified according to mouthfeel, astringency, burning sensation (wines high in alcohol cause a burning sensation in the mouth when served above 15°C), and the body of the wine. These terms were discussed in "How to taste white wine" – *AgriProbe* volume 20 (nr. 4 of 2023).

4 Think/Conclude

Uncork and taste different red wines and decide which one will be your favourite to pair with your signature dish. The more you drink, the more you know!

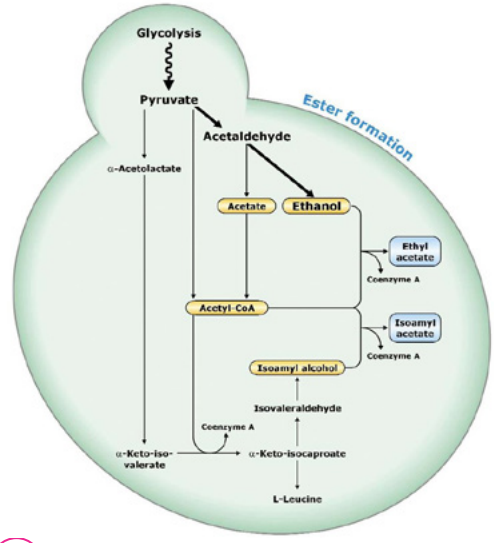
»

Red wine varietals, tasting notes and food pairing

Red wine grape varietal	Aromas	Food Pairing
Cabernet Sauvignon The king of red wines. It is the most planted red wine grape cultivar in South Africa. It produces top-class wines.	Black cherry, black currant, cedar, cinnamon, nutmeg and cigar box.	Mushroom pizza, beef stroganoff, marinated ribeye steak and braised short rib.
Shiraz It can be made in several different styles including deep purple, smoky and spicy wines that develop a complex character with age.	Blueberry, black plum, milk chocolate, pepper and tobacco.	Lamb shawarma, Indian tandoori meats, Gouda cheese and duck.
Pinotage This is a proudly South African red wine grape cultivar. It can produce complex and fruity wines with age but is also often very drinkable when young.	Black cherry, blackberry, fig and a meaty aroma.	Roasted meats and vegetables accompanied with flavourful sauces, such as teriyaki, plum, and barbecue sauce.
Merlot It is traditionally used as a blending partner with Cabernet Sauvignon to add softness. Recently it is also bottled as a varietal wine.	Cherry, plum, chocolate and bay leaf.	Pizza, barbeque chicken or penne pasta with a thick tomato sauce or a creamy, bacon and mushroom sauce, rack of lamb and beef short rib.

The basic colours of red wine:

A schematic representation of the formation of ethyl acetate and isoamyl acetate in wine yeast :



The colour varies from intense violet, which is typical of young wines, to brick red for mature wines and brown for older red wines.

Esters are produced when yeast breaks down sugar through glycolysis and then undergoes lipid and acetyl-CoA metabolism.

Van Loveren's Rhino Run Conservation collection – each bottle contributing to the conservation of the African rhino. Visit Van Loveren Family Vineyards and enjoy food and wine pairings, pod tastings and giant chess at their Tasting Room!

Learn More!
https://www.vanloveren.co.za/vanloveren-visit-us

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Greenhouses

Points to ponder before starting a greenhouse endeavour (Part 2)

by Dr Jacques van Zyl

Aerial view of industrial agricultural greenhouses. Drone image © Bigtuanonline

Production in greenhouses is an intensive method of farming and all aspects thereof must be thoroughly investigated before commencement as it demands substantial capital investment.

The first article discussed the basic requirements for greenhouse production, market aspects, site selection and water quantity and quality (see *AgriProbe* Vol. 20, No. 1, 2023). This article will cover the regulatory aspects, type of growing facility and general cultivation aspects of greenhouse production.

Learn more!
Scan the QR code or visit https://shorturl.at/yNX59 to read the first article in AgriProbe: "Greenhouses – Basic points to ponder"

Regulatory requirements will have to be adhered to if a greenhouse business is established and the following matters need attention:

- The construction of the greenhouse may require that plans have to be submitted to the municipality for approval – check your municipal requirements before planning anything.
- The establishment of big operations may require an environmental impact assessment.

