AGRI PROBE

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Production of dragon fruit in the Western Cape
Is it viable?

Western Cape Hosts the 2025 MCAP Annual Convening

A Practical Look at AI
What it is and why it matters

Research and news magazine of the Western Cape Department of Agriculture

RSG 100-104 fm
DIS DIE EEN

LANDBOU RADIO

RSG Landbou word elke **Vrydagoggend om 5:25 vm.** en **Saterdae om 11:45 vm.** uitgesaai.

Tydens ons programme maak ons kennis met innoveerders, boere-planmakers, asook diegene aan die voorpunt van landbou-tegnologie en navorsing. Maak gerus kontak en laat jou stem gehoor word. Ek nooi jou graag uit om stories van hoop en inspirasie met my te deel. Stuur gerus wenke en idees na **Eloise Pretorius** | ✉ eloise.pretorius@westerncape.gov.za

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Setting the SCENE

by Dr Ilse Trautmann

A final word after two decades of growing together and deep reflection

As I write this final editorial for *AgriProbe* after 22 years and a few months at the Western Cape Department of Agriculture, I am filled with deep gratitude for the time I could spend at this esteemed establishment and in the most vibrant sector in South Africa.

AgriProbe has become part of my agricultural "blood" and since its inception in 2004, it has been more than just an information platform – it has been a voice, a bridge and a beacon for service delivery excellence, agricultural innovation, shared knowledge and collective progress in many areas.

Over these two decades, I've had the privilege of witnessing the resilience of our sector, the brilliance of our scientists and farmers, and the unwavering commitment of all who believe in the future of sustainable agriculture. *AgriProbe* has mirrored this journey – telling our stories, challenging our thinking and celebrating our milestones.

In this edition we once again focus on these stories of excellence – from supporting livestock farmers to making our mark in the international climate change excellence arena. And then the buzz word at the moment – Artificial Intelligence (AI) and getting to know the basics. Taking the "dragon" out of dragon fruit and making it a well-known fruit for local and international consumers alike. And these are only the teasers to invite you to explore this edition and indulge in the "taste of agriculture" at all levels.

> ***"Thank you for allowing me to be part of weaving and painting this canvas with you."***

To our writers and readers alike – keep up with the good stories, stories of hope, and share successes in agriculture with our excellent farmers and agri-workers. We need to be proud of our providers to the food basket of the Western Cape and South Africa!

May *AgriProbe* remain a trusted companion and canvas in shaping the future of agriculture and reflecting on the successes – smart, inclusive and grounded in the excellence of the Department, its partners and communities.

Let me leave you with a quote that has long guided my approach:

"What you leave behind is not what is engraved in stone monuments, but what is woven into the lives of others." – Pericles

Thank you for allowing me to be part of weaving and painting this canvas with you.

#ForTheLoveOfAgriculture AP

Dr Ilse Trautmann

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COVER INSPIRATION

COVER

Dragon fruit is one of South Africa's newest high-value crops, combining premium export potential with promising returns for local producers. Although the industry remains small, opportunities lie in counter-seasonal supply to Northern Hemisphere markets and strong domestic demand. Research highlights both the challenges and viability of production in the Western Cape, with gross margins as high as 85% per hectare. Read more about market outlook and production prospects in the Journal section of this issue of *AgriProbe*.

Farewell, but never far

Note from the Head of Department

1 July 2019 – SmartAgri Climate Award.

As **Dr Ilse Trautmann** prepares to retire in September 2025, we pause to acknowledge her contribution to the Western Cape Department of Agriculture.

Appointed in 2021 as the first Deputy Director-General for Agricultural Research and Regulatory Services, Ilse led the Department's scientific and technical work with focus and determination. She helped lay the foundation for a more integrated, evidence-based branch that remains central to the province's agricultural competitiveness.

Her leadership helped shape initiatives such as the SmartAgri Plan and the *Die Kwik Styg* radio series – both of which deepened the province's climate response and made science more accessible to those working the land.

On 1 July 2019, Dr Ilse Trautmann received the Eco-Logic Gold Award for Climate Change on behalf of the Western Cape Department of Agriculture. The award recognised the Department's SmartAgri Plan, a pioneering strategy to build climate resilience in agriculture and align farming with global sustainability goals.

Learn more!
Scan the QR code or visit to www.greenagri.org.za/smartagri-2/smartagri-plan/

30 March 2021 – Launch of Climate Change e-booklets.

On 30 March 2021, Dr Ilse Trautmann joined Hugh Campbell, Minister Ivan Meyer, Bongiswa Matoti and Jannie Strydom at the launch of *The Mercury Rises* e-booklets. Adapted from the award-winning RSG radio series *Die Kwik Styg*, these resources were published in English, Afrikaans and isiXhosa to fast-track climate resilience across the agricultural sector.

25 April 2024 – Agri-Processing Hub Certification

On 25 April 2024, Dr Ilse Trautmann celebrated a major milestone with Minister Ivan Meyer, HOD Dr Mogale Sebopetsa and project partners as the Agri-Processing Hub at Elsenburg achieved FSSC 22000 certification. This international recognition affirmed the Hub's role in promoting food safety excellence and supporting market access for agri-processors.

6 May 2024 – Opening of the Provincial Veterinary Laboratory.

On 6 May 2024, Dr Ilse Trautmann joined Dr Michelle Seutloali (Head of Laboratory), Minister Ivan Meyer and HOD Dr Mogale Sebopetsa at the official opening of the new Provincial Veterinary Laboratory. The celebratory cake and ribbon-cutting marked a significant investment in animal health and diagnostic services for the Western Cape.

As Chairperson of the *AgriProbe* Editorial Committee, Ilse invested time and thought to ensure this publication remained a space for meaningful dialogue and shared insight.

Though she now leaves her official role, the work continues and the Department will move forward with confidence, continuing to deliver excellent service to the citizens of the Western Cape.

She has earned her place as a respected elder – one whose wisdom will always be welcomed. When time allows, we hope she visits the Department.

Farewell, Ilse. Thank you, and every success for the road ahead. AP

Dr Mogale Sebopetsa

Head of Department
Western Cape Department of Agriculture

Trade on the edge of tariff turbulence: Western Cape's fight for economic opportunity

by Minister Ivan Meyer & Daniel Johnson

On 3 July 2025, I stood before a room of business leaders, diplomats and government officials in Cape Town – not to lament the uncertainty gripping global trade, but to affirm our resolve. The Western Cape is not a passive observer in the unfolding tariff crisis. We are active participants, defending our economy, our exporters, our province and our country, South Africa.

The threat is real. If the United States (US) reimposes punitive tariffs on South African goods, raising them from 10% to 30%, the impact will be swift and severe. Containers will be stuck. Orders will be cancelled. Jobs will be lost. And the pain will be felt most acutely in the rural towns and agricultural hubs that form the backbone of our province.

> **"This is not just about AGOA. It is about defending opportunity."**

South Africa ranks second among global citrus exporters; in 2024 nearly 100 000 tonnes were exported to the US, generating around US$100 million (R1.9 billion) in revenue and supporting over 35 000 jobs.

Learn more!
Scan the QR code or visit shorturl.at/lBu4w to read the article: "How Agoa non-renewal threatens South African citrus industry and US consumers." Published by the *Daily Maverick*.

The stakes for the Western Cape

In 2024, the US was the Western Cape's second-largest export market, accounting for approximately R16.2 billion in trade, or around 8% of the region's total exports. Nearly 30 000 jobs were sustained through AGOA-related exports, many of them in agriculture, agri-processing and manufacturing. These are not abstract numbers. They represent families, communities and livelihoods.

Our citrus, wine, fruit juice and engine parts are not just products – they are the result of years of investment, hard work and building trusted supply chains. A 30% tariff would make these exports uncompetitive, pushing US importers to source from countries like Chile and Peru, which face only a 10% tariff.

AGOA: A critical lifeline

AGOA has been a cornerstone of our trade relationship with the US, offering duty-free access to over 1 800 products. For small and medium-sized businesses in the Western Cape, it has been a game-changer. Its potential lapse in September 2025 would strip away this advantage, leaving our exporters exposed and vulnerable.

We cannot afford to wait. We must act decisively, smartly and together.

Our response: Resilience in action
The Western Cape Government, in partnership with Wesgro, has mobilised a robust response:

- **Exporter support**: A dedicated task team is assisting businesses in navigating the tariff landscape. Real-time information, advisory services and direct engagement with exporters are ongoing.

We have adopted a GRO approach (**G**ain new markets, **R**etain existing markets and **O**ptimise our existing processes and technologies).

- **Diplomatic engagement**: President Ramaphosa's visit to Washington and the trade offer presented to the US signal our commitment to resetting relations. We are amplifying the voice of the Western Cape in these negotiations.
- **Cross-border regional collaboration**: There is an increasing appetite for regions to cooperate at a regional and local level. The upcoming Regional Leaders Summit, scheduled for November 2025 in the Western Cape, presents a unique opportunity to build on past achievements and enhance trade and investment between regions.
- **Long-term planning**: We are investing in logistics infrastructure, digital trade facilitation and support for small businesses. Our goal is not just to survive this crisis, but to emerge stronger and more resilient.

Learn more!
Scan the QR code or visit shorturl.at/JBAsJ to read the full report: **Understanding the African Growth Opportunities Act (AGOA) and its impact on the economies of South Africa and the Western Cape**

Watch this!
Scan the QR code or visit shorturl.at/iOyLU to watch the video: "US Tariffs | Western Cape agricultural sector on tenterhooks". Published by SABC News, 7 August 2025.

The EU dimension
While the US dominates the current conversation, we are also closely watching developments with the European Union. Ongoing trade negotiations between the US and the EU could shift competitive dynamics, indirectly affecting South African exports.

We must remain agile and proactive in protecting our market share.

It is worth noting, however, that there are zero tariffs on 96% of South Africa's exports to the European Union.

Investment at risk
The US has been the leading source of foreign direct investment in the Western Cape over the past decade. But high tariffs, coupled with concerns over the Expropriation Act and regulatory uncertainty, are creating a chilling effect.

We must counter this with clarity, confidence and a renewed commitment to being a reliable investment destination.

Conclusion: Standing firm in the storm
In the Western Cape, we do not shy away from chaos. We thrive on the edge of it. Just as agriculture has grown amidst load-shedding, port delays and geopolitical uncertainty, so too will our trade sector rise to meet this challenge.

We are not standing by on the sidelines. We are in the arena – fighting for our farmers, our exporters and our future.

> **"Tariffs may threaten our economy, but they will not define it."**

Let us be clear: Tariffs may threaten our economy, but they will not define it. The Western Cape is poised to defend opportunities, expand into new markets and foster a resilient and inclusive economy.

#ForTheLoveOfAgriculture
#GrowthForJobs AP

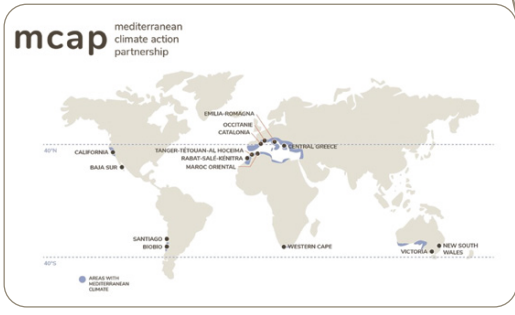
Western Cape hosts the 2025 **Mediterranean Climate Action Partnership (MCAP)** Annual Convening

by Dr Ilse Trautmann (WCDoA) and Goosain Isaacs (DEA&DP)

Landsat image over SRTM elevation of Cape Town.
Image © NASA/JPL/NIMA

Planning, proudly hosted the 2025 Mediterranean Climate Action Partnership (MCAP) Annual Convening in May this year. This highlighted the province's growing reputation as a focal point for climate action, innovation and partnership in climate change response measures.

As mentioned in the *SmartAgri Barometer* Edition 3 (2024/2025), the Western Cape Government (WCG), represented by the Department of Agriculture and Department of Environmental Affairs and Development



The MCAP formally launched in 2023 at COP28 in Dubai, with 15 inaugural members representing regions in Africa, Australia, Europe, and North and South America.

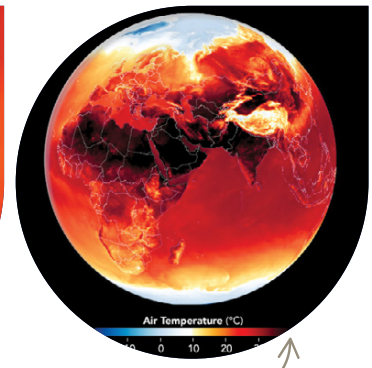
A comprehensive action agenda (2024–2026) was discussed during the event and discussions have already started on actions between the regions. Scan the QR code or visit shorturl.at/LbKXe to download a copy of the MCAP 2024-2026 Action Agenda Framework Proposal_December 2023.

Watch this!

Scan the QR code or visit shorturl.at/HXRkE to watch the video: "Mediterranean Climate Action Partnership". Published by ICLEI Global.

Drought

Wildfire



Extreme heat

The MCAP Convening brought together 11 of the 16 founding Mediterranean subnational governments from across five continents to accelerate regional responses to climate risks in three focus areas, being drought, wildfire and extreme heat. These climate driven impacts continue to threaten ecosystems, communities and livelihoods in these regions. This event was the second MCAP convening since its official launch at COP28, Dubai, in 2023, with the first convening held in Barcelona in 2023.

The 2025 Convening also set the tone for delivering on MCAP's ambitious three-year action agenda, structured around objectives aimed at:

(i) Elevating Mediterranean regions through a unified global voice
(ii) Positioning MCAP as a global model for scalable climate solutions
(iii) Amplifying the Leadership of MCAP Regions
(iv) Mobilising resources to sustain and scale action; and
(v) Leveraging crisis as a catalyst for action and policy change.

These goals are supported by dedicated workstreams focusing on MCAP's three thematic Working Groups that focus on **drought**, **wildfire** and **extreme heat**.

In welcoming MCAP delegates to the province, Premier Alan Winde indicated that "... the Western Cape and its Mediterranean partners are proving that subnational governments are not merely backstops to national action – they are leaders on the frontlines. Their local knowledge, community relationships and legislative powers uniquely position them to pilot innovation, champion bold policies and build resilience from the ground up." »

MCAP delegates during the official welcoming by Premier Alan Winde (front right) at Leeuwenhof.

This year's annual convening served as a key event in transforming regional momentum into measurable milestones. It provided a platform to set shared objectives, prioritise strategic actions, exchange best practices and expand regional partnerships to access critical climate data and research. The gathering was also a key moment for the MCAP Leadership Council to review and approve priority actions for the coming year and engage in vital governance

The Local Organising Committee left no stone unturned to compile a four-day programme to showcase not only the Western Cape as preferred tourism destination, but also as a climate change champion and partner of choice.

