

Sunday Times

MAY 2022



AGRICULTURE

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CAN BETTER REGULATIONS PAVE THE WAY FORWARD FOR THE SECTOR?



INSIDE: UNLOCKING LIVESTOCK'S GREATER POTENTIAL | EXPORTS COULD HOLD THE KEY TO TRANSFORMATION | TECHNOLOGY PUSHES GRAIN YIELDS | KEY REGULATIONS THAT NEED ATTENTION NOW | GREENER METHODS FOR SUSTAINABILITY





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Corporate and Investment Banking





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GROWING THE OLD WITH THE NEW

The world of food production is increasingly facing a split where traditional and organic production methods are juxtaposed against intensive systems that maximise output with the help of technology.

The EU Green Deal is pushing to have 25 per cent of agricultural land under organic production by 2030, setting the tone for food exporters worldwide. But while organic seems to be the ideal in terms of meeting targets for a healthier planet and people, the output of such systems cannot meet the global demand for food. On the other hand, technology-driven food is viewed with scepticism, as the inclusion of pesticides and gene-altering technology drives yields. Included in these modern food systems are lab-grown meat and plant-based proteins, which might be suited to affluent consumers but cannot feed the masses at the same cost per calorie as animal protein.

Driving these changes are the growing global population and the impact of climate change. The effects of global warming can already be felt as drought and torrential rains alternate across South Africa, reducing yields and threatening food security. Building resilience into our food systems is therefore key to sustaining our current food supply and indeed increasing it as our population expands.

Part of this resilience strategy is developing technologies that will not only ensure greater yields, but also reduce the inputs required to produce them. Technology and food, however, represent a pairing often met with doubt by many consumers. Since the advent of genetically modified organisms, consumers have been wary of production systems that stray too far from the way our ancestors produced food. And while there have been many questionable alternatives to Mother Nature's pantry staples – think margarine and



artificial sweeteners – the world will need to start relying increasingly on technology to get us through changing weather patterns and dwindling resources.

Fortunately, our food systems have never been under as much scrutiny as now, which means any new technologies face stringent testing before they are deemed safe. Unfortunately, the messaging around food is still extensively littered with falsehoods, fake news and

those driving agendas that do not benefit consumers or the earth.

The vilification of meat and dairy consumption is but one example that neglects to take into account sustainable production systems that create these products in a way that benefits both people and planet. Africa in particular is far better off producing protein on its vast tracts of grassland unsuitable to growing crops. These extensive production systems are able to produce food from land that would otherwise lie barren.

The key is adopting grazing systems that mimic nature and don't overgraze the land to the point where it becomes barren. For those who do want to steer clear of animal protein, advances in soybean genetics and production systems that tread more lightly on the earth are bound to produce proteins that satisfy consumers needs.

Herein lies third-way thinking: production systems that combine the old and the new to produce food that is safe, abundant and maximises the use of resources. Our farmers have been proven to be among the best in the world, and with a growing core of younger farmers and the commercialisation of small-scale farms, we can be sure that South Africa will remain food secure.

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Lindi Botha

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About Roux Wildenboer

Roux Wildenboer is sector head of agriculture at Absa Corporate and Investment Banking (CIB), responsible for the overall agricultural business across Absa CIB, including African regions. This includes devising appropriate portfolio and client strategies across Africa and leading a team of agricultural bankers who deliver effective client service, product and credit solutions across the agriculture industry.

Wildenboer holds a BCom in Law and Bcom Honours in Economics from the University of Johannesburg as well as a Masters in Business Administration from Stellenbosch University. He has nearly 30 years of experience in the financial services sector. He began his career at Absa in 1996 and gained expertise in various relationship management roles in business and corporate banking. He then became responsible for the credit and risk function of various portfolios, developing skills in mitigating risks and identifying business opportunities.

He was appointed sector head of agriculture in 2019 after acting as head of credit for structured trade and commodity finance, open account finance and secondary agriculture.

ABOUT OMNIA

Established nearly 70 years ago, Omnia is based in South Africa and listed on the Johannesburg Stock Exchange. Operating across 25 countries, Omnia is expanding its presence across SADC, North America, Canada, Brazil and Australasia. Internationally recognised for innovative research and development, Omnia differentiates itself based on its leading supply chain and manufacturing capabilities, as well as its specialised customer solutions that are accessible to clients in the agriculture, mining, water, consumer care, food and pharmaceutical, coatings and manufacturing sectors.