Solar

Greenhouse for vegetables – solar system for heating and irrigation.
Photo © Jovan Jaric

• Adhere to the building codes that are applicable to greenhouses.
• Check the zoning regulations of the land where you want to build the greenhouse.
• Check if your water source is registered for use.

Deciding on the **greenhouse facility** influences the production efficiency as well as the economic viability of the greenhouse business for a long period of time after construction thereof. Not all facilities are appropriate in all situations, so specific factors for each location should be taken into account before making a decision regarding the appropriate facilities needed.

The facility must provide the best possible environment for production with a layout that optimises the efficient use of labour and equipment.

The following factors should be considered in making a decision on an appropriate greenhouse facility:
• Optimum size of the greenhouse.
• The design of the greenhouse.
• Orientation of the greenhouse.
• Choice of covering material.
• Cooling and ventilation requirements.
• Heating requirements.
• Appropriate heating system.
• Area needed for production, storage and packaging.
• Production equipment needed in the greenhouse.
• A suitable irrigation system.
• Storage facilities for pest control chemicals and fertilisers.
• Facility to house pumps and computers.
• Placing and size of mixing tanks.
• Check the zoning regulations of the land where you want to build the greenhouse.
• Check if your water source is registered for use.

»

Irrigation

The automated micro irrigation system that ensures that each group of gutters with leafy greens gets the proper amount of water when it arrives in the greenhouse.

Photo © U.S. Department of Agriculture.

Greenhouse LED lighting plays a critical role in ensuring plant yield and health all year round. For most greenhouse growers, light is a commodity, an essential consideration and tool that they cannot take for granted as they plan their greenhouse design, crop and installation. Light is the catalyst and pivot upon which a successful greenhouse succeeds or fails.

Lighting

Photo © Teerawat Winyarat

Learn more!
Scan the QR code or visit https://shorturl.at/hoAEY to read "The Benefits of LED Grow Lighting in a Greenhouse".

Watch this!
Scan the QR code or visit https://shorturl.at/egENX to watch the video: '25 Best Vegetable to Grow in a Greenhouse | Greenhouse Vegetables | Greenhouse gardening'. Published by Agriculture and Technology.

Decisions regarding **cultivation aspects** are key factors in order to achieve an economically viable greenhouse business that will be operational for several years in order to get a return on investment. The following aspects need to be clarified before any money is committed to the endeavour.

- Decide which crop to grow based on capabilities and market research – production scheduling and variety must also be considered when making a choice.
- The scheduling of the crops plays a major role in the success of production due to the different growth durations and light intensity requirements.

Lettuce and herbs, indeed all leafy green vegetables, are very well suited to production in greenhouse systems. Photo © Jovan Jaric

Ornamental kale flower. Photo © Erik1977

• The decision on the production process that will be followed depends on the availability of production resources to the producer.
• The optimum irrigation system for your specific production process to apply uniform water and fertiliser distribution in your greenhouse at peak conditions during the growing season.
• The crop nutrition regarding the plant requirements at different growth stages must be understood and the application thereof must be considered when the desired fertilisation system is developed.
• The growth media can play a major role in the cost of production and the suitability and availability thereof can determine your chances of success.
• Will you buy seedlings, or will you produce your own? If you produce your own seedlings, keep in mind that you need a separate system that will serve as a nursery.
• The grower must determine if pollination is necessary for the crops he or she is planning to grow and then determine the best option to utilise regarding practicality and effectiveness.
• Growers must familiarise themselves with the possible insect and mite problems associated with the crop they intend to grow. The control method(s) must also be determined in advance.
• Growers must study effective disease control methods as disease management is crucial in effective production systems. AP

The adherence to the basics should lead to the success of your greenhouse endeavour, but it is essential to do your research in your specific area before you start investing in structures or land.

isiXhosa summary

Eli nqaku ligxinisisa ukubaluleka kokufama ngokusebenzisa isigqumathelo sezityalo (*greenhouse*), kuquka iimfuno zolawulo, izigqibo zoncedo oluzakusetyenziswa ekusetyenzisweni kwale ndlela yezigqumatheliso lwezityalo neminye imiba engokulima. Iphakamisa imiba ephambili nenje ngemimmiselo kucando lwemihlaba, ukuyilwa kwesigqumathelo sezityalo, ukukhetha izityalo ezifanele ukutyalwaze zikhule kakuhle, iindlela ezizakusetyenziswa xa kunkcenkceshelwa kunye nokulawulwa kwezifo. Kuyinto ebalulekileyo ukubambelela kule mimmiselo xa uzakuzama ukusebenzisa isigqumathelo sezityalo, wenze uphando oluphangaleleyo, ngaphambi kokwenza utyalo-mali lwakho kulo msebenzi.