After the official opening at Leeuwenhof, a township tour followed where delegates were introduced to township life as well as some projects designed to mitigate the effect of climate change on these livelihoods. And in true South African spirit, the day was concluded with a rooibos tea and 'Old Vine' wine tasting.

On the second day, a guided tour showcased climate change response measures through visits to a series of Living Lab sites across the Cape Winelands where they witnessed real-world examples of climate resilience and innovation.

The rest of the convening programme was focused on the work and vision of MCAP and its members.

A highlight of the week was the presentation of results from the Mini-Sprint Project Acceleration effort, which focused on identifying tangible, fast-tracked initiatives that can be executed by member regions in the months ahead. Funding for projects to be implemented collectively by the partner regions in the respective work streams are from philanthropic organisations and a process of project calls and adjudication was put in place. The first round of calls was concluded at the recent event in Stellenbosch.

Delegates during information sharing on the township tour.

Delegates admiring the products and shopping at the local vendors during the township tour.

MCAP regions in discussion during the meeting in Stellenbosch.

Living Lab Site: The Berg River Dam, Franschhoek Valley. Photo © Daniel Saaiman

Living Lab Site: The Water Hub, Franschhoek Valley.

Learn more!
Scan the QR code or visit
https://www.medclimate.org/mini-sprint-project-acceleration

The Western Cape emerged as a key contributor and partner amongst the three selected MCAP mini-sprint project proposals listed below.

1. **Designing a Wildfire Risk Information Service** and **Spatial Planning for Wildfire Prevention and Biodiversity Conservation** – *with Catalonia, California, New South Wales and Western Cape*
2. **Regional Heat Island Monitoring and Prediction Tool Development** – *with Santiago, California and Western Cape*
3. **Coastal Wetlands Resilience: Protecting Biodiversity & Sustainable Water Management** – *with Catalonia, Central Greece and Western Cape*

The annual convening facilitated progress in the design of these cross-regional projects, emphasising the urgency of implementation and the ambition to showcase outcomes at the United Nations Framework Convention on Climate Change's 'COP 30' in Brazil later this year. Through the Western Cape Government's strong partnerships with local academic institutions, public entities and the private sector, international delegates were able to engage directly with community members, conservation agencies and farmers – gaining first-hand insights into how the province is piloting and implementing climate change adaptation measures in response to shared Mediterranean climate challenges.

»

From left: Secretary Wade Crowfoot (California), Deputy Director General Sonsoles Letang Jiménez de Anta (Catalonia), Dr Ilse Trautmann (Deputy Director: Agricultural Research and Regulatory Services, WCDoA), Karen Shippey (Chief Director: Environmental Sustainability and Strategic Gender & Human Rights Focal Point, DEA&DP) and Gerhard Gerber (Head of Department: Environmental Affairs and Development Planning, DEAD&DP) sharing special bottles of Beyerskloof Pinotage with co-leaders of MCAP at the closing ceremony of the event.

The 2025 MCAP Convening affirmed that tackling Mediterranean climate risks requires more than policy – it demands partnership, agility and global-local collaboration.

As a proud host of this vibrant and fast-moving alliance, the Western Cape will continue to contribute meaningfully to shaping a future where Mediterranean communities across the globe can thrive despite climate adversity.

At the opening event, MCAP Co-Chair Wade Crowfoot, Secretary of the California Natural Resources Agency, stated, "We all face similar threats driven by climate change – drought, wildfires, extreme heat and flooding. We know we will do a better job protecting our people if we work together across continents. This week is all about learning about what is working in the Western Cape and sharing with each other how we are making investments and deploying resources to protect our regions from these climate change impacts. We are ultimately stronger together."

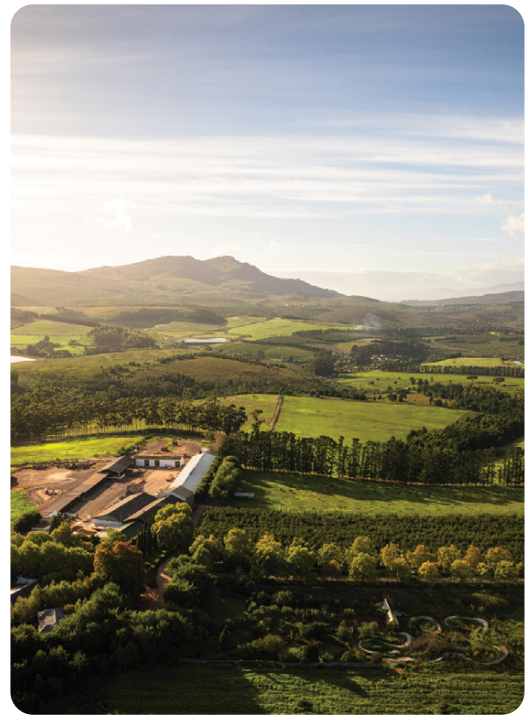
Living Lab Site: Hottentots Holland Nature Reserve.

Learn more!

Scheduled for late spring 2025, a controlled burn in the Amandel Rivier catchment within the Hottentots Holland Nature Reserve – under CapeNature's custodianship – has been selected as an MCAP Living Lab site. This test case aims to restore fire-adapted fynbos, secure water resources and reduce wildfire risk.

MCAP Co-Chair Sonsoles Letang, Director General for Climate Change and Environmental Quality for the Government of Catalonia, said, "It is very important for us to share all the tools and strategies that each region utilises to fight climate change. To have a common tool among all MCAP regions makes us stronger."

And at the end of the convening Secretary Crowfoot commented: "An eye-opening week in South Africa! So grateful we formed the Mediterranean Climate Action Partnership to help protect our people from climate change threats and build a healthy and prosperous future. No time to waste, so we can't reinvent the wheel in each place. We're stronger together!"



Living Lab Site: Paul Clüver Family Wines, Elgin

This event was a roaring success, and the delegates were stunned by the climate change work the WCG and our partners are doing.

The Mediterranean Climate Action Partnership, a regional approach to building climate change resilience, is one to follow – we expect great outcomes from this partnership and will keep our readers posted. AP

Learn more!

1 Mediterranean Climate Action Partnership, visit www.medclimate.org/

2 Refer to *Living Labs site visits with MCAP delegates* on page 28.

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

Launch of the **Western Cape Prestige Agri Awards 2025**

by Deona Strydom

Jacqueline Pandaram, Chief Director: Rural Development, addressing the guests at the launch of the 2025 Western Cape Prestige Agri Awards.

Agri-workers from all over the Western Cape are encouraged to enter this year's Western Cape Prestige Agri Awards. This is your opportunity to shine and be recognised for the important role you play in the agricultural sector and economy!

In April this year, the Western Cape Department of Agriculture (WCDoA) launched its annual Western Cape Prestige Agri Awards (WCPAA) 2025 at a celebratory event at Elsenburg. The Department was joined in the celebration by sponsors, members of the Western Cape Prestige Agri-Worker Forum, regional coordinators, industry partners and senior management.

Through this initiative, the Department annually acknowledges the valuable contribution that agri-workers make to the sustainability and growth of the agricultural sector in the Western Cape. The Awards further aim to broaden the agri-workers' scope and understanding of the agricultural sector, expose them to new life experiences and motivate them to improve their knowledge and skills base in order to unlock opportunities and personal growth for their future career path.

This year the WCDoA is proud to announce that Shoprite will be partnering with the department once again, confirming

A toast to agri-workers.

Programme: Rural Development team at the launch.

WCDoA and our main sponsors.

their commitment to being the main sponsor of the competition. In 2024 Agrimark also came on board as one of the major sponsors and confirmed that they would join the department again in 2025 on this journey. We would also like to thank our numerous other sponsors who partnered with us in 2024.

In 2025, agri-workers from 16 different regions across the province will again compete against each other in 11 different categories at regional level. During the 2024/25 financial year, 1 233 agri-workers participated in the competition, and we are positive that we will have even more entries this year. The regional winners will proceed to the provincial level, where they will compete for the coveted category awards, as well as the title of the Western Cape Agri-Worker of the Year. The category winners as well as the overall winner will be announced at a prestigious gala ceremony in November 2025.

“The Western Cape Department of Agriculture would like to encourage all agri-workers to enter this year’s competition – this is your time to shine!”

For more information on the Awards, visit www.elsenburg.com or phone 021 808 7601. AP

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

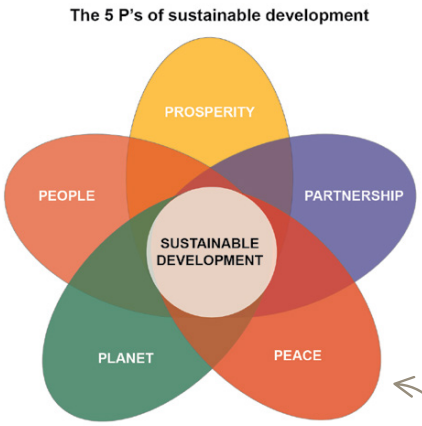
Launch of the Rural Development Forum

by Juan de Lora

Agri-worker housing along the R303 at Esperanto, Koue Bokkeveld.
Photo © Grobler du Preez

In 2023, the then National Department of Agriculture, Land Reform and Rural Development (DALRRD) introduced the Integrated Rural Development Sector Strategy (IRDSS) to provide a unified national approach to rural development. Following this, the Western Cape Department of Agriculture developed an implementation framework to localise and guide the province in effectively implementing the IRDSS, ensuring that national objectives are aligned with provincial priorities and realities. The framework is called "The Rural Development Strategic Framework" or RDSF.

In June this year, the Chief Directorate Rural Development at the Western Cape Department of Agriculture officially launched the Rural Development Forum (RDF), marking a significant milestone in coordinated efforts to advance rural development. This inaugural event brought together key stakeholders from all three spheres of government, as well as academia, youth, civil society and organised agriculture to reflect on a broad and inclusive approach to addressing rural challenges.



In the **United Nations Sustainable Development Goals (SDGs)** framework, all 17 goals are interconnected but some directly address **socio-economic issues** such as poverty, inequality, employment and social protection.

For agri-worker upliftment in the Western Cape, the core socio-economic SDGs are 1, 2, 3, 4, 5, 8, 9, 10, 11, 16, 17 – with SDG 8 (Decent Work) and SDG 10 (Reduced Inequalities) being especially critical in this context.

Watch more!

Scan the QR code or visit shorturl.at/IOEy0 to watch the video: "Do you know all 17 SDGs?". Published by the United Nations, 18 April 2018.

Members of the newly established Rural Development Forum for the Western Cape.

Following recommendations from the RDSF, the RDF was established – a comprehensive blueprint designed to coordinate, align and implement rural development initiatives across government and society. The RDSF identified the need for a collaborative platform to improve intergovernmental cooperation, stakeholder engagement and resource mobilisation, to ensure rural development efforts are coherent, sustainable and impactful.

The primary purpose of the Forum is to create a space where diverse stakeholders can jointly plan, coordinate and monitor rural development initiatives, responding effectively to the needs of rural communities.

Key objectives of the RDF include:

- Enhancing intergovernmental and multi-sectoral coordination to address socio-economic challenges in rural areas.
- Promoting integrated planning and joint resource mobilisation to optimise development impact.
- Facilitating knowledge sharing and capacity building among stakeholders to strengthen rural governance.
- Supporting inclusive participation to ensure that voices from organised agriculture, academia and civil society contribute meaningfully to rural development processes.

The Forum is committed to meeting quarterly, providing a structured opportunity to track progress, share updates and align strategies towards revitalising rural economies and improving livelihoods.

This collaborative approach is expected to accelerate rural transformation efforts, helping to address poverty, inequality and infrastructure deficits, and ultimately fostering sustainable and inclusive growth in rural regions. AP

For more information, contact **Juan de Lora**: ✉ juan.delora@westerncape.gov.za

Elsenburg Percherons shine at inaugural Draught Horse Virtual Show

By Marliné Burger

Class 17: Senior Stallion (4+ years) – Elsenburg Lars, first place.

For the first time in its history, the Elsenburg Percheron Stud participated in a Virtual Show, competing against other Percheron studs from across South Africa.

Showing is an equestrian discipline where breeders present the finest examples of specific horse breeds, with meticulous attention to detail and presentation playing a crucial role.

The Virtual Show was an initiative by the Percheron Breeders Society of South Africa in collaboration with the Draught Horse Society of South Africa. Given that the annual Horse of the Year show in Gauteng

Marliné Burger.

is the only physical event where draught horses compete, the introduction of a Virtual Show was welcomed by breeders from other provinces. This platform allowed them to showcase their horses without the logistical and financial challenges of transporting their valuable equines across vast distances.

Class 1: Filly Foal (0–12 months) – *Elsenburg Lara*, first place.

For the competition, breeders submitted photographs of each horse from various angles (front, side and back) along with three video clips demonstrating the horse's movement in walk and trot from different perspectives. The societies were privileged to secure the expertise of internationally renowned Canadian judge Delvin Szumutku. A distinguished figure in the equestrian world, he has owned and raised Clydesdales for over 70 years, served as President of the Saskatchewan Clydesdale Association and is currently the Vice President of the Canadian Association.

The Percherons competed in 12 classes, predominantly in-hand classes, where a handler presents the horse to the judge at a standstill, walk and trot. The judging criteria focused on conformation, movement and overall turnout.

Competition results

Filly and Mare classes:

- **Class 1** – Filly Foal (0–12 months old): *Elsenburg Lara* – **1st place**
- **Class 2** – Yearling Filly (1–2 years old): *Elsenburg Lulama* – **3rd place**
- **Class 3** – Junior Mare (2–4 years old): *Elsenburg Lientjie* – **2nd place**
- **Class 4** – Senior Mare (4+ years old): *Elsenburg Lee* – **3rd place**
- **Class 5** – Best Turned-Out Mare: *Elsenburg Lee* – **1st place**, Elsenburg Lientjie – **2nd place**

Colt and Stallion classes:

- **Class 14** – Colt Foal (0–1 year old): *Elsenburg Myburgh* – **2nd place**
- **Class 15** – Yearling Colt (1–2 years old): *Elsenburg Louwtjie* – **1st place**, *Elsenburg Lafras* – **3rd place**
- **Class 17** – Senior Stallion (4+ years old): *Elsenburg Lars* – **1st place**, *Elsenburg Maverick* – **2nd place**
- **Class 18** – Best Turned-Out Stallion: *Elsenburg Maverick* – **1st place**, *Elsenburg Lars* – **2nd place**

Class 5: Best Turned-Out Mare – *Elsenburg Lee*, first place.