The agriculture division, Omnia Nutriology®, produces and trades in granular, liquid and speciality fertilizers, as well as offering value-added services and solutions in South Africa. The Omnia International division produces and trades in granular, liquid and speciality fertilizers, humates and other biostimulants, and also offers value-added services and solutions to a broad customer base internationally.

Omnia's agriculture customer base includes commercial and small-scale farmers, co-operatives and other corporates across the African continent, Australia, South America and Asia.

The business model is guided by a "feet on the farm" approach, which serves as a philosophy based purely on quality relationships with clients. This means that it is Omnia's priority to share research and technological advantages to the benefit of its diverse client base with specialist support from its established team of expert agronomists.



For more information: nutriology@omnia.co.za | www.omnia.co.za

OMNIA'S TECH-DRIVEN APPROACH SUPPORTS AGRICULTURE



KEY FACTS

- The global population will grow from 7 billion (2010) to approximately 9.8 billion (2050), requiring 70 per cent more food.
- Small-scale farmers produce 80 per cent of food for the developing world.
- Only 12 per cent of the world's land can be used for farming.

Syngenta.com, World Resources Report

Rising input costs, economic pressures, inadequate infrastructure, supply chain disruptions and a lack of skills – especially among the vital small-scale farming community – place global food security at risk. Omnia promotes a collaborative approach, including governments, input providers, offtakers, funders, development agencies and farmers to address risks relating to sector sustainability and food security.

THE FARMERS' REALITY

Humans cannot survive without food. Yet, the business of producing the food we need to sustain our growing population is becoming immensely challenging.

Louis Strydom, marketing director at Omnia says: "John F Kennedy was right when he said that the farmer 'buys everything at retail, sells everything at wholesale, and pays the freight both ways'. He was referring to the fact that farmers are essentially price-takers: from the inputs they require such as seed, fertilizer and pesticides, to the prices they get from their offtakers."

At the same time, changing weather conditions and extreme climatic swings make reliable budget projections impossible, and Southern Africa's semi-arid climate makes it difficult to compete with

major producers in North America, Europe and the rest of the globe.

On this continent, infrastructural challenges such as dependable water and power supply, an ageing road and rail network, and inefficient ports, add to the farmer's woes. Confidence is also impacted by unclear sector policies, sociopolitical instability and productivity concerns. And the conflict in Eastern Europe has a deep impact on our exports to affected markets.

So why farm? "Fundamentally, every farmer has a real love of the land. We are blessed with abundant sunlight, good water and a sector that is positioned as a key pillar of the economy, with a focus on developing high-value crops. And, we have that dogged ability to 'make a plan', regardless of the challenges we face," says Strydom. ■

MODERN TECHNOLOGY IN AGRICULTURE

A lag in adopting high-tech farming techniques, extreme climatic phenomena, civil unrest and inconsistent government policies have resulted in low productivity across Africa, with the continent increasingly becoming a net importer of food.

Although more affluent countries on the continent supplement this deficit by diverting resources from other key sectors, with profound fiscal consequences, most countries cannot do this and become dependent on aid.

On a continent that should be food self-sufficient, food insecurity is a growing crisis that inevitably leads to the emergence of other socioeconomic challenges such as unplanned migration, crime, inequality, disease and poverty. Without food security, the overall developmental goals of a largely agro-based continent are compromised.

Omnia's approach to delivering modern, technology-driven and holistic farming practice advice is key to ensuring that emerging farmers on the continent leapfrog the farming learning curve, resulting in higher yields, thus supporting lives and livelihoods in Africa. ■

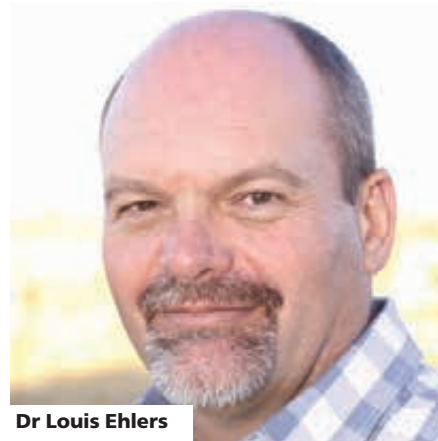
PROMOTING PPPS FOR SUSTAINABLE AGRICULTURE

The continent's agricultural success is based on optimal public-private partnerships that leverage mutual expertise. Both government and the private sector have a role in sector sustainability and growth.