Learn more!
Download the full translation
https://shorturl.at/nCKP4

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Research on drought and access to agricultural water in the Western Cape

by Prof. Bongani Ncube and Dr Mercy Fanadzo

A farm scene with sheep, Middelplaas Road, Caledon. Photo © Grobler du Preez

The Cape Peninsula University of Technology's Centre for Water and Sanitation Research (CWSR) has a long history of collaborating with the Western Cape Department of Agriculture and the Breede-Olifants Catchment Management Agency (BOCMA). Since 2011, the Centre has collaborated with the two departments on drought-related projects and small-holder farmers' access to agricultural water. The Water Research Commission funded most of the work.

One of the early projects documented indigenous knowledge strategies adopted by farmers to cope with drought. Farmers at all levels had adopted long-term strategies, including techniques that dated back centuries. More information on the project can be found here: http://tinyurl.com/3jd23ebs

From 2014 to 2017, a project that assessed emerging farmer participation in water resource management was jointly implemented. Priority issues identified by emerging farmers included shortage of water for productive use, lack of information and funding, and land shortage. The project culminated in information roadshows across the water management area and the compilation of a farmer information package located on the BOCMA website.

One of the flagship joint projects was the project entitled "Improving smallholder farmer livelihoods through developing strategies to cope and adapt during drought periods in South Africa (2017-2020)". The project explored coping and adaptation to drought in crop farming and livestock systems, emphasising the 2015-2018 drought. The specific objectives were to analyse smallholder farmer livelihood strategies for coping and adapting to drought, including strategies for agricultural water use. The role of extension services during the drought was also assessed. Over 100 smallholder farmers were interviewed across the Overberg and West Coast Districts, followed by 11 focus group discussions. Extension Officers were also interviewed within the two districts. The Sustainable Livelihoods Framework (DFID, 2000) was used to shape the study and to determine aspects of farmer livelihood assets. »

Barrydale Roadshow – 3 November 2016.
Photo © Taurus65

Barrydale is a village on the border of the Overberg and Klein Karoo regions of the Western Cape Province in South Africa.

Farmers largely depended on drought relief to cope with drought. Purchasing fodder and transporting water were some of the coping strategies, while drilling boreholes was seen as a long-term adaptation strategy. The report summarising the results of the project can be found here: http://tinyurl.com/yvzsd9rf. In addition, four theses and five journal articles were published.

A windmill, water tanks and dam at Prinskraal, Arniston.
Photo © Grobler du Preez

Broad recommendations from the studies related to drought

Research is continuing with a focus on water governance, institutions and infrastructure integration for climate-resilient pathways for smallholder farming systems. From the studies so far, many conclusions and recommendations can be drawn, including the following:

• Implementation of national drought policies should be prioritised to promote meaningful development of the smallholder farmer sector.

• Strengthening of synergies between policies on drought adaptation should be considered by consolidating them under one unit to promote efficiency and effectiveness, reduce cost and leverage the shared capacities and knowledge. This should also promote collaboration among relevant stakeholders at all levels.

• There is a need for provincial governments to improve the coordination of efforts by clarifying the roles for all drought relief implementing officials.

• Monitoring and evaluation of drought interventions should be considered pivotal to achieving impactful outcomes for smallholder farmers. AP

Photo © Grobler du Preez

Read more!