Class 18: Best Turned-Out Stallion – *Elsenburg Maverick*, first place.

Cart class:

- **Class 19** – Single Stallion in-Cart: *Nicholandreas Caroi* – **1st place**

Following the class competitions, the judge selected the overall champions.

We are thrilled to announce that *Elsenburg Lars* was crowned **Champion Percheron Stallion** – a significant achievement that highlights the superior quality of the Elsenburg breeding programme.

Watch more!
Scan the QR code or visit shorturl.at/t7bWF

Class 15: Yearling Colt (1–2 years) – *Elsenburg Louwtjie*, first place.

Behind the scenes: Preparing Elsenburg Percherons for the Virtual Showring.

A Testament to Excellence

Elsenburg Percheron Stud proudly secured TOP 3 placements in every class entered, with standout performances in the Best Turned-Out categories for both mares and stallions. This success is a testament to the dedication and skill of the team behind the stud.

Special recognition goes to **Fredo Davids**, who ensured that all horses were immaculately groomed and presented with expertise, and **Mpinda Gwexa**, who played a vital role in their care and preparation. Additionally, a heartfelt thank you to **Wilene Reynecke** of the College's Equine Studies, who assisted in training, plaiting and preparing the Percherons to meet the highest show standards.

This achievement would not have been possible without the efforts of **Arie van Ravenswaay** and **Lee-Ann Bell**, who meticulously recorded and photographed each horse to meet the rigorous judging criteria. Their attention to detail ensured that the Elsenburg entries were of the highest standard.

This historic event marks the beginning of an exciting new chapter for the Elsenburg Percheron Stud. We look forward to many more Virtual Show successes, further cementing our reputation as the oldest and most distinguished Percheron stud in South Africa! AP

Learn more!

Scan the QR code or visit shorturl.at/rSKwJ to download **The genetic history of the Elsenburg Percheron stud**

For more information, contact **Marliné Burger**: ✉ marline.burger@westerncape.gov.za

Focus on **quality** at the 21st annual **WCDoA Ostrich Auction**

by Dr Anel Engelbrecht

In April this year, the Western Cape Department of Agriculture (WCDoA) held its 21st annual ostrich auction at the Oudtshoorn Research Farm. The event was hosted in collaboration with the South African Ostrich Business Chamber (SAOBC) and Klein Karoo Auctions and Livestock Marketing.

This marked the third consecutive auction where both the WCDoA and various ostrich feather breeders offered selected young breeding birds for sale. The auction is unique in that individual birds are sold based on detailed information provided in a catalogue, rather than being physically present at the event. For biosecurity reasons, all ostriches remain on their farms of origin until sold. However, prospective buyers had the opportunity to view the birds on the respective farms prior to the auction.

The auction annually makes superior birds available to commercial flocks, in the hope of improving efficiency and product quality in the long run. The primary objective of the auction is to underscore the importance of selective breeding with an emphasis on quality, thereby contributing to the genetic improvement of breeding stock. Each feather bird offered was carefully selected based on feather and skin quality. This process was overseen by Piet Kleyn, CEO of the SAOBC, who coordinated farm visits for the evaluation of birds. Feather quality was assessed by Arthur Muller, production manager and feather buyer at Cape Karoo International, and Hannes van der Westhuizen, a retired ostrich farmer and industry expert. Dr Anel Engelbrecht of the WCDoA evaluated skin quality.

P.A. Geldenhuys and Gert Laubscher of Klein Karoo Veilings en Veebemarking during the auction.

Feathers and skins were scored on a scale of 1 to 5, with 5 representing excellent feather quality, while a score of 5 for the skin indicated that there were excessive hair on the skin.

Ostrich producers aim for **high feather scores** and **low hair scores**. A feather score of 5 (best quality) is ideal, while a hair score of 1 (no hair) is desired.

The excessive occurrence of hair on ostrich skins results in visible pinholes from the hair follicles on the leather, which is undesirable.

Details of each bird's sex, age, weight and scores were included in the catalogue. The clipped white plumes of the feather birds were also available for viewing at the auction venue.

Breeding values for reproduction, weight and hair follicle scores were provided for birds originating from the ostrich resource flock at the WCDoA's Oudtshoorn Research Farm. These values were estimated using historical pedigree and phenotypic data.

From left: sellers Schoeman Laubscher, Pieter Terblanche, P.A. Geldenhuys (auctioneer) and Kobus Terblanche; with buyer Cornel Landman, Dr Anel Engelbrecht (WCDoA) and Gert Laubscher (Klein Karoo Veilings en Veebemarking). The feathers of the female ostrich that were sold for R25 000.

Kobus Terblanche (Terblanche & Sons) and Arthur Muller (Cape Karoo International) with feathers from the birds sold at the auction.

Prior to the auction, Dr Engelbrecht gave a brief presentation on the latest research findings, highlighting the significance of genetic progress and the need for regular replacement of breeding stock. She reported that two-year-old females can produce eggs and chicks. On average, females mated to males older than two years laid their first egg at 689 (±9) days, while those mated to younger males laid their first egg at 702 (±4) days. During the 2024 breeding season, females from the research flock began laying as early as 21 months of age, indicating that the young birds sold at the auction could be successfully used for breeding in the 2025 season.

> **"Among the privately consigned birds, the highest price was R25 000 for a female bird."**

A total of 68 young breeders from the Oudtshoorn Research Farm were sold, with prices ranging from R8 000 to R21 000.

Piet Klein (SAOBC) on the farm of Andries Duminy during the selection process for the auction.

The highest price among these was paid for a female with a good hair score of 2 and good breeding values.

A total of 65 selected birds from other farmers were presented at the auction. These included birds from Andries Duminy, Jaco Mulder, Stan Lipshitz, PJ Terblanche & Sons, Laubscher Coetzee and Ryan Lipschitz. Among the privately consigned birds, the highest price was R25 000 for a female bird from PJ Terblanche & Sons with exceptional feather quality, purchased by Cornel Landman of Izazi Retailers 29 CC in Oudtshoorn. A male bird from Ryan Lipschitz, noted for excellent feather quality and a good hair score of 1.5, was sold for R22 000 to Jurie Klue of Avondrust Boerdery CC in Klaarstroom. AP

For more information, contact **Dr Anel Engelbrecht**: ✉ anel.engelbrecht@westerncape.gov.za

Ostrich assisted reproduction research produces another academic qualification

Dr Pfunzo Muvhali

Neleke Lotz at the graduation ceremony where her MSc Agric (Animal Science) degree was conferred.

The joint effort between scientists of the Directorate: Animal Sciences of the Western Cape Department of Agriculture, Department of Animal Sciences: Stellenbosch University and the Department of Biological Sciences: University of Venda resulted in an MSc study on ostrich reproduction. Neleke Lotz conducted a study, titled "**Performance of male ostriches conditioned to semen collection protocol in a natural mating system**", at the renowned Oudtshoorn Research Farm. She was awarded her MSc Agric (Animal Science) degree from Stellenbosch University in March this year.

Her study demonstrated that while male ostriches respond differently to training for semen collection using the dummy female method, some could be successfully trained in as little as 11 days.

Remarkably, this training did not negatively affect natural mating behaviour, fertility, hatchability or chick production, countering concerns about interference with natural reproduction. Additionally, males trained for semen collection remained receptive to the process after a natural mating season, suggesting a possibility of semen screening between breeding seasons. The study also revealed a promising link between semen characteristics and egg fertility, paving the way for selection of superior breeding males based on semen quality, which will ensure improved fertility of eggs.

Neleke was supervised by Dr Pfunzo Muvhali, Dr Maud Bonato and Prof. Kennedy Dzama. One manuscript from her study has been published in *Applied Animal Behaviour Science* journal (Impact factor: 2.2), with another in preparation. Her study contributed two peer-reviewed congress presentations – one international at the 8th All Africa Conference on Animal Agriculture, co-hosted with the South African Society for Animal Science (SASAS) in Botswana (2023), and a local presentation at the 54th annual SASAS congress in East London (2024).

> **“Semen collection training did not affect male ostriches' reproductive performance in natural mating systems.”**

Research on reproductive technologies on ostriches is currently ongoing at the Oudtshoorn Research Farm and more exciting results are expected!

Learn more!
Scan the QR code or visit
shorturl.at/EzdqH

For more information, contact **Dr Pfunzo Muvhali**: ✉ pfunzo.muvhali@westerncape.gov.za

Living Labs site visits with MCAP delegates

Mediterranean Climate Action Partnership (MCAP) Annual Convening

by Prof. Stephanie Midgley

Photo © Arnold

In our *AgriProbe* Diary & Events pillar on page 8, Dr Ilse Trautmann reports on the 2nd Annual Convening of the Mediterranean Climate Action Partnership (MCAP) hosted by the Western Cape Government in Stellenbosch, from 6 to 9 May 2025.

In this follow-up article, we share the experiences of the full-day technical excursion, the Living Labs site visits, on 7 May.

"MCAP priority climate risks that provide a clear focus for the initiative are drought, extreme heat and wildfire."

The MCAP priority climate risks that provide a clear focus for the initiative are drought, extreme heat and wildfire. Residents of the Western Cape will instantly identify with these risks – we have our fair share of such

extremes. Across all the Mediterranean-climate partner regions, these extremes are leading to disasters more frequently and with greater damages than previously, driven to some degree by climate change.

MCAP Living Labs route map, showing the four sites visited during the tour.

On this tour, delegates had the opportunity to engage first hand with the climate-related risks and responses in the mountain catchments and agricultural landscapes east of Stellenbosch. The four sites were chosen to demonstrate and explore regional climate adaptation projects, approaches and solutions and their potential to confer resilience at a regional scale.

Berg River Dam pump house with the scale model on display.
Photo credit: Arie van Ravenswaay.

Learn more!
Scan the QR code or visit shorturl.at/6jOYB

The first stop was the **Berg River Dam** near Franschhoek, which is an integral part of the Western Cape Water Supply System (WCWSS). At the pump house, officials of the National Department of Water and Sanitation described the interconnected water management system using a scale model. The design and operation of the dam brings together both innovative engineering solutions and ecological considerations. The WCWSS played a large role in helping the City of Cape Town to avert 'Day Zero' in early 2018.

Nearby at the dam wall, Rudolph Röscher (Western Cape Department of Agriculture) introduced the area-wide planning approach that has been adopted to address the ecological health of the Berg River catchment. Practical tools and partnerships, such as the River Maintenance and Management Plan and the Strategic Water Source Area Collective for the upper mountain catchment, are built on collective visioning, planning and action.

Rudolph Röscher and Eurica Scholtz present the collaborative, landscape-based approach to water management in the Berg River catchment. *Photo credit: Arie van Ravenswaay.*

Eurica Scholtz (CEO, Berg River Water Users' Association) spoke about the perspectives and challenges faced by local water users, especially the many irrigation farmers along the Berg River. Since the limited water resource is shared between the city, farmers, local municipalities and industry, collaborative water governance and responsible usage are essential.

»

The Water Hub, Franschhoek: a Living Lab for research and innovation in nature-based water treatment, with demonstrations of shack construction methods for heat management.
Photo credit: Arie van Ravenswaay.

Learn more!
Scan the QR code or visit futurewater.uct.ac.za/water-hub-0

Not far from the dam, the next stop was **The Water Hub** at the site of the old Franschhoek Wastewater Treatment Works. This is a research and innovation facility dedicated to low-cost, nature-based treatment of polluted rivers. Prof Kevin Winter from the University of Cape Town, along with UCT researchers, demonstrated bio-filtration techniques that can successfully clean polluted water and restore rivers impacted by high urban growth rates . He also took delegates inside two shacks, where one was constructed using low-cost modifications to achieve a 7°C cooling effect compared to the adjacent shack built in the conventional manner.

The buses then took the group through the Franschhoek Pass to the third site, the **Amandel River catchment**. Here, staff from CapeNature and The Nature Conservancy explained the importance of fire in fynbos ecosystems. Dense stands of invasive pine

Delegates engage in discussions on integrated wildfire management at the Amandel River burn site. *Photo credit: Arie van Ravenswaay.*

Paul Clüver Jr addresses MCAP delegates at the conclusion of the Living Labs tour.
Photo credit: Arie van Ravenswaay.

trees in the mountains reduce the water that flows into rivers and dams and pose a high risk to biodiversity loss and catastrophic wildfires. The Amandel River prescribed burn project aims to address these challenges in an integrated and collaborative manner.

The route to the fourth site was through Vyeboom and Grabouw, a primary apple and pear production region of South Africa. After some welcome refreshments at the Kromco Packhouse, Paul Clüver Jr, his father, Dr Paul Clüver Sr, and his sister, Karin Clüver, shared their family's sustainability journey, "Farming in harmony with nature". Over the years, **Paul Clüver Family Wines** has developed data-led decision-making and practical and financially sensible adaptive innovations. The private sector is taking an active role in addressing the climate crisis.

All the projects and innovations showcased on this tour are grounded in a science-driven understanding of the province's climate change risks, and an integrated collaborative approach to adaptation exemplified in both the Western Cape Climate Change Strategy: Vision 2050 and its Implementation Plan, and the SmartAgri Plan (Climate Change Response Framework and Implementation Plan for the Agricultural Sector of the Western Cape). AP

Learn more!
Scan the QR code or
visit shorturl.at/wrzW5

For more information, contact **Prof Stephanie Midgley**: ✉ stephanie.midgley@westerncape.gov.za

Next Generation BOLD: Bridging the leadership generation gap

by Mary James

Generational differences in the workplace are clear – from Baby Boomers and Gen X holding institutional knowledge to Millennials stepping into leadership and Gen Z bringing fresh perspectives and digital skills. This diversity should be a strength, but without effort to connect these groups, it can become a barrier.

The Western Cape Department of Agriculture (WCDoA) faces this challenge. Over half of its middle managers and nearly two-thirds of senior leaders are aged 50 or older, signalling an ageing leadership and potential future gaps.

Next Generation BOLD is an 18-month leadership development programme designed to prepare middle managers (levels 9 to 12) to lead with purpose, adaptability and insight. It goes beyond technical skills, emphasising emotional intelligence, strategic thinking and managing a multigenerational workforce. Through academic modules, coaching, observations and practical learning, participants grow as individuals and change agents.

As Dr Mogale Sebopetsa, Head of Department, says, "Leadership today requires empathy, adaptability and connection across generations."

This programme values all generations: Experienced leaders bring wisdom, Millennials add collaboration and ambition, and Gen Z contributes innovation and digital fluency. Mutual learning turns generational diversity into an asset that will continue to benefit this department and the sector for years to come.