Governments must deliver appropriate policies to stimulate investment in the sector. They also need to focus on enabling infrastructure, technology and skills development to support farmers. However, the average government spends less than three per cent on agriculture across the continent – an under-investment that needs addressing. The private sector should focus on the commercial side of developing sustainable agribusinesses. "Many examples across the continent have proven that the private sector is best placed to manage the commercial aspects of the industry to ensure positive impact on the sector and the players within its value chains," says Mandla Mpofu, managing director of Omnia SADC. ■



Omnia delivers data-driven and holistic advice.



Dr Louis Ehlers

OMNIA, THE AGRICULTURE PARTNER OF CHOICE

In a constrained supply environment, Omnia's reputation for consistency of supply sets it apart, so says Louis Strydom, marketing director at Omnia's agriculture division. "This is because we have our production facility locally, backed by a diversified and agile supply chain, and our own logistics infrastructure. We are thus less exposed to logistical constraints."

According to him, Omnia's range of products includes water-soluble fertilizers, macro- and micro-nutrients and biostimulants, enabling bespoke solutions for clients according to their soil's nutritional needs.

"Our business is based on close customer relationships, strong distribution capabilities, a reliable supply chain, quality products and advanced technology and intellectual property. Importantly, Omnia is a trusted brand that represents innovation, quality products and close partnerships with our customers, ensuring their long-term sustainability," he concludes. ■

ABOUT OMNIA

Omnia is an international, diversified, sustainable group of businesses in the agriculture, mining and chemicals sectors. It is recognised for leading the change from chemicals to green chemicals, biotech and biomolecular solutions and offering network-created, innovative technologies that protect all life.



→ Scan this QR code to go directly to the Omnia website.

For more information:

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OMNIA NUTRIOLOGY'S TECH-DRIVEN ADVISORY PARTNERSHIPS

By Dr Louis Ehlers, manager: Omnia Nutriology® Solution Development

It is estimated that by 2030 the world will be populated with nine billion people, (please get client to quote their source) placing enormous pressure on natural resources and food security. Given that the available area for food production is decreasing daily, more food needs to be produced per unit of land. This growing demand for agricultural products will mainly affect the markets of developing economies. How countries globally respond to this growing demand will be a major determinant of food security.

Since 1953, Omnia has made a significant and positive impact on the local agricultural sector. Our client advisory service is supported by a holistic approach focusing on crop growth by using specialised products, innovative solutions, technology, services, and building

client relationships. This approach looks at the entire crop management process.

Omnia Nutriology employs 12 core principles that we believe ensure the success and sustainability of all. The Nutriology Solutions Development team constantly strives to develop specialised solutions and products using integrated technology, knowledge, and innovative ideas.

These solutions include unique services such as OMNI-PRECISE® and OMNISAP®, which focus on improving water efficiency, nutrient use efficiency, crop quality and yield. OMNIBIO® protects soil health and biodiversity with the use of biotech and biomolecular solutions, microbial products and biostimulants.

Omnia OMNI-PRECISE® applies technology to provide a holistic precision farming package suited to the specific farm. Available solutions include OMNIZONE™ and OMNIRISK-IQ™, which use historical yield data either from yield monitors or from satellite imagery to divide the land into management zones. These zones can then be treated according to their production potential to ensure that valuable resources like water and fertilizer are not wasted on marginal soil, but that the right investments are made to ensure yield and quality.

Thanks to satellite imagery and the unique algorithms created and tested by Omnia, a farmer can now continuously monitor the nitrogen levels in their crops, possible moisture deficits, and even impending pest and disease outbreaks.

Our team of agriculturists has access to the most advanced environmentally friendly products and provides specific, innovative, and responsible agricultural solutions to ensure sustainability while protecting our natural resources. ■



Livestock producers in the informal sector often have access to only communal grazing areas that must be shared with other farmers in the community, complicating veld management.

UNLOCKING THE POTENTIAL OF INFORMAL LIVESTOCK FARMING

Informal livestock production by communal and small-scale farmers already makes a significant contribution to food security in South Africa by serving low-income communities. The potential exists, however, to achieve substantial growth in this segment if farmers receive the type of support needed to increase productivity and grow their businesses, writes DENENE ERASMUS

Livestock farming is one of the most important sectors in the South African agriculture industry, contributing the largest share in value terms, ahead of grain and horticulture production. But the sector's importance is even greater than official figures show, given that an estimated 20 per cent of livestock farmed in the country belongs to smallholder and communal farmers who do not sell their animals into formal supply chains.

According to Gerhard van den Burgh, a data science and systems integration specialist at the Bureau for Food and Agricultural Policy (BFAP), this is especially true of the beef sector, with approximately 40 per cent managed within informal production systems.

The informal market segment makes a large contribution to food security and represents considerable untapped potential for growth, but unlocking this potential will require several interventions aimed at increasing the productivity levels of these production systems.