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Photo © Global News Art Sergio Lacueva

Die **bedreiging** wat **klimaatsverandering** vir **skaapboerdery** inhou

deur Pieter Theron[1] en Professor Tertius Brand[1,2]

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Aangesien daar voorspel word dat die impak van klimaatsverandering wêreldwyd gaan toeneem, gaan landbou-ondernemings onder toenemende druk geplaas word om met toenemend innoverende bestuurs- en versagtingstrategieë vorendag te kom om hierdie uitdagings aan te spreek. Die byna volledige gebrek van kennis oor die impak van klimaatsverandering op veeboerdery kniehalter egter tans die ontwikkeling van lewensvatbare versagtingstrategieë. Tensy 'n begrip van die verhouding tussen klimaatsvariasie en produksie-uitset ontwikkel kan word, sal die veebedryf nie proaktiewe versagtingstrategieë kan ontwikkel om die impak van toekomstige klimaatsverandering te bestuur en te minimaliseer nie.

Hoewel klimaatsverandering 'n wêreldwye verskynsel is, is sommige streke meer vatbaar vir die uitwerking daarvan. Aangesien daar voorspel word dat die belangrikste gevolge van klimaatsverandering stygende temperature, dalende reënval en 'n toename in die voorkoms van uiterste weersomstandighede sal insluit, sal dorre areas die kwesbaarste vir hierdie gevolge wees. Met dorre streke wat reeds op 'n gereelde basis lae reënval en hoë temperature ervaar, kan enige verdere toename in die voorkoms van hierdie weerpatrone sulke areas heeltemal ongeskik vir enige vorm van landbou-aktiwiteit laat. Ekstensiewe veeboerdery is tans die enigste lewensvatbare vorm van landbou wat in sulke areas beoefen kan word. In Suid-Afrika word dit versinnebeeld deur die droër westelike deel van die land wat oorwegend deur ekstensiewe skaapplase beslaan word.

Produsente in hierdie streek is uiters afhanklik van gunstige weerstoestande vir hul ondernemings om lewensvatbaar te bly. Hoewel daar 'n algemene begrip bestaan dat minder gunstige toestande diereproduksie negatief sou beïnvloed, is daar 'n gebrek aan duidelikheid oor wat presies ongunstige omstandighede sou behels en wat die invloed daarvan op produksie sou wees. Daar is geen manier om die effek van toekomstige klimaatsverandering op skaapproduksie in Suid-Afrika akkuraat te voorspel sonder 'n begrip van die verhouding tussen huidige weerstoestande en produksieparameters nie.

Om dit aan te spreek word 'n studie tans uitgevoer wat ten doel het om die impak van die veranderlikheid van klimaat en weer op produksieparameters in ekstensiewe skaapkuddes te kwantifiseer. Hierdie studie word as 'n gidsprojek gesien wat ten doel het om die behoefte van die bedryf vir 'n volledige begrip van presies hoe sekere weerpatrone die prestasie van skape beïnvloed, te bevredig. »

Photo © Global News Art Sergio Lacueva

Historiese produksie- en weerdata wat oor die afgelope paar dekades op verskeie proefplase versamel is, sal ontleed word om die aard en sterkte van die verhouding tussen geselekteerde weerveranderlikes en produksie-eienskappe van ekonomiese belang te kwantifiseer. Hierdie verhoudings sal dan as basis dien vir die samestelling van regressiemodelle wat gebruik kan word om te voorspel wat met produksie-uitset sal gebeur indien sekere weersveranderinge plaasvind.

Indien modelle met voldoende akkuraatheid ontwikkel word, kan hulle dan aan klimaatsmodelle gekoppel word om die impak van verskeie klimaatsveranderingscenario's op ekstensiewe skaapproduksiestelsels te beraam.

Tot op hede is slegs data van Elsenburg se Merino- en Dormer-kuddes al geëvalueer. Die resultate wat daar gevind is, bevestig dat weerpatrone 'n betekenisvolle invloed op sommige produksie-eienskappe in die kuddes uitoefen en dat die verhouding tussen weersomstandighede en produksie-eienskappe sterk genoeg is om die gebruik van weerveranderlikes as voorspellers vir produksie te regverdig. Die kwantifisering van die verhouding tussen onderskeie weerveranderlikes en produksie-eienskappe het aangetoon dat tot soveel as 'n derde van die variasie in jaar-op-jaar produksie aan die invloed van weer toegeskryf kan word. Reproduktiewe prestasie kan ook tot soveel as 'n jaar voor paring deur weersomstandighede beïnvloed word.