During Youth Month, the Department invited youth at the WCDoA to attend a special session, where Lyra was one of the facilitators who addressed the participants.

In June, while addressing global partners in Bremen, Germany, Dr Sebopetsa reminded delegates that strong, effective leadership is built on trust, community and partnership. These three elements are not only essential for international collaboration – they are equally vital within our own organisational and generational landscapes.

In a sector shaped by climate change, protectionism, market failures, trade wars and general policy shifts, the WCDoA's investment in Next Generation BOLD ensures resilience and continuity.

It's more than succession planning; it's about a commitment to the evolving leadership culture for a future-ready and dynamic sector.

A call to the sector

The generational gap is not unique to the WCDoA. It is a reality across both the agricultural sector and the broader public service. As such, Next Generation BOLD offers more than just an internal solution – it serves as a prompt for reflection.

The Next Gen Bold initiative was officially launched at the event, providing the youth with an opportunity to engage directly with management.

> **"Bridging the generational divide is not a once-off project – it is a long-term commitment to a thriving, inclusive and future-fit sector."**

Other departments, organisations and industry bodies would do well to ask:

- *Are we equipping our future leaders today?*
- *Have we created space for learning across generations?*
- *Are we investing intentionally in leadership depth; not just leadership replacement?*
- *Are we practically modelling the leadership culture of our organisations?*

If not, the time to act is now. Bridging the generational divide is not a once-off project – it is a long-term commitment to a thriving, inclusive and future-fit sector.

Note: Next Generation Bold is an intervention aimed at staff of the WCDoA, towards the Western Cape Government's vision: Building a Government that People Trust. AP

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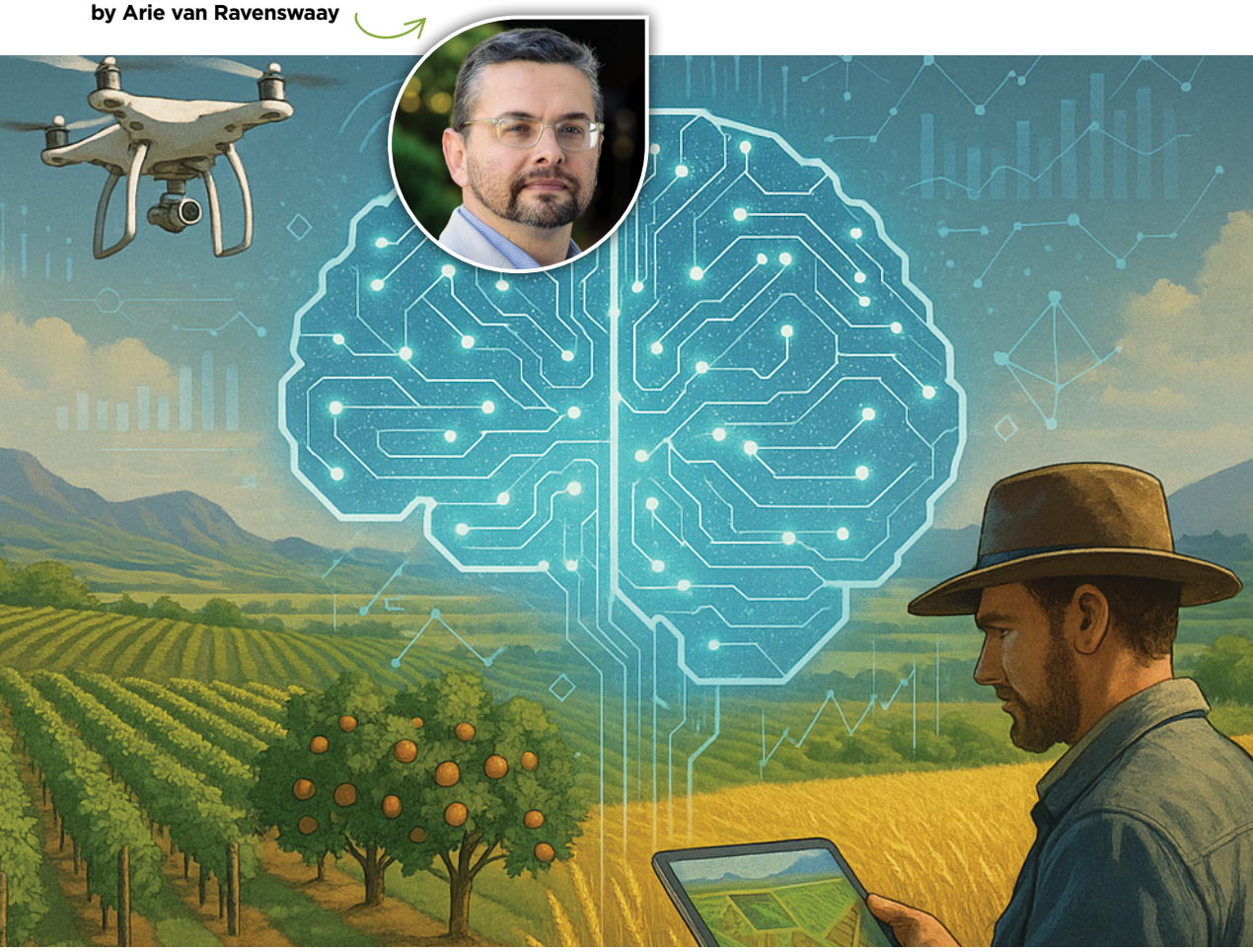
A practical look at AI

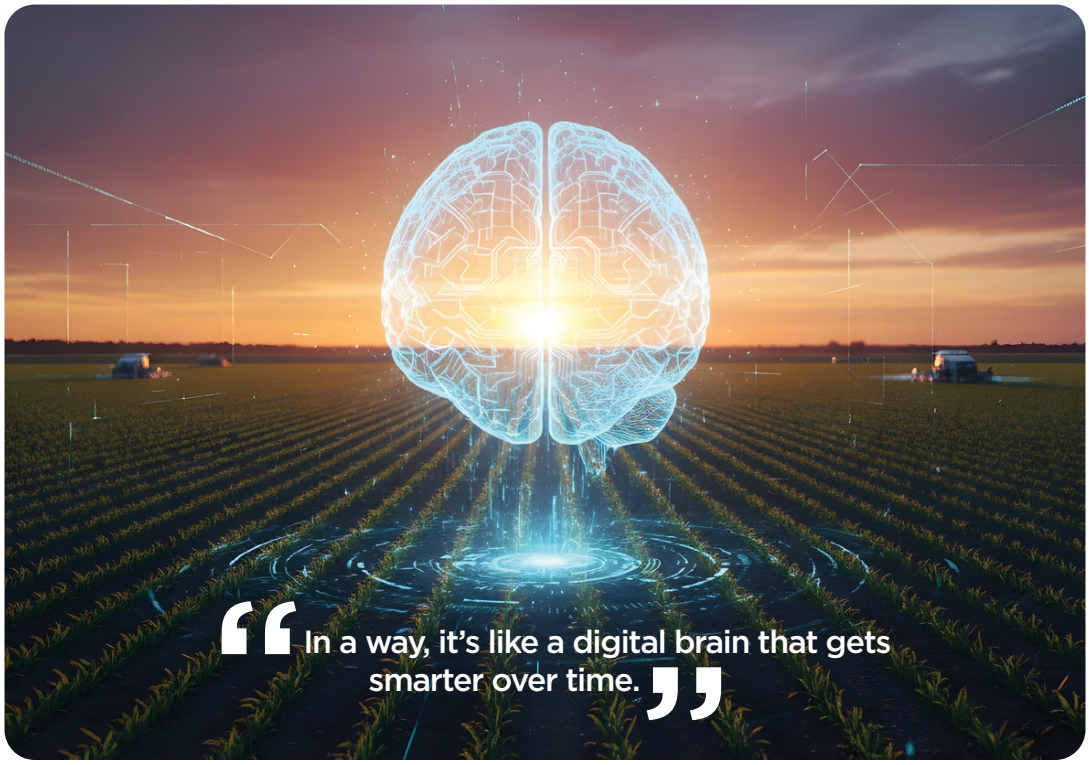
What it is and why it matters (especially in agriculture)

by Arie van Ravenswaay



Artificial Intelligence – AI for short – is no longer just science fiction. It's fast becoming part of our everyday lives, whether we realise it or not. From smart assistants and chatbots to the systems behind precision agriculture, AI is changing how we live, work and grow our food. Now, I know it can sound like a complicated topic, but if we strip away the buzzwords and jargon, AI is simply about machines doing tasks that normally require human intelligence. And while these systems still make mistakes, they're getting better every day.

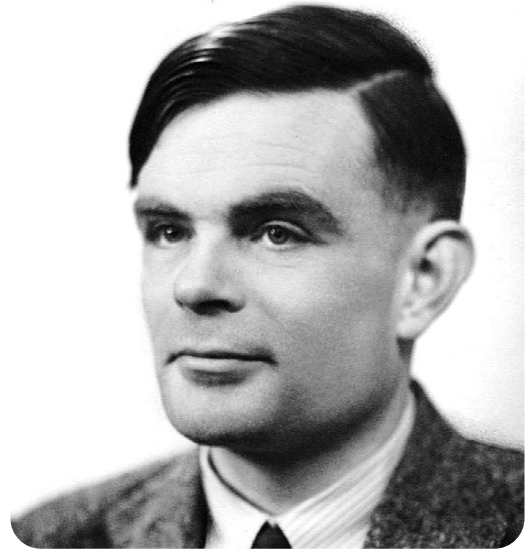
The truth is: The more we understand about this technology, the better we can use it to improve our lives – especially in sectors like farming, where data, timing and decision-making are everything.



What Is Artificial Intelligence?

AI refers to the ability of machines to mimic human abilities – like learning, reasoning, making decisions and solving problems. But here’s the difference: Normal computers do what they’re programmed to do, exactly as programmed. AI, on the other hand, can *learn* from past experiences and adjust its behaviour based on what it’s seen before. In a way, it’s like a digital brain that gets smarter over time.

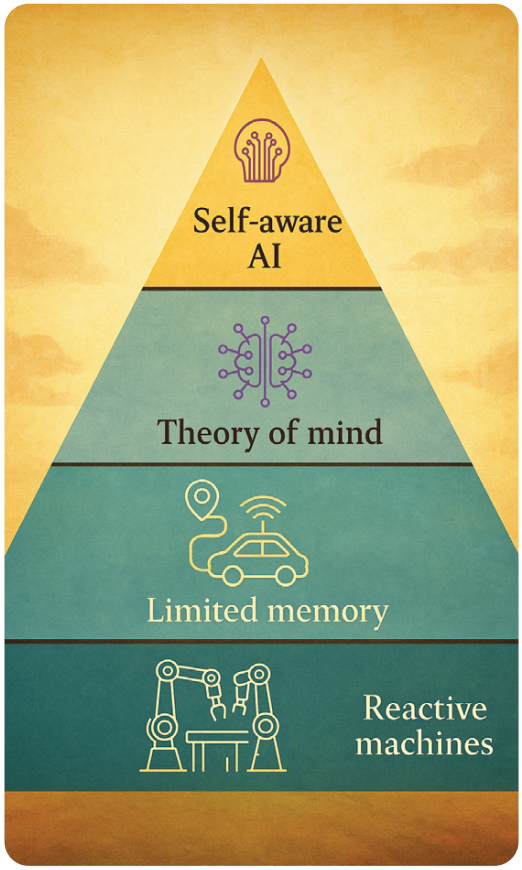
The idea has been around since the 1950s, when Alan Turing asked, “Can machines think?” That question eventually led to the famous Turing Test, which checks if a machine can mimic human responses so well that people can’t tell the difference.



Alan Mathison Turing (23 June 1912 – 7 June 1954) was an English mathematician, computer scientist, logician, cryptanalyst, philosopher and theoretical biologist.

Watch this!
Scan the QR code or visit shorturl.at/i6HUi to watch the video: “Humans vs. AI: Who should make the decision?”. Published by IBM Technology, 15 Feb. 2022.

Learn more!
Scan the QR code or visit shorturl.at/QplAu



Different types of AI.

Different types of AI (and why it matters)

Not all AI is created equal. Here are the four main types of AI, and how they might affect our world:

1. **Reactive Machines**
   These are the most basic forms of AI. They don't learn from past experiences – they simply react to inputs. A chess program that makes moves based on the current board, but doesn't remember past games, is a good example.
2. **Limited Memory**
   These systems can look at past data to make better decisions. Most modern AI, like self-driving cars and crop-monitoring tools, fall into this category.
3. **Theory of Mind (still developing)**
   This type of AI would be able to understand human emotions, beliefs and intentions. We're not there yet, but it's a goal that researchers are working toward. It could change how we interact with machines in future.
4. **Self-aware AI (still fictional)**
   This is AI that becomes truly conscious of itself. It's the stuff of sci-fi for now, but it's often part of long-term discussions about the future of technology – and its potential risks.

How do machines learn? (A quick look at machine learning)

Most of today's AI is powered by *machine learning* (ML). It's a way of teaching computers to learn from data instead of hard-coded instructions. The more data it gets, the more accurate it becomes.

There are four main types of machine learning:

1. **Supervised learning**
   The system learns from labelled data. For example, if you feed it 10 000 labelled photos of healthy and diseased crops, it can learn to tell the difference on new images.
2. **Unsupervised learning**
   No labels here. The system looks for hidden patterns in the data. In agriculture, this might reveal unseen patterns in soil health or rainfall.
3. **Semi-supervised learning**
   A mix of the above. Some data is labelled; some isn't. This helps when labelling everything is too time-consuming or expensive.
4. **Reinforcement learning**
   Think of this like training a dog. The AI gets rewards for good decisions and penalties for bad ones. Over time, it learns the best actions to take. It's great for dynamic systems, like irrigation control or robot movement.

Deep learning and neural networks

This is where it gets really powerful. Deep learning is a more advanced form of machine learning. It uses artificial neural networks – models inspired by the human brain – to find meaning in huge amounts of

data. These networks have multiple layers, which is why it's called *deep* learning.

The earliest ideas came in the 1940s, and by the 1950s a model called the perceptron showed that machines could simulate neurons. Today, deep learning powers voice assistants, facial recognition and autonomous machines – and it's being used more and more in agriculture to identify crop health, predict yields and manage resources.

Watch this!
Scan the QR code or visit shorturl.at/ZE5nJ to watch the video: "AI, Machine Learning, Deep Learning and Generative AI Explained". Published by IBM Technology, 5 August 2024.