VETERINARY SERVICES IN SHORT SUPPLY

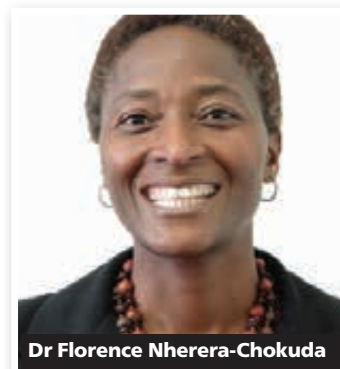
"One priority should be the animal and public health interventions required to advance the sector," says Van den Burgh. "Veterinary service delivery in South Africa is fragmented, often facing misalignment and lack of accountability between national, provincial and local government spheres.

"It is also unclear whether or not Onderstepoort Biological Products has sufficient finances and resources to develop and produce the volume of vaccines required by the livestock industry."

Dr Florence Nherera-Chokuda, head of farmer support and development at the National Emergent Red Meat Producers' Organisation, concurs, saying that insufficient

access to veterinary services poses a serious challenge for communal and small-scale livestock farmers, and a threat to the industry as a whole. "Basic animal health services being supplied by the Department of Agriculture, Land Reform and Rural Development lack the necessary capacity to assist these farmers in implementing health management plans such as vaccination programmes. In

the absence of regular vaccination, an outbreak of foot-and-mouth disease, for example, could quickly spread amongst communal cattle, and from these herds to commercial cattle herds, resulting in the closure of markets."



Dr Florence Nherera-Chokuda

MAKING IT BIG IN SMALL MARKETS

It shouldn't be taken for granted that all communal and small-scale farmers, who predominantly operate in the informal economy, aspire to enter the formal market. Informal, small-scale operations can be commercially viable.

Dr Tracy Davids, commodity markets and foresight manager at BFAP, says that research has shown that small-scale poultry, pig and livestock farmers are often able to earn decent profits from the animals they sell via informal marketing channels in their local communities. This is due to their relatively low operating costs and selling directly to the end consumer, which means no earnings are sacrificed along a formal supply chain in which auction house, feedlot, abattoir and retailer margins account for a large portion of the difference in price between what consumers pay and farmers earn. "This benefits the farmer, who then earns the full price paid by the consumer, as well as the consumer, who is likely to pay less for a product purchased on the informal market when compared with retailer prices."

However, for communal and small-scale farmers there is a limit to how much they can grow their businesses without fully commercialising and entering the formal market. Therefore, support must be given to those farmers who want to grow their livestock farming businesses to a larger commercial scale.

NO LIVESTOCK WITHOUT LAND

Nherera-Chokuda says these farmers face a hurdle in growing their herds: limited access to land. "Communal farmers are at the mercy of traditional authorities and often have access to only communal grazing areas that must be shared with other farmers in the community. This is where government intervention is needed to speed up South Africa's land reform processes."

The definition of a communal or small-scale livestock farmer is wide, adds Nherera-Chokuda, and can refer to farmers that own one to 100 head of cattle. Providing these farmers with greater access to land would only be the first step in enabling them to grow; they also need access to funding so they can invest in critical on-farm infrastructure, transport and better genetic material to grow their herds. They also need training in veld management and basic

"THE ONLY REASON GOAT MEAT IS HARD TO COME BY IS THAT THE DEMAND FROM THE INFORMAL MARKET ALONE IS LARGER THAN LOCAL FARMERS CAN SATISFY."

— GERHARD LOURENS

animal health practices. "Large areas of veld in communal areas have already been degraded by overgrazing and poor veld management."

GOAT MEAT A GROWING INDUSTRY

While cattle production dominates the informal sector, indigenous goats, which are farmed for their meat, are the underrated stars of the South African informal livestock industry, says Gerhard Lourens, an indigenous veld goat breeder. "There is a misconception that goat meat is not readily available from retailers because there is no demand for the product. On the contrary, the only reason goat meat is hard to come by is that the demand from the informal market alone is larger than local farmers can satisfy. In KwaZulu-Natal alone, which largest market for meat goats in South Africa, 1.6 million goats are imported every year on top of the 640 000 locally supplied goats to keep up with demand."

Lourens estimates that it will take another 10–15 years before goat numbers in the country will be at sufficient levels to reliably supply the formal retail market with goat meat, which is highly nutritious. Moreover, the animals' natural resistance to ticks and certain diseases makes them ideal for minimal-intervention production systems.