> **"Die modelle verskaf 'n basis vir verdere navorsing en ondersoek."**

Hoewel die modelle in hul huidige, voorlopige vorm nog nie gepas is vir algemene toepassing nie, verskaf hulle 'n basis vir verdere navorsing en ondersoek. Die huidige projek sal verder uitbrei deur data van meer rasse wat op verskeie liggings versamel is, in te sluit. Dit sal voorsiening maak vir 'n vollediger ondersoek na die invloed van weersomstandighede op skaapproduksie.

Ten spyte van die tekortkominge in die modelle is die kwantifisering van die weer:produksie-verhouding 'n waardevolle hulpmiddel in die skep van meer klimaatsveerkragtige skaapboerdery in Suid-Afrika en behoort dit verder ontwikkel en verfyn te word. AP

Pieter Theron is afkomstig van Fraserburg in die Karoo. Hy is tans besig met sy doktorale studie oordie potensiële invloed van klimaatsverandering op skaapboerdery in Suid-Afrika. Pieter het sy B.Sc.- graad in Desember 2019 met lof aan die Universiteit Stellenbosch geslaag en in 2021 sy meestersgraad aan die Universiteit Stellenbosch in samewerking met die Departement van Landbou: Wes-Kaap op Elsenburg voltooi. Pieter doen tans sy doktorale studie onder studieleiding van prof. Tertius Brand, prof. Schalk Cloete en dr. Brink van Zyl aan die Universiteit Stellenbosch in samewerking met die Departement van Landbou: Wes-Kaap op Elsenburg.

Vir meer inligting, kontak **Prof. Tertius Brand**: ✉ tertius.brand@westerncape.gov.za

An **evaluation** of **growth performance**, **feed intake**, **subcutaneous fat deposition**, **carcass characteristics** and **sensory attributes** of **South African Boer goats**

By JP van der Westhuizen[1] and Prof. Tertius Brand[2]

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Photo © Anke van Wyk

The Boer goat was developed in South Africa and is recognised for superior growth rates, high carcass yield and effective utilisation of a broad range of vegetation, making the breed especially valuable for preventing bush encroachment. As a result, they are now found in many parts of the world.

In this study, the growth, feed intake and fat deposition were observed and measured. Five growth models to characterise the growth of castrated bucks and does, using the Gompertz, Logistic and Von Bertalanffy growth functions finally identified as suitable descriptors.

Logarithmic function modelling of dry matter intake (DMI) offered a dynamic view of voluntary feed intake (VFI) trends during Boer goat growth. Modelling feed intake as a percentage of body weight allowed for predictions of feed consumption based on body weight, while the cumulative feed intake model aided in forecasting total feed consumption in a feedlot operation. Fat deposition was measured using ultrasonography as a precise tool to measure subcutaneous backfat depth covering the *longissimus lumborum* of growing Boer goats of various ages and weights, while differentiating between sexes.

The ultimate objective was to supply producers with reliable regression equations, enabling them to estimate subcutaneous backfat deposition castrates and does at specific live weights and ages using ultrasound technology. In addition, the research scrutinised the influence of sex, age and weight on subcutaneous fat deposition, providing valuable insights into the dynamics of fat accumulation in growing goats.

The data collected serves as the foundation for regression models that aptly describe subcutaneous backfat deposition in Boer goats. By systematically examining the interplay of sex, age and weight on fat deposition, the trial contributes to an understanding of the factors influencing subcutaneous backfat deposition dynamics in Boer goats, ultimately providing practical tools for producers to enhance their management practices that assist producers in determining body and carcass composition aligned to the South African carcass classification standards.

For the second part of the study, production and meat characteristics as well as meat sensory analysis of chevon and lamb were examined under identical feedlot conditions. The overall conclusion drawn from this comprehensive analysis is that chevon, represented by Boer goat *longissimus lumborum*, is on par with mutton regarding organoleptic properties, chemical composition, physical meat qualities and shear force values.