Other AI terms you might hear

- **NLP (Natural Language Processing)**: Helps machines understand and use human language. This is what powers tools like ChatGPT or voice-to-text systems.
- **CV (Computer Vision)**: AI's ability to interpret images or video. In farming, it can identify plant diseases, count fruit on trees or even steer autonomous tractors.
- **Expert Systems**: Rule-based AI that uses a database of knowledge to make decisions – great for diagnosing crop issues or choosing the best time to harvest.
- **Fuzzy Logic**: Unlike regular logic (yes/no), fuzzy logic handles the in-betweens, like "slightly moist" or "a bit hot." Useful in farming where conditions aren't always black and white.

»

AI in agriculture – why it's a game changer

This is where it gets exciting. AI is already transforming agriculture in the following ways:

- **Precision agriculture**: AI systems combine satellite images, drone footage and sensor data to give farmers precise recommendations on when and where to plant, water, fertilise and treat.
- **Early disease detection**: With computer vision and machine learning, AI can spot issues in crops or livestock before the human eye can – saving time, money and sometimes entire harvests.
- **Yield prediction**: AI looks at current and past data to predict when and how much to harvest, helping plan logistics and reduce waste.
- **Autonomous equipment**: Self-driving tractors and robots are already operating on some farms, saving time and reducing the need for manual labour.
- **Weather forecasting and risk management**: AI can analyse climate patterns and give more accurate forecasts, helping farmers avoid damage from extreme weather and adapt to climate change.

But AI Isn't Perfect... Yet

Even with all this promise, it's important to understand that AI is not flawless. It can make silly suggestions – like adding glue to pizza sauce or using petrol as a spice! That's because AI doesn't "understand" things the way people do – it just looks for patterns.

> ! It also has ethical concerns: Who owns the data? Will small farms be left behind? Can AI systems be biased?

The good news is these systems are getting better. As we train them on better data and more realistic scenarios, the results become more accurate and more useful. And if we use them wisely, AI can help us make smarter, faster and more sustainable decisions.

Conclusion: Why you should care

AI isn't just a high-tech buzzword. It's a tool – a powerful one – that we can use to solve real-world problems, especially in agriculture. From improving crop yields and detecting pests early to planning around weather patterns, AI has the potential to boost productivity, cut waste and help farmers feed a growing world.

We're still learning and AI is still growing – but one thing's certain: The digital brain is here to stay. And those who understand it – even just a little – will be better prepared for the future it's shaping.

Naughty news

The article you just read? Written by AI. Yep, under my direction, of course. Then, it was trained on my previous articles and rewritten in my own style. *So, can you really tell the difference between human and machine*?

Didn't think so... (drops mic and walks off dramatically!) AP

For more information, contact **Arie van Ravenswaay**: ✉ arie.vanravenswaay@westerncape.gov.za

CapeFarmMapper 3 User Survey Outcomes

by FC Basson and Dr Mike Wallace

Image © NASA Earth Observatory images/Jesse Allen

In today's fast-paced, tech-savvy world that is constantly evolving, a digital tool needs to truly prove itself to earn its place on the frontlines of farming and land management. CapeFarmMapper, an innovative online mapping application developed in-house by the Western Cape Department of Agriculture's GIS unit, appears to be doing just that.

A recent user survey reveals the platform is not only being widely adopted, but it is clearly also making a real difference in the daily lives of its users.

Between mid-March and mid-April of 2025, a brief user survey was implemented in CapeFarmMapper 3 (CFM) to help assess user perceptions of our platform and to guide potential further refinements and future developments.

The survey was presented as a user option on a CFM startup "splash screen". The survey was not compulsory and responses were anonymous – although there was an option for users to enter their contact details should they require personal feedback.

A total of 691 responses were received, which accounted for almost 10% of users during that time period. In order to assess the results with impartiality, the results were analysed by various generative AI chatbots, which generally returned similar commentaries on the user survey responses.

The survey URL is still active and available on CFM under the "support" tab but is no longer presented to the user as a splash screen.

Learn more!
Scan the QR-code or visit shorturl.at/J1Nan

The survey data provides valuable insight into how users engage with and perceive the online web mapping application. With feedback sourced primarily from users in the Western Cape region of South Africa, the survey covers user behaviour, key use cases, favoured features, technical experiences and suggestions for improvement.

The following is a categorised summary of user responses received.

Usage frequency and user demographics

The majority of users reported accessing the application regularly, with common usage frequencies being *Monthly*, *Weekly* and even *Daily* for some. This distribution reflects a healthy level of user engagement, suggesting the application has become a routine part of users' workflows. While detailed demographic information was not captured in the survey, most respondents in the sample identified as being located in the Western Cape, which naturally indicates a localised user base or initial rollout targeting this region.

Interestingly, independent statistics via Google Analytics do detect a substantial user base outside of the province and indeed outside of South Africa.

Primary reasons for use

Users cited a range of primary motivations for using the platform, the most common being *Land/property assessment, Farm planning and management, Environmental analysis and Architectural planning*. The prevalence of these responses highlights the application's relevance across a diverse set of professional domains, particularly in agriculture, land management and spatial planning. This diversity suggests the platform is meeting broad expectations and providing value across sectors.

Most valued features

When asked which features they found most useful, users frequently selected *Mapping tools, Property and land information, Resource data layers* and *Satellite imagery.* These responses reinforce the notion that users rely on the application for spatial data exploration and analysis. The emphasis on mapping tools and property information also underlines the need for accurate, up-to-date geographic data, which seems to be well-supported by the current implementation.

Suggestions and Improvements

While many users did not provide further suggestions, the survey included a prompt for users to request additional features or improvements. Although responses to this section were limited, the absence of critical feedback may imply that current features meet user expectations. Nonetheless, the facility to provide feedback remains on the system and user responses are followed up and feature requests are considered for implementation if appropriate.

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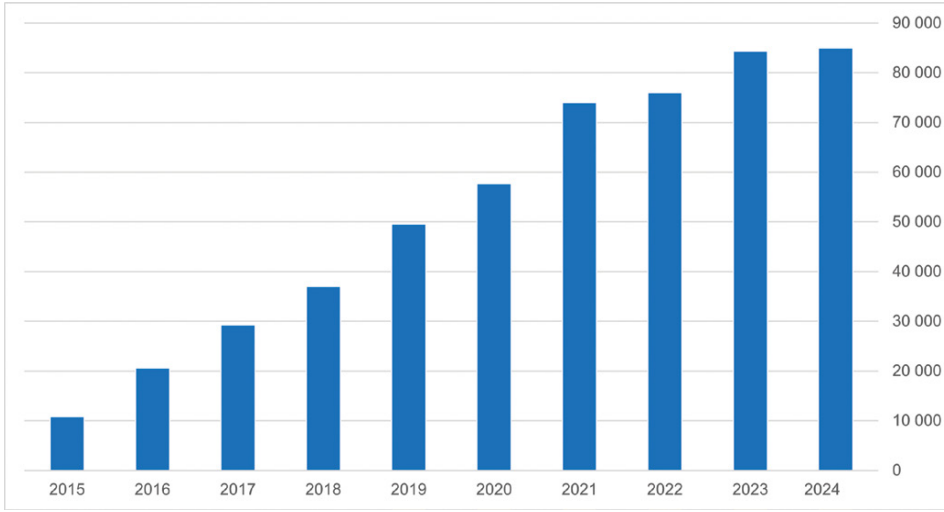


Figure 1. Number of users per year since 2015.

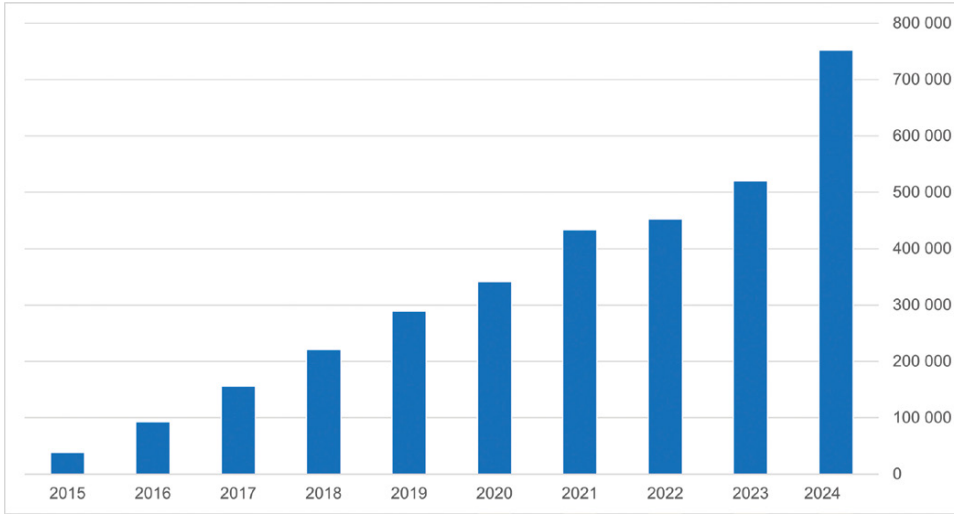


Figure 2. Number of sessions logged since 2015.

Conclusion

Overall, user feedback paints a highly favourable picture of the web mapping application. The platform is perceived as a valuable tool for professionals in land-related fields, particularly in agriculture and property management. Users appreciate the core features related to mapping and data visualisation, and most report a smooth experience free from technical issues. The strong foundation revealed by this survey suggests the application is well-positioned for expansion and enhancement based on real-world usage and needs.

Usage data as shown in **Figure 1** and **Figure 2** provide implicit evidence for the continually growing popularity and support for this unique tool. AP

Learn more!
Scan the QR-code or visit www.westerncape.gov.za/service/capefarmmapper

For more information, contact **Dr Mike Wallace**: ✉ mike.wallace@westerncape.gov.za

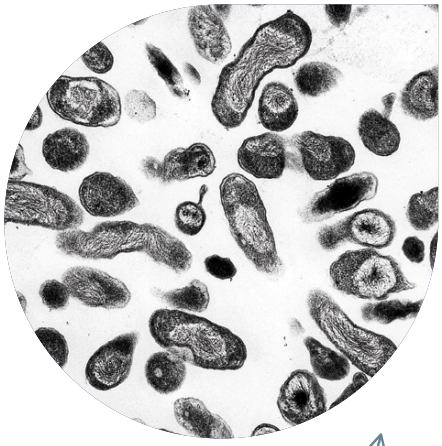
Q fever – why should we know about it?

by Dr Johanna Thom

Q fever is a zoonotic disease caused by the bacteria *Coxiella burnetii*. The disease may lead to increased abortions and stillbirths among cattle, sheep and goats despite the animals appearing otherwise healthy, and may therefore have severe effects on animal production systems. On the other hand, the disease is also of important public health interest as humans are also very susceptible to the disease. It can have severe detrimental effects on pregnant women, immunocompromised individuals or people with heart valve disorders.

The incubation period of Q fever in people varies from two to six weeks. The illness starts as flu-like symptoms, including listlessness, sweating, headache, muscle pain, joint pain and a dry cough. The fever may last up to one to two weeks. Pregnant women can suffer miscarriages. Further complications of Q fever may include atypical pneumonia, endocarditis, spontaneous abortion and premature labour, meningoencephalitis, and chronic fatigue in people.

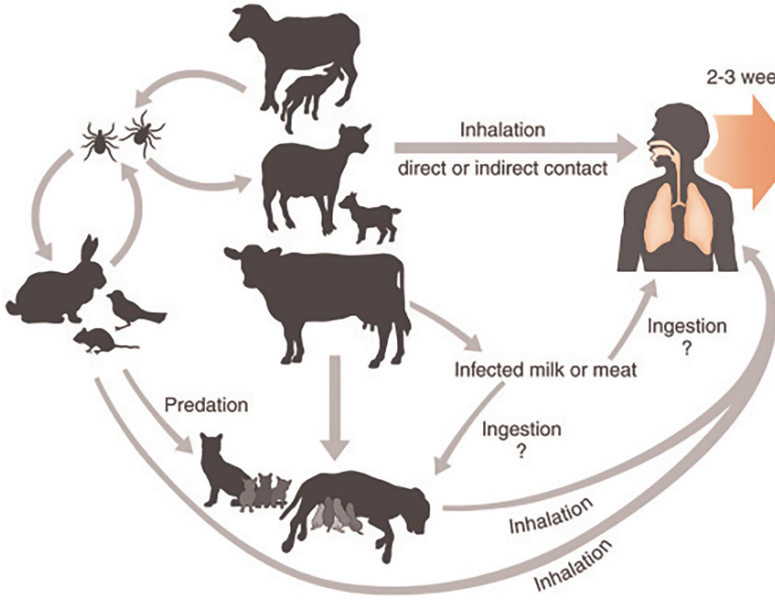
Humans usually become infected with *Coxiella burnetii* by breathing in dust, or dried fomites from the aborted material of ruminants. The placentas of the affected animals often appear thickened and covered in exudate and the bacteria is easily aerosolised from the tissue. During birth these organisms are shed in high numbers within the amniotic fluids and the placenta. Infection can also be transmitted by ingesting raw milk and goat's cheese, but luckily these organisms are destroyed by pasteurisation. Abattoir workers may also become infected by slaughtering infected livestock.



***C. burnetii*, the Q fever-causing agent.**

Among 382 abattoir workers from 16 facilities surveyed in South Africa (Boni, et al., 2022), the overall seroprevalence was 33% and ranged from 8% to 62% at the facility level.

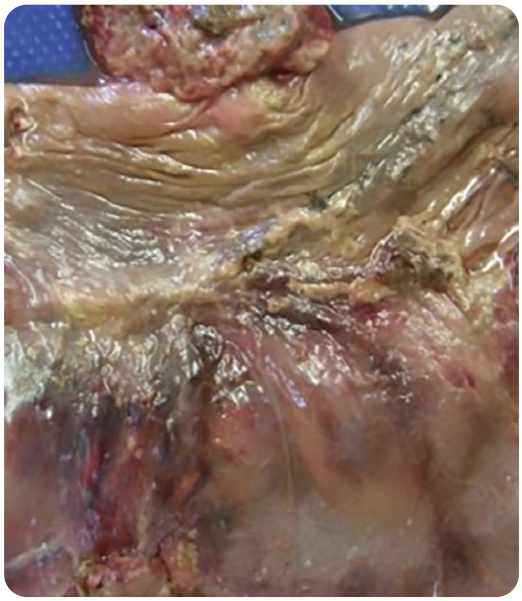
Therefore, the disease is more prevalent in South Africa than one might have thought, and increased vigilance is necessary. Prolonged contact with carcasses or meat products and prior abattoir or butchery work experience were associated with *C. burnetii* seropositivity.



Q-Fever is caused by Coxiella burnetii, transmitted mainly via inhalation of contaminated birth products from sheep, goats and cattle. Cats, dogs, ticks, and wildlife may also play a role, with unpasteurised milk a lesser source.

Watch this!
Scan the QR-code or visit: shorturl.at/yHjN7 to watch the video: "Understanding Q Fever: A Zoonotic Disease Threatening Both Animals and Humans". Published by Fur & Feathers Facts.

"Q fever may lead to still births and abortions in otherwise healthy appearing animals and may also lead to abortion, chronic fatigue, pneumoniae and endocarditis in people."



Thickened placentas covered in exudate characteristic of *Coxiella burnetii*.

Q fever was first detected in abattoir workers in Australia in 1935 and they were subsequently recognised as a high-risk group for Q fever. Progress was made to protect abattoir workers in Australia from Q fever in the form of a targeted vaccination programme introduced in 2002. Q fever notification rates declined by 50% after the programme started.

In the Netherlands, the same vaccine was registered for specific risk groups, i.e., patients with heart valve disorders, from 2011. From Australian data it was determined that the duration of Q fever illness can be protracted, with a median of three weeks for sickness and 12 weeks to full recovery. This prolonged duration of illness and recovery, and the fact that exposure commonly occurs in abattoir environments, demonstrate the importance of *C. burnetii* as an occupational hazard. In South Africa, there is no compensation for Q fever acquired at work as it is not a prescribed occupational disease (Employees' Compensation Act, Act No. 30 of 1941).

To protect yourself from the disease in South Africa it is recommended to wear protective clothing (PPE), including a mask (N95), gloves, barrier clothing and glasses, when disposing of placenta, foetal membranes and aborted foetuses at facilities housing sheep and goats. PPE should also be worn when slaughtering suspected livestock. This also highlights the importance of antemortem inspections and animal health declarations at abattoirs to ensure the necessary precautions are taken when slaughtering suspicious livestock.

Abattoir management can further reduce disease risk to personnel by only accepting healthy livestock from reputable sources.

However, since outwardly healthy animals may still pose a *C. burnetii* risk, PPE are always advisable. The birthing material and contaminated straw should be buried. It is further recommended only to consume pasteurised milk and milk products.

When possible, people with a higher risk of developing severe consequences from infection, for example people with cardiac valvular disease, immunosuppression, and pregnant women, should consider avoiding situations associated with a higher likelihood of exposure.

It is important to scrub with detergents and rinsing with copious amounts of water after working with animals that

> "Care should be taken when disinfecting lambing and kidding areas as the bacteria can be easily aerosolised and inhaled by people."

Appropriate protective equipment and clothing, including N95 masks, are essential when disinfecting lambing or kidding areas to prevent infection.

gave birth. Furthermore, care should be taken to prevent aerosolisation of the bacteria, therefore the use of high-pressure washers or moving of animals' bedding using leaf blowers and pressure washers is not recommended.

Personnel should use appropriate PPE during cleaning and disinfection. Appropriate detergents for cleaning include quaternary ammonium, 70% ethanol, or 1:100 dilution of hypochlorite. Workers must ensure at least 30 minutes contact time. AP

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New resource launched to **support farmers** living alongside **wildlife**

by Cape Leopard Trust

Caracal (*Caracal caracal*).
Photo © Quintus Strauss

In regions where agriculture intersects with natural habitats, farming operations often encroach on wild spaces. When this happens, wildlife may pose a considerable threat to both subsistence and commercial farming setups – for example, predators may opportunistically hunt livestock,

antelopes may damage crops, baboons may raid orchards, or porcupines and feral pigs may destroy infrastructure.

! To safeguard their property and livelihoods, farmers sometimes retaliate by reducing or removing wild species. Situations like this where encounters between humans and wildlife lead to negative results are known as '**human-wildlife conflict**'.

Black-backed jackal (*Lupulella mesomelas*).
Photo © EcoPrint

Sheep fitted with bell collars to deter predators.
Photo © Cape Leopard Trust

Sheep protected by an Anatolian guard dog.
Photo © Cape Leopard Trust

For centuries, agricultural communities have been trying to 'control' damage-causing animals, but despite these efforts, damage still occurs regularly and in some cases the losses are escalating. In fact, research suggests that removing 'problem animals' may cause even more problems – this method may be one of the least effective approaches to reduce human-wildlife conflict and may be more expensive in the long-run compared to non-lethal options (see further reading on the next page*). Proactive and holistic prevention of potential conflict is key to managing this issue and ultimately to ensuring human-wildlife coexistence. Farmers play a vital role in promoting this and ensuring that ecosystem processes and services are protected for the future.

Several years ago, CapeNature produced a resource to support the agricultural sector in the Western Cape, called the *Landowner's Guide to Human-Wildlife Conflict*. This concise booklet described species that may cause damage in the province and provided tips on holistic livestock and crop management options. The Cape Leopard Trust (CLT) recently collaborated closely with CapeNature to refresh the booklet, extend the content and produce an eye-catching, comprehensive and up-to-date version. New sections developed for the updated booklet include descriptions of conflict mitigation methods and strategies, information on carcass inspection to aid accurate identification of the cause of death in livestock, and information on the ecosystem services and benefits that wildlife provides to farmers.

Reinforced community kraal for livestock protection. Photo © Cape Leopard Trust

»

Electronic versions of the new booklet (12MB file size) are available and can be downloaded in PDF format (see QR code and link at the end of the article).

A limited number of printed booklets are also available for distribution by the CLT conservation team. Currently the booklet is available in English and Afrikaans, but the content has also been professionally translated into isiXhosa. This version of the PDF guide will be added to the CLT and CapeNature websites once ready and shared with Xhosa farmers through a targeted approach. It is anticipated that the wider inclusivity and greater applicability of the isiXhosa resource may help reduce predation risk for communal and subsistence farmers.

Acknowledgements

Several CLT funders supported this project by covering printing, translation and proofreading costs. We wish to thank Abax Investments, Lomas Wildlife Protection Trust, Mouton Citrus, Conservation Allies, Table Mountain Fund, Jamma International, Hans Hoheisen Charitable Trust and Gouritz Cluster Biosphere Reserve. A special word of thanks also to Jaco van Deventer for helping to develop the new content of the updated booklet and assisting with the Afrikaans translation of the text.. AP

CAPE LEOPARD TRUST

CapeNature

Learn more!

1 Lorand, C., Robert, A., Gastineau, A., Mihoub, J. B., & Bessa-Gomes, C. (2022). Effectiveness of interventions for managing human-large carnivore conflicts worldwide: Scare them off, don't remove them. *Science of the Total Environment*, 838, 156195.

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3 Link to download the PDF book: bit.ly/HWCbooklet

isiXhosa summary

Kwiminyaka eliqela eyadlulayo, ICape Nature ivelise isibonelelo sokuxhasa icandelo lezolimo eNtshona Koloni, elibizwa Isikhokelo SabaNini-Mhlaba soku-Phazanyiswa Ingxabano phakathi kwaBantu neziLwanyana Zasendle. Oku kukufutshane kwencadi ichaza iintlobo ezinokubangela umonakalo kwiphondo, kunye nokubonelelwa iqhekeza lokucebisa kwimfuyo epheleleyo kunye nokhetho lolawulo lwezityalo. ICape Leopard Trust kutshanje isebenzisane ngokusondeleyo kwiCapeNature ukuhlaziya incwadana, yandisa umxholo, kunye nokuvelisa inguqulelo ehlaziyiweyo. Ngoku lencwadana iyafumaneka ngesi Ngesi nange Afrikaans, kodwa umhxolo uguqulelwe ngobuchule kwisiXhosa. Oluguqhulwelo lwePDF isikhokelo ziya kongezwa kwi CLT nakwi webhusayithi yaseCapeNature xa sele ilungile kwaye kwabelwana ngayo namafama amaXhosa ngendlela ekujoliswe kuyo.

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Bags combat rats to save sweet potato tubers

by Alfred Mokwele

Sweet potato is a popular traditional and food-security crop regarded as a stable food in most households. In the Central Karoo region, the average annual production of sweet potato is approximately 36.5t/ha. Thus, this crop has an exciting potential to address: 1) income and 2) job creation. Farmers continue to experience 2.1t/ha loss due to damaged tubers caused by wild rats. The damage is approx. R42 000 loss to the business. This situation necessitates prompt intervention and innovation. Consequently, a trial was initiated in November 2023 at Rondawel Farm, located in the plateau area of the Nieveldt mountain outside Beaufort West.

The study had three objectives:

1. To mitigate the rats' damage on sweet potato tubers by using the 50kg bag technique.
2. To determine the ideal number of cuttings to be planted in a 50kg bag.
3. To determine the cultivars' performance.

Trial layout.

The disease-free propagation materials were sourced from ARC-VOPI. The 4 x 4 factorial design was used with four entries included (Bophelo, Monate, Khumo and Ndou), four treatments (1, 2, 3 and 4 cuttings per bag) and four blocks (5 x 50kg bags per cultivars, which equates to 20 bags per block).

The results revealed no rats damage in any of the blocks on any of the cultivars. This indicates that the bagging technique could protect the tubers from rats at 100% rate.

Treatment: 1 cutting per bag.

Treatment: 2 cuttings per bag.

Treatment: 3 cuttings per bag.

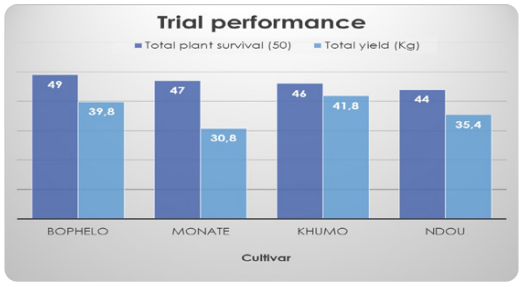
Treatment: 4 cuttings per bag.

	BLOCK 1	BLOCK 2	BLOCK 3	BLOCK 4	
CULTIVAR	**Plant survival (n/N)**	**Plant survival (n/N)**	**Plant survival (n/N)**	**Plant survival (n/N)**	**Total plant survival (n/N)**
Bophelo	5	10	15	19	49
Monate	5	9	15	18	47
Khumo	5	10	14	17	46
Ndou	5	9	13	17	44
Total	**20**	**38**	**57**	**71**	**186**

The 100% plant survival was obtained in Block 1. High plant mortality was noted in Block 4 with 71 plants from 80 cuttings planted. Bophelo had the highest plant survival with 49 plants from the 50 cuttings planted. Monate recorded a plant survival of 47, followed by Khumo with 46 and Ndou with the lowest plant survival at 44. Out of the total of 200 cuttings planted, 186 plants survived and 14 cuttings died.

- In **Block 1**, Khumo produced the highest yield at 10,2kg from the five plants that survived, followed by Ndou at 7,2kg Bophelo and Monate performed similar at 3,8kg from five plants.
- In **Block 2**, Bophelo scored the highest yield of 15.6kg from 10 plants. Ndou and Monate also showed good plant survival, while Khumo's yield was very poor at 5,4kg.
- In **Block 3**, Khumo performed relatively better with 14,2kg from 14 plants survived. Ndou scored the lowest with 5,4kg from the 13 plants that survived.
- The overall performance of **Block 4** was relatively poor due to high plant density per bag. This resulted in plants competition for essential nutrients, water, sunlight and space. This indicates that an increase in plant numbers negatively compromised the yield.

Sideview of storage root beneath the soil surface.



Overall cultivar performance indicated that the Khumo cultivar obtained the highest yield at 41.8kg, followed by Bophelo at 39.8kg from 49 plants. Ndou was in third place with 35.4kg and lastly Monate with poor yield at 30.8kg from 47 plants survived.

Show off yield per cutting.

In conclusion

1. The bag method prevents wild rats from damaging sweet potato tubers. The optimal number of cuttings per bag for 100% plant survival is one cutting per bag.
2. For desirable tubers yield: Plant Khumo with one cutting per 50kg bag, and plant Bophelo with two cuttings per 50kg bag.
3. Planting one to two cuttings per bag provides sufficient space for tubers to grow, reduces plant competition and results in good yields. More cuttings per bag lead to lower yield.
4. Yield ranking: Khumo is highest, followed by Bophelo, Ndou and Monate (lowest). AP

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FruitLook's Next Chapter

Towards a sustainable, commercial future

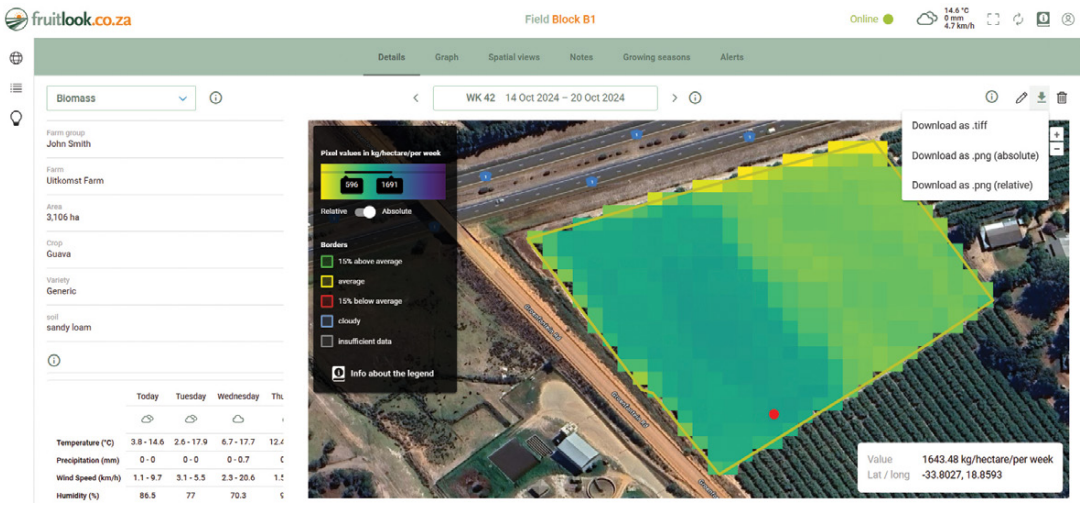
by Peter Keuck and Ashia Petersen

Since 2010, the Western Cape Department of Agriculture (WCDoA) has proudly supported FruitLook – a cutting-edge tool that has helped revolutionise irrigation practices across the province. For over a decade, farmers have accessed satellite-derived crop data through the platform, enabling smarter water use, enhanced productivity and better on-farm decision-making.

Now, after 14 years of public funding, FruitLook is entering a new phase. In line with a data-informed Management Improvement Plan (MIP), the WCDoA announced that the service will transition to a commercially funded model by March 2026. This decision follows a 2022 external evaluation study of the service, which recommended a gradual phasing out of government funding to ensure the platform's long-term viability.