Overall, results of this study suggested that Boer goats may be a suitable option for feedlot production due to their higher lean muscle yield and lower fat and bone tissue compared to sheep. Chevon may also be a healthy food option for health-conscious consumers, due to its low fat content. The sensory characteristics of Boar goat chevon may however differ from that of sheep due to the difference in marbling.

Further research is currently done on sheep and goat meat samples obtained in the same study to compare quality characteristics and consumer acceptability of chevon and lamb meat in terms of thaw loss, cooking loss, pH, palatability, aroma and flavour.

Lamb and goat meat cuts.

Prof. Tertius Brand, Specialist Scientist: Animal Nutrition at the Elsenburg Research as well as the Stellenbosch University.

Production data obtained from this study will be used in an economic model currently being developed by Prof. Tertius Brand, in collaboration with several post-graduate students, to predict the ideal slaughter weight of Boar goats and different South African sheep breeds. AP

JP van der Westhuizen grew up in Wellington and completed his BSc degree at the Stellenbosch University. He then embarked on an MSc study to enhance his expertise in animal production and nutrition. His study was supervised by Prof. Tertius Brand from the Department of Agriculture at Elsenburg and co-supervised by Dr Brink van Zyl and Prof. Phillip Strydom from the Stellenbosch University. After three years of post-graduate studies, he is currently employed at Profile Feeds, a company specialising in monogastric nutrition. His research focused on Boer goats, a superior meat goat developed in South Africa, but currently found all over the world. The study modelled growth curves of Boar Goats (BG) by tracking body weights from birth to maturity. Additionally, feed intake graphs were produced from the growth data collected. The increase in loin fat depth was monitored using ultrasound, providing valuable insights into the fattening dynamics of these animals. The latter part of the study included a comparative analysis of meat production and quality and sensory meat analysis of Boer goats and Dohne Merinos of similar ages, reared on the same diet.

For more information, contact **Prof. Tertius Brand**: ✉ tertius.brand@westerncape.gov.za

Effek van **kastrasiemetode** en **kastrasie** op die groei, karkassamestelling en **vleiskwaliteit** van **Boerbokke**

deur Monika Viljoen[1] en prof. Tertius Brand[2]

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Die Boerbokbedryf van Suid-Afrika is relatief klein wanneer dit vergelyk word met die bokbedryf in die res van die wêreld. Dit dra tans 'n baie klein persentasie tot die wêreld se kommersiële bokbevolking by.

Die SA Boerbok is egter van uitstekende kwaliteit en word beskou as een van die top-vleisproduserende bokrasse ter wêreld. Boerbokke word ook baie doeltreffend aangewend om bos- en boomindringing te bekamp. Danksy die uitstekende kwaliteit van die ras word dit dan ook vandag in relatief groot getalle in ander lande van die wêreld aangetref.

Daar bestaan 'n groot informele of tradisionele mark vir bokke in Suid-Afrika, waar dit tot 'n groot mate vir kulturele rituele en geleenthede gebruik word. Die formele mark vir bokvleis *per se* is egter klein en daar word beraam dat 'n baie klein persentasie van die bokke tans by geregistreerde abattoirs in Suid-Afrika geslag word. Dié wat wel by abattoirs geslag word se data word saam met skape aangeteken. Daar is dus baie min akkurate bokslag-statistieke. »

Die grootste persentasie bokke word deur private transaksies aan die informele mark vir tradisionele of geloofsrituele verkoop, en dit dryf tans die Suid-Afrikaanse bokbedryf.

Daar is ook somtyds 'n wanpersepsie oor bokvleis by die verbruiker, weens die sterk reuk wat ou bokramme afgee.

Bokvleis tradisioneel voorberei op 'n oop vuur.

Die huidige studie is dus ontwerp om eerstens kastrasiemetodes op die groei, voerinname asook voeromset van die bokke te evalueer. Die twee kastrasie-metodes, wat die gebruik van die Burdizzo© asook die toepassing van chemiese kastrasie (immuno-kastrasie) insluit, sal teen ongekastreerde Boerbokramme vergelyk word. 'n Groot deel van die studie sal gewei word aan die vleiseienskappe van die drie groepe bokke en sal ook smaakstudies deur 'n proepaneel insluit om die sensoriese eienskappe van die vleis van die drie groepe bokke te beskryf. Die doeltreffendheid van chemiese kastrasie sal ook ondersoek word om te bepaal of die bokramme wel onvrugbaar is ná die tipe kastrasie.