FruitLook was originally conceived as a government-funded initiative to introduce irrigation farmers to the benefits of remote sensing. The service has since grown to offer weekly updates on nine key crop growth indicators, including actual evapotranspiration, biomass production and nitrogen content in leaves – data that has become integral to many producers' decision-making.

The map view in FruitLook shows spatial variation across all fields. Information ("i") icons have been added to help users learn more about specific features – clicking on an icon opens a pop-up with a brief explanation.



On the Details page, selecting a pixel (10 × 10 m area) displays its value and coordinates. Users can also download maps in various formats and view a seven-day weather forecast.

As the agricultural sector evolves, so too must the tools that support it. The transition to a user-funded model ensures FruitLook can remain responsive to the changing needs of its users while maintaining the high level of service and innovation it is known for.

To add further value to its offering, FruitLook – managed by technology partner eLeaf – has launched five new premium features aimed at strengthening on-farm planning and responsiveness:

1. **Decision support:** Users can set personalised monitoring rules and receive automatic alerts tailored to their crop needs and conditions.
2. **Weather and evapotranspiration forecast:** Accurate, farm-specific forecasts help users align irrigation and management strategies with real-time environmental conditions.
3. **Farm management tools:** The platform now supports the creation of multiple farms and the ability to transfer fields – ideal for users managing several sites or adjusting operations seasonally.
4. **Filtering functionality:** Farmers can filter data by crop type, variety or growing month, allowing for more focused and relevant analysis.
5. **Field sharing:** With improved collaboration tools, field data can be shared easily with advisors, consultants or team members to enhance collective decision-making.

While the core version of FruitLook will continue to be available, a series of introductory webinars will be hosted over the coming months to assist users in making the most of the new features. These sessions will offer practical guidance and highlight how the premium tools can support better crop management.

The WCDoA remains committed to supporting innovation that empowers farmers. While the department will gradually withdraw from funding FruitLook, it sees this transition not as a conclusion, but as the beginning of a new chapter – one that ensures the platform remains robust, farmer-focused and future-ready. AP

For more information or to register for an upcoming webinar, visit www.fruitlook.co.za or contact the team at ✉ info@fruitlook.co.za

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South Africa's dragon fruit industry: Market overview and global context

Vanessa Barends-Jones

Production of dragon fruit in the Western Cape: Is it viable?

Mzwanele Lingani

Dragon fruit comes in several varieties: white-fleshed (*Hylocereus undatus*), red-fleshed (*Hylocereus costaricensis*) and yellow-skinned (*Selenicereus megalanthus*), each prized for its unique flavour, colour, and nutritional profile. Photo © Riverrail

Did you know?
Dragon fruit contains prebiotic fibre linked to improved gut health and reduced insulin resistance in animal studies. A 2025 human trial also found positive effects on blood pressure and inflammatory markers (*Nutrients Journal*).
Learn more!
Scan the QR code or visit: shorturl.at/IkXhr

South Africa's dragon fruit industry: Market overview and global context

By Vanessa Barends-Jones[1]

[1] Macro and Resource Economics, Agricultural Economic Services

1. Introduction

The global dragon fruit industry has undergone a dramatic shift from a niche exotic fruit to a mass agricultural crop (Sharma & Sharma, 2021). This growth trajectory reflects changes in consumer demand for exotic and healthy fruits, along with the expansion of production in tropical and subtropical countries worldwide (Dung, Duong, Son, & Khanh, 2025; Sharma & Sharma, 2021). Currently, the three largest producers dominating world production are China (67,000 ha), Vietnam (50,000 ha) and Indonesia (17,850 ha), which together account for 93% of global output (Sharma & Sharma, 2021). This concentration marks a significant shift from previous patterns, where Vietnam held the leading position, as indicated in **Table 1**. China's rapid expansion has dramatically changed market dynamics, with its production area growing from 40 000 hectares in 2017/18 to 67 000 hectares by 2022, and output increasing to 1.6 million tonnes (Ha, 2023).

Within this evolving global landscape, dragon fruit represents a strategic opportunity for South Africa's agricultural diversification efforts, particularly as a climate-resilient crop requiring less water than traditional alternatives. Understanding these global market dynamics is crucial for South African producers to leverage their counter-seasonal advantage and position themselves effectively in premium market segments. This research examines the dragon fruit industry of South Africa based on its global context, assessing trends in production, export prospects, market challenges and strategic recommendations towards industry development.

Table 1: Major dragon fruit producing countries (2017–2018)

Country	Production area (ha)	Production (MT)	Productivity (MT/ 1ha)
Vietnam	55 419	1 074 242	16-35
China	40 000	700 000	17.5
Indonesia	8 491	220 766	26
Thailand	3 482	26 000	7.5
Taiwan	2 490.6	49 108	19.7
Malaysia	680	7 820	11.5
Philippines	485	6 062.5	10-15
Cambodia	440	4 840	11
India	400	4 200	10.5
USA	324	5 832	18
Australia	40	740	18.5
South Africa	12	100	8.3
Total	**112 263.6**	**2 099 710.5**	**18.7**

Source: Sharma & Sharma, 2021; Thanh, et al., 2018; Mansyah, et al., 2019); Own compilation, 2025

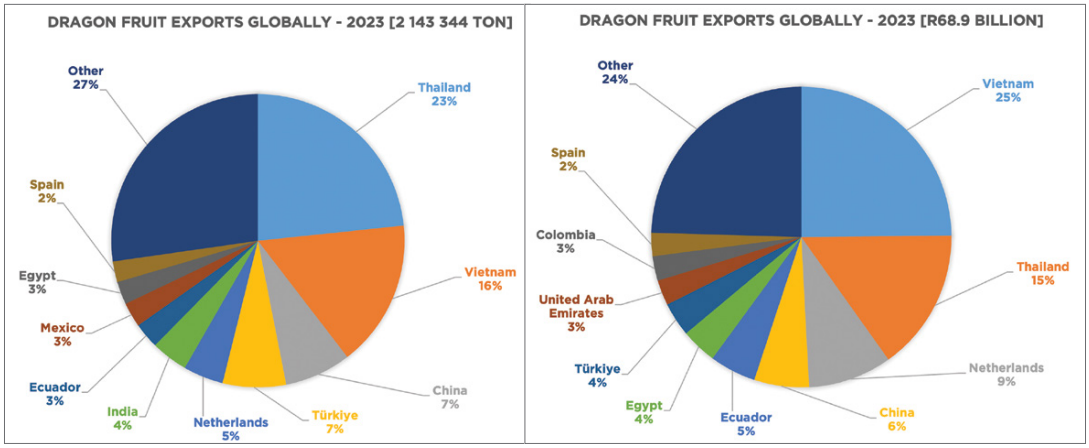


Figure 1: Global dragon fruit exports – volume and value, 2023

Source: TradeMap, 2025

2. Global market dynamics

The global trade situation indicates fascinating contrasts between value and volume leadership (**Figure 1**). While Thailand leads in export volume (23%), followed by Vietnam (16%) and both China and Turkey (7% each), the value distribution tells a different story. Vietnam leads in export value with 25%, followed by Thailand (15%) and the Netherlands (9%), indicating Vietnam's success in the premium market position.

This diversion suggests Vietnam has penetrated higher-value market segments successfully even as Thailand is number one in volume. Netherlands's strong value position (9%), despite not being a major producer, indicates its role as a key hub for European markets.

China's production expansion has created a significant ripple effect throughout the global dragon fruit trade. As the world's biggest importer, historically consuming 80% of Vietnam's exports, China's increase in domestic production has led to a 20% decline in Vietnamese exports to China over the past five years (**Figure 2**). This shift represents a fundamental restructuring of global trade flows, forcing Vietnam to diversify its export markets and potentially influencing global pricing dynamics.

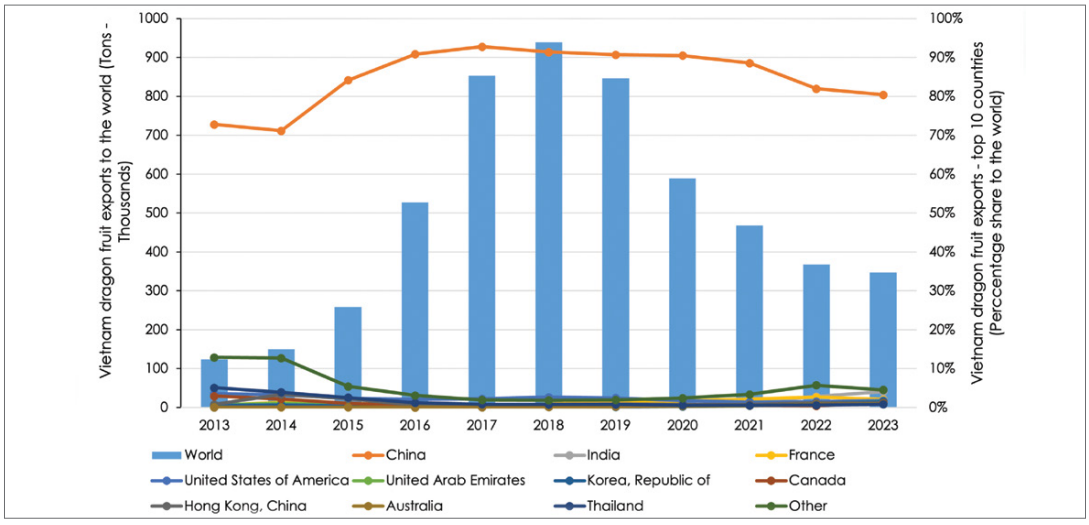


Figure 2: Vietnam's dragon fruit exports – tonnes

Source: TradeMap, 2025

3. South African market and export potential

South Africa's dragon fruit industry, though relatively small (about 50 hectares, 100 tonnes annually), is organised under Dragon Fruit South Africa (DFSA) with around 40 producers, of whom 90% are South African farmers. This level of industry organisation provides a solid foundation for coordinated development and marketing efforts (Beanstalk Global & PMA South Africa, 2021; Louw Coetzee, 2022).

Within the Western Cape (WC), dragon fruit cultivation totals 18.71ha with a clear geographical concentration pattern (Table 2). The West Coast dominance, followed by the Cape Winelands, reflects favourable climatic conditions and possibly better infrastructure for this emerging crop. The concentration pattern also suggests successful adaptation to specific microclimates within the Western Cape.

Table 2: Summary of dragon fruit production areas in Western Cape – 2023

	Area (ha)	% share
Central Karoo	–	0.0%
West Coast	14.16	75.7%
Garden Route	0.17	0.9%
Cape Winelands	4.31	23.0%
Overberg	0.07	0.4%
City of Cape Town	–	0.0%
Total	**18.71**	

Source: WCDOA-GIS, 2024

Dragon fruit trade data presents analytical challenges due to classification systems. Both FAO and Trade Map classify dragon fruit under "minor tropical fruits" (HST 081090), grouping it with longans, passion fruit, pomegranates, lychees and other unspecified fruits (FAO, 2024; Sharma & Sharma, 2021). This classification system obscures specific dragon fruit trade volumes and values, complicating market analysis and strategic planning. Despite these data limitations, South Africa exports R641 million worth of minor tropical fruits annually, providing insight into the sector's scale and market research. South African minor tropical fruit exports demonstrate healthy market diversification across multiple continents (**Table 3**).

Insights from Table 3:

- The United States represents the largest single market with exceptional growth (60%) over 10 years.
- European presence: Strong positions in the UK, Netherlands, Germany and France.
- Middle East expansion: Growing presence in UAE and Kuwait.
- Developing African markets, including Mauritius and Zambia.

Table 3: Importing countries for South African dragon fruit – 2024

Importing countries for dragon fruit from SA	SA export value 2024 (R'000)	Market share (%)	Growth rate – 10 years (2014-2024)
United States of America	128 666	20%	60%
United Kingdom	92 754	14%	9%
Netherlands	78 342	12%	-3%
United Arab Emirates	55 488	9%	13%
Iraq	51 258	8%	–
Germany	39 061	6%	17%
Mauritius	21 481	3%	24%
France	18 826	3%	-2%
Kuwait	15 218	2%	51%
Zambia	14 284	2%	16%
Other	125 626	20%	3%

Source: TradeMap, 2025

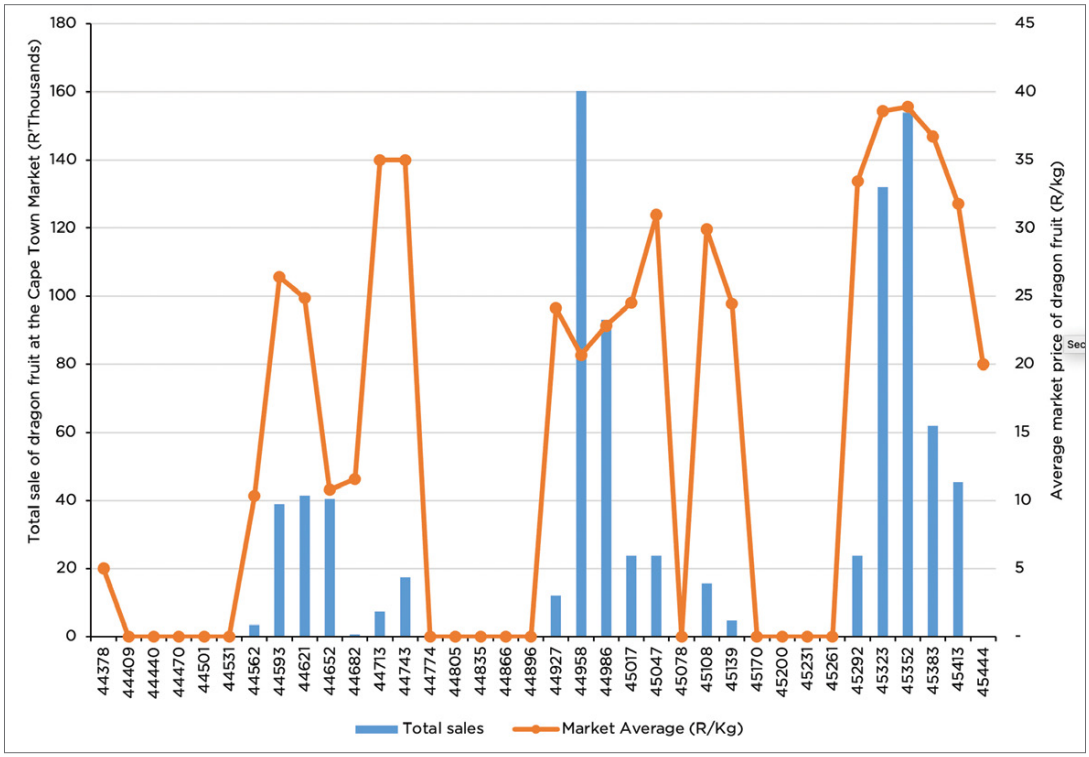


Figure 3: Local market sales and average market prices – Cape Town Market
Source: TechnoFresh, 2024

Figure 3 shows the fresh produce market sales for the local market for the Western Cape at the Cape Town market. The period under review is from July 2021 to May 2024.