Die studie poog om meer lig te werp op die eienskappe van bokvleis en veral dié van jong bokramme. AP

Monika Viljoen het grootgeword op 'n vrugteplaas net buite Robertson in die Wynlanddistrik van die Wes-Kaap. In Desember 2022 het sy haar B.Sc.-graad in Veekunde suksesvol aan die Universiteit Stellenbosch voltooi. Sy is tans besig met 'n meestersgraad aan dieselfde universiteit. Haar navorsing fokus op die effek van kastrasiemetode (Burdizzo© of chemiese kastrasie) en kastrasie op die groei, karkassamestelling en vleiskwaliteit van Boerbokke. Die eerste fase van die projek fokus op die groeiparameters wat verskille tussen die gemiddelde daaglikse groei, gemiddelde daaglikse voerinname, voerdoeltreffendheid en voeromskakelingverhoudings tussen intakte Boerbokramme en twee groepe Boerbokkapaters bepaal. Die tweede fase fokus op die verskille in karkassameselling en vleiskwaliteit tussen die intakte en gekastreerde bokke. Haar navorsingsprojek is 'n gesamentlike studie tussen die Universiteit Stellenbosch, die Wes-Kaapse Departement van Landbou op Elsenburg en die Universiteit van Queensland in Australië. Haar studieleiers sluit in prof. Phillip Strydom, prof. Tertius Brand, dr. Brink van Zyl, prof. Louw Hoffman en dr. Jinene Marais.

Vir meer inligting, kontak **Prof. Tertius Brand**: ✉ tertius.brand@westerncape.gov.za

Manipulation of the **rumen environment** with the inclusion of **canola oil** to increase the **rumen undegradable protein fraction** of **feedstuffs**

by Waldo van Rensburg[1] and Prof. Tertius S Brand[1, 2]

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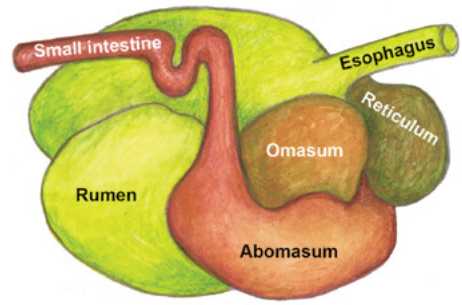
Ruminants possess intricate and fascinating digestive systems, consisting of four compartments: the rumen, reticulum, omasum, and abomasum. The rumen, playing a pivotal role, is the site of microbial fermentation, responsible for breaking down complex plant materials, particularly proteins.

This study explored the potential of hydrolysable tannins (HT), sodium bicarbonate and canola oil (plant lipids) to enhance the rumen undegradable protein (RUP) fraction of feed. The investigation focused on the impact of including HT (Farmatan D™) at varying levels (0%, 0.25%, 0.5%, 0.75%, 1%) in the maintenance diet of Dohne Merino wethers, sodium bicarbonate at different levels (0%, 0.75%, 1.5%, 2.25%, 3.0%) in a finisher diet (high energy and protein), and canola oil at different levels (0%, 1.25%, 2.5%, 3.75%, 5%) in the maintenance diet of Dohne Merino wethers on the rumen environment and consequently improving the RUP fraction.



The research aimed to assess parameters such as in vitro protein degradation, in vitro organic matter digestibility, and changes in ruminal pH to provide insights into the effectiveness of these inclusions. Results indicated that the inclusion of HT at various levels did not significantly reduce crude protein (CP) degradation of canola oilcake meal.

These findings did not find that HT inclusion improved the RUP fraction. Similarly, no significant differences were observed in protein outflow rates between the inclusion levels.

Sodium bicarbonate inclusion showed significant differences only between the 0.00% and 1.25% levels in the soluble CP fraction of canola oilcake meal. However, »

there was limited evidence of improved RUP with sodium bicarbonate inclusion in other degradation parameters, and outflow rates remained consistent.

Canola oil inclusion levels also did not yield significant differences in CP degradation of canola oilcake meal, and outflow rates remained unchanged, not supporting improved RUP fraction with canola oil inclusion.

Regarding rumen pH, inclusions of HT and canola oil did not result in significant differences, indicating consistent rumen pH with the inclusion of 0.00% and 1.25% of sodium bicarbonate. However, significant differences were observed at inclusion levels of 3.75% and 5.00% sodium bicarbonate inclusion, suggesting manipulation of rumen pH. Despite rumen pH alterations, in vitro organic matter digestibility remained unaffected by the respective supplementations.

Manipulating the rumen environment to improve the RUP fraction holds significant potential, as evidenced in the literature. Tannins especially offer benefits beyond RUP improvement, with potential gut and animal health advantages under specific conditions, warranting further research to establish optimal inclusion levels for livestock with varying nutritional requirements and physiological states.

Research into different buffers or buffer-like ingredients in diets for high-producing animals can offer cost-effective solutions to manage ruminal pH fluctuations, crucial in the feedlot sector to prevent acidosis-related performance losses. Additionally, the inclusion of plant lipids has shown promise in enhancing digestion and animal performance.

Therefore, in-depth studies on lipid-coated feed particles, using sources such as canola oil, are necessary to provide conclusive results. Research on different plant lipid sources, including ratios of saturated to unsaturated fats and carbon bindings within, can shed light on promoting production and well-being for both livestock and consumers.

In an ever-changing and growing world, optimising livestock nutrition is critical for ensuring food security and sustainability. Acquiring new knowledge and a deeper understanding of the agricultural sector safeguards all aspects related to feeding the world's population, ensuring the well-being of humans, livestock, the environment, and economic value while minimising negative impacts. AP

Waldo van Rensburg born in Pretoria and was raised in the suburban area of Bellville in the Western Cape. He completed his BSc degree in Animal Science at the Stellenbosch University and was given the opportunity to work and study under Prof. Tertius Brand at the Department of Agriculture: Western Cape at Elsenburg. His study was co-supervised by Dr Brink van Zyl from the Stellenbosch University. The master's degree included research into techniques of manipulation of the rumen environment of sheep. His study investigated the potential increase of rumen undegradable protein (RUP) with the additions of small supplementations. Three potentially RUP increasing supplementations were incorporated into the diets. Both linear and non-linear protein degradation regressions were used to determine crude protein loss over a time period, together with organic matter digestibility and pH chance within the rumen using in vitro trials.

For more information, contact **Prof. Tertius Brand**: ✉ tertius.brand@westerncape.gov.za

Dr Troskie Bags Prestigious Award

Dr Dirk Troskie (Director: Business Planning and Strategy at the Western Cape Department of Agriculture) recently received the prestigious SA Agricultural Writers Association's Agriculturist of the Year award.

According to Liza Bohlmann, the chairperson of SA Agricultural Writers, the assessment looked at agricultural economics and related services to the country, under the banner of Agriculturalist of the Year. "The subdivision changes annually between the focus on agricultural economics, extension services and agricultural research." Among other things, the judges looked at how valuable the candidate is to farmers and agriculture, international recognition received, the extent to which the candidate can adapt to change and more.

Liza further states that the candidates were all worthy regional winners and the total score of all the judges confirmed how highly regarded each was. "The calibre of the candidates and the recipient of the award is proof of the quality of agricultural economic services that South African farmers and the agricultural sector can rely on."

Dr Troskie said the nomination was out of the blue and therefore he was pleasantly surprised. "It was indeed a special honour for me!"

This keen agricultural economist, known for his dedication to the Department and the sector, started his career as a farmer, but later worked as a lecturer, before joining the SA civil service. In this capacity, he is responsible for providing advice and information regarding strategic issues to the Department and the sector. Matters of strategic relevance are researched, interventions are proposed, and the impact and outcome of interventions are evaluated. As a result, the Department is considered one of the leading evaluation departments in the country and on the African continent.

> **"In this capacity, he is responsible for providing advice and information regarding strategic issues to the Department and the sector."**

Dr Dirk Troskie

From a research perspective, Dr Troskie is particularly interested in the interaction between values, culture, quality, geography and farming (i.e. Geographical Indicators).

Well done, Dr Troskie!

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