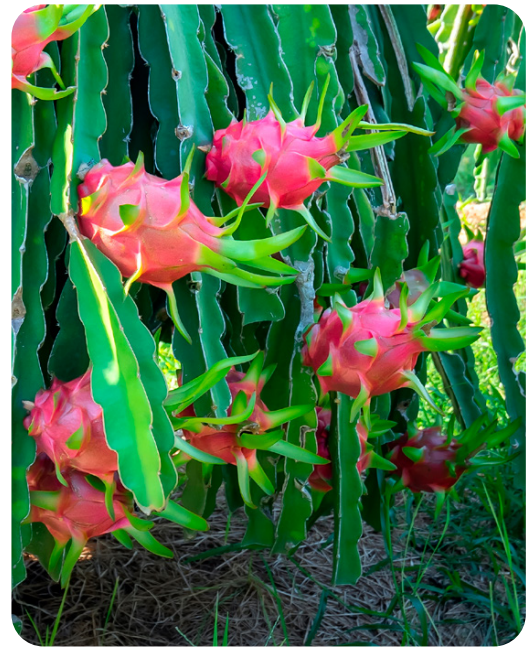
The local market provides valuable insights into seasonal patterns and pricing dynamics, highlighting that peak sales occurred in February 2023 (R160 190), March 2024 (R153 814) and February 2024 (R131 940). Focusing on average performance:

- Period average: R42 864 per month
- Price average: R25.52 per kilogram
- Peak price: R38.90/kg (March 2024)

4. Industry challenges

Dragon fruit offers a climate-resilient alternative for South African growers, requiring less water than many traditional crops. The industry's export potential is strong, but challenges include:

- Limited production and trade data (market information)
- Need for trade databases to be improved
- Pest and disease management
- Technical training for growers



5. Conclusion

South Africa's dragon fruit industry, despite its current modest scale of 50 hectares, demonstrates significant potential for expansion and premium market development. The global market context presents both opportunities and challenges. While established producers like Vietnam face pressure from China's expansion, South Africa's position as a Southern Hemisphere producer offers natural counter seasonal advantages for Northern Hemisphere markets. The current export performance, generating R641 million in minor tropical fruit exports with strong growth in key markets like the United States (60% 10-year growth), indicates substantial market acceptance. Local market performance, with average prices of R25.52/kg and peak prices reaching R38.90/kg, demonstrates healthy domestic demand supporting both local and export market development.

Success in expanding this industry will depend on addressing data collection challenges, expanding research across different production regions and maintaining focus on premium market segments where South African producers can compete effectively despite smaller scale compared to major Asian producers. Policy recommendations are primarily to strengthen DFSA's production and export databases. This will lead to accurate comparative analysis between dragon fruit and other fruits within its classified grouping (not only global but between provinces as well), facilitating better market positioning and policy decision-making. Furthermore, to support the industry with expanded provincial dragon fruit research and industry communication in the form of industry briefs. AP

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Production of dragon fruit in the Western Cape: Is it viable?

by Mzwanele Lingani[1]

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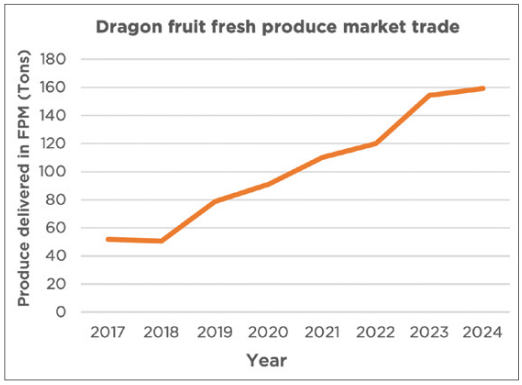
A red pitaya (*Hylocereus undatus*) fruit, together with a cross section. Photo © S Masters

Flower of *Hylocereus undatus*. Photo © Paul Venter

1. Introduction

Dragon fruit, also known as "pitaya", is a large, red-skinned fruit of the cactus family with either pink, purple or white fresh flesh with small edible seeds. Due to its health benefits, such as the high concentrations of antidiabetic, antioxidants and antiaging properties (Sampson, 2023), it is considered a "superfood". It is indicated that it thrives well in subtropical regions and its trellis system follows that of kiwi production. Although it is still a relatively young industry (just over 10 years) in South Africa, the production of dragon fruit is found in various regions, such as KwaZulu-Natal, Limpopo, Mpumalanga, the Eastern and Western Cape. South Africa produces a myriad of dragon fruit varieties that are marketed locally and internationally. Additionally, the industry in South Africa is showing a potential growth in the future.

Correct data about the number of hectares in production in South Africa is not known although there are reports indicating the total hectarage might be more than 50 hectares. However, estimates by Sampson (2025) indicate there might be approximately 100 hectares of dragon fruit production in Southern Africa at present. The production of dragon fruit is significantly hampered by the invasive species status of *Hylocereus undatus* and its hybrids, especially in areas like South Africa that are sensitive to biodiversity. Though its category 2 classification forbids planting in protected areas and necessitates stringent control measures to stop spreading, it permits limited cultivation.



Graph 1: Volumes of dragon fruit delivered at markets

Source: Own compilation (2025)

2. Dragon fruit volume trends between 2017-2024

The information regarding the volumes of dragon fruit delivered at various markets in South Africa is shown in **Graph 1**. As indicated earlier, dragon fruit production in South Africa is still relatively small and Figure 1 shows that up until 2021, volumes traded at various fresh produce markets in South Africa were below 100 tonnes. In 2017 and 2018, tonnes delivered at various markets were below 52 tonnes, and in 2019 there was an increase in production due to dragon fruit expansion to almost 80 tonnes. In 2024, the volume of dragon fruit traded at fresh produce markets in South Africa almost doubled the volume traded eight years ago. This increase in volumes delivered at these fresh produce markets shows the expansion in production as well as the increase in demand for the crop.

3. Methods and materials

Producers of this wonderful fruit were selected from two regions in the Western Cape province to understand the economics behind the production of dragon fruit. A total of four producers were purposefully selected in the Cape Winelands and West Coast regions of the Western Cape. In-depth interviews were conducted and various observations were made with respect to dragon fruit production in South Africa.

Dragon fruit orchard.

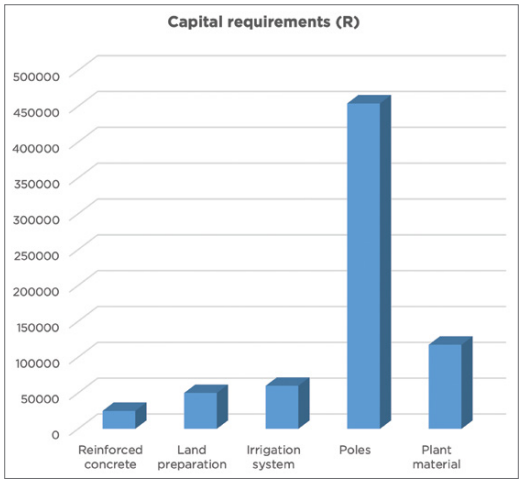
According to the information received from the producers, a total of 17,5 hectares in the Western Cape is under production.

An enterprise budget and capital expenditure questionnaires were compiled and used for the collection of information from producers. The questionnaire contained information about the production techniques, production inputs used and quantities applied, the usage of farm mechanisation and labour, whereas capital items with costs were listed in the capital expenditure questionnaire. The Western Cape enterprise budget system was used to capture information and later gross margin and capital expenditure requirements were calculated.

4. Data analysis and results

From the data received, the following assumptions were very important for dragon fruit production.

- Plant density = 3 632 plants/ha
- Price per tree = R37,13
- Market price = R36,36 per kilogram of dragon fruit
- Maximum yield = 12,69 tonnes/ha
- Manhours/year = 975/ha
- Plant mortality = 10%
- Oldest tree = planted 2017
- Youngest tree = planted 2023



Graph 2: Capital requirements for dragon fruit establishment

Source: Own compilation

For the calculation of capital requirements and gross margin, the following equations were computed:

Capital expenditure

$$C = \sum P_x \times Q_x \quad \text{.....(1)}$$

Where C is the total cost of the capital requirement, P_x representing the price of an item and Q_x being the quantity of the item in question.

Gross margin (GM)

$$GM = (P_y * Q_x) - \sum_{i=1}^{n} (P_{yi} * Q_{xi}) \quad \text{..... (2)}$$

According to Lingani (2022) GM represents the computed gross margin of an enterprise with P_y and Q_x denoting market price and quantity of the output sold respectively.

Dragon fruit varieties.

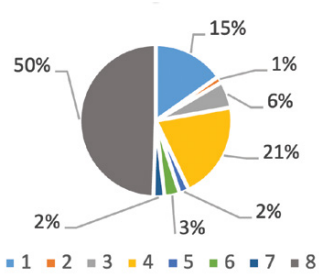
P_{yi} and Q_{xi} represent the variable input cost and quantity of the inputs used.

4.1 Capital requirements

The extent of the capital requirements for the establishment of dragon fruit production was discussed with producers from the two regions of the Western Cape. Approximately five capital items were listed as the most important for dragon fruit establishment. The costs incurred by dragon fruit producers are shown in **Graph 2**. The various listed capital items include poles for trellising, plant material, irrigations system, land preparation and reinforced concrete, which is used hold up the vines.

According to the information received from the dragon fruit producers, 64,3% of the total average establishment cost of R706 277/ha is allocated to poles that are used for trellising. Additionally, approximately 17% of the cost of establishment accounts for planting material, whereas the remaining 19% is allocated to reinforced concrete, land preparation and the installation of an irrigation system. The cost of establishing a hectare of dragon fruit is expensive and is more than the other popular fruit crops. This is highlighted by Mehta *et al.* (2024) that in Nepal, the production of dragon fruit is facing some challenges in expansion and operation mainly due to its high cost of establishment.

Chart 1: Dragon fruit gross margin budget

Gross Margin Budget for Pitaya				
Income				**R461 408,40**
	12690	Kg/ha @	R36,36/kg	
Marketing cost				**R57 676,00**
Variable costs				**R135 398,22**
			Fertiliser	R20 584,05
			Fungicides	R1 871,17
			Pollination	R7 600,00
			Labour	R28 022,63
			Irrigation & electricity	R2 762,40
			Fuel	R4 387,01
			Repairs & Maintenance	R3 195,97
			Packaging	R66 975,00
Gross margin/ha				**R268 334,18**

Source: Own compilation (2025)

4.2 Is the production of dragon fruit in the Western Cape worthwhile?

An enterprise budget lists incurred production costs of an enterprise with associated generated revenue per hectare. In actual sense, an enterprise budget calculates a gross margin to determine the profitability of an enterprise.

Chart 1 depicts a gross margin of dragon fruit production in the two regions of the Western Cape province.

According to the results of the dragon fruit production, a farm business in the two regions yields a total of 12,7 tonnes/ha of dragon fruit during its full production, which is sold at a price of R36 per kilogram. This yield resulted in a gross income of R461 408 per hectare of production. Approximately 71% of the total variable costs incurred are allocated to crop nutrition and labour, whereas 29% is the costs towards crop protection and manipulation of the plants, energy, repairs and maintenance. It is shown in Table 1 that dragon fruit production results in a gross margin of R268 334, which equates to a gross margin ratio of 58%. This indicates that dragon fruit production is a viable enterprise. It should be stated that climatic requirements for dragon fruit production play a major role in farm profitability. The climatic condition in South Africa allows for export opportunities as the country's production is different from the rest of the world.

5. Conclusion

Although dragon fruit production requires a high cost of investment, it still presents good returns for producers. The dragon fruit production is still relatively young in South Africa; however, it has seen a steady increase in recent years. Production data was received from four producers in the Swartland and Cape Winelands. It has been revealed that the establishment cost is very high compared to other fruit crops, however, the gross margin analysis has shown that 85% gross margin ratio is possible from the production of dragon fruit per hectare. Farmers are recommended to venture into the production of this wonderful crop, especially if finances and climatic conditions are favourable. At present Swaziland is supplying many retailers in South Africa, indicating a demand and opportunity for local production. Farmers need to select sweeter cultivars, and therefore more production should focus on these palatable cultivars. »

6. Acknowledgements

Dragon fruit producers in the Swartland and Cape Winelands are greatly appreciated for taking part in the study and providing the author with valuable information.

Additionally, Jason Sampson, who is the head curator at the Manie van der Schijff Botanical Gardens at the University of Pretoria, is also appreciated for his contribution towards the study.

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A salute to Dr Pieter van Rooyen

by Marietjie van Jaarsveld

Dr Pieter Cornelis van Rooyen touched many lives of staff and colleagues in the ARC and at the Department of Agriculture with his unique leadership style and his way of extracting the best from people. Although not a sworn rebel, he would not hesitate to ignore or take on the "establishment".

He was a mentor, he was an influencer and he could spot talent a mile away.

He was a wine lover and wine expert and was the only representative from the Southern Hemisphere at the International Wine Academy in Switzerland. For this one cannot apply – membership is by invitation only. When asked for advice on what wine to drink, his only advice was to choose wine you like and enjoy.

He liked to quote various people to motivate his staff and one of his favourite quotes was by **Bill Parcells: "*Blame nobody. Expect nothing. Do something.*"**

- He didn't like long stories; you had to stick to the facts.
- He didn't like you bringing your problems to him if you didn't also have suggestions for a solution.
- He liked it when you disagree with him, because if everyone thought like him, he wouldn't need you on his team. He believed a good management team should consist of different personality types and thinking types.
- He was a master at delegation and trusted you to do the job. The result was that no one wanted to damage that trust, and therefore always gave their best.
- He always said reward big mistakes, because you learn from them. Punish "mediocre" successes, because that's not good enough.
- Original thoughts and good ideas were important to him.
- He believed that what was measured was done.

One thing was sure; he did not suffer fools gladly!

I could have bored you with all his achievements and accolades but due to his abhorrence of "*selfbewieroking*" (self-adulation) I will stop here.

Those of us who knew him, worked with him and whose lives he touched will dearly miss him and the profound wisdom he shared.

Rest in peace, Dr van Rooyen, until we meet again!

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