The high demand for goats is reflected in sales figures recorded for auctions and prices achieved for live goat sales. Between December 2021 and March 2022, the average price for live goats sold on auction was R42–R58/kg, which compares favourably with prices for live feeder lambs that traded for about R40/kg. Much higher prices have been achieved during periods of high demand, adds Lourens. "The price per kilogramme, if one was to work it out based on sales in KwaZulu-Natal, can run to R100/kg for live goats, especially young weaners."

The number of commercial and stud goat breeders has been increasing, but this industry is still predominantly informal, with communal and smallholder breeders accounting for 60–70 per cent of the market, says Lourens. "The informal sector is definitely much larger than the formal sector, which makes it difficult to determine the size of the industry reliably."

Lourens adds that farmers in the informal sector often have little access to auction

houses to participate in regulated sales. But because there is such a large gap between the supply and demand for goats, specifically in KwaZulu-Natal, even the informal market yields competitive prices. The Indigenous Veld Goat Society, of which Lourens is a member, does offer some support to communal and smallholder goat farmers. Through the society's provincial clubs, members try to involve informal market farmers in their sales by assisting them with transport for their goats to the sales venues.

More can still be done by the industry and government to assist these farmers in improving the productivity of their herds. "Investment in infrastructure such as kraals and better animal health services could help farmers increase the weaning percentage of their flocks, which is currently estimated at a low 50 per cent," says Lourens. "Kid mortalities and losses are often due to predation and theft, which is why infrastructure such as fencing and kraals could make an important contribution." ■

ACCESS TO MARKET

One farming business working towards giving communal and small-scale livestock farmers access to formal marketing channels is in the process of opening a feed kraal that will benefit the communities in and around Centane in the Eastern Cape, who struggle to gain viable market access for their products. The project, spearheaded by Beefmaster Group, will allow beef cattle producers in the Centane, Mquma and the Amathole districts to benefit from trading cattle in a sustainable manner.

Roelie van Reenen, supply chain executive at Beefmaster Group, says this location was chosen because the Eastern Cape has "the most cattle in the country", most of which belong to communal farmers.

Van Reenen says giving these farmers access to formalised market structures would help solve some of the problems that come with informal trading of cattle, including a safe means of transaction, and a physical space where farmers can gather to buy and sell cattle.

"VETERINARY SERVICE DELIVERY IN SOUTH AFRICA IS FRAGMENTED, OFTEN FACING MISALIGNMENT AND LACK OF ACCOUNTABILITY BETWEEN NATIONAL, PROVINCIAL AND LOCAL GOVERNMENT SPHERES."

— GERHARD VAN DEN BURGH

Gerhard van den Burgh





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COFFEE



CAPITALISING ON CANNABIS

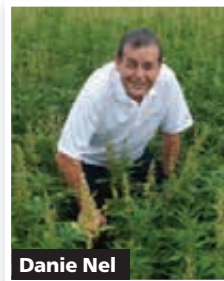
Cannabis holds lucrative promise for small-scale farmers, but can it deliver? DUMA GQUBULE investigates

South Africa has the potential to become one of the world’s largest cannabis markets if the government addresses regulatory constraints that are preventing the industry from reaching its full potential, according to industry experts.

In his 2022 State of the Nation address, President Cyril Ramaphosa undertook to review the policies and regulations in the hemp and cannabis sector, which he said could create more than 130 000 new jobs were processes to be streamlined as they are in Lesotho, for example.

But despite the optimism of many industry players and the government, South Africa’s fledgling hemp and cannabis sector is still very small and has many hurdles to overcome to become a world leader.

Danie Nel, CEO of Afriplex, a Paarl-based manufacturer of cannabidiol products, explains that the industry took off in 2018 when the government approved the use of cannabis for medicinal use. Before that cannabis had only been produced, illegally, for recreational use. Since then, many investors have entered the sector, hoping to capitalise on the new market. Nel estimates that the industry now employs about 10 000 people across the full value chain, which includes cultivators, manufacturers, retailers, salespeople, regulators, researchers, law firms and consultants.



Danie Nel

NO BACKYARD BUSINESS

The majority of these investors are, however, waking up to a very different reality than what has been touted. Nel explains that medicinal cannabis is a very sophisticated product requiring highly sophisticated farming methods. “This is not dagga grown in the backyard. Yet the expectation has been created that South Africa’s rural population in the Eastern Cape, which has always been a hot spot for cannabis production, can now become bona fide farmers that can enter this lucrative value chain.”

Nel notes that multiple farmers have entered the sector with an investment of around R4-million, in the expectation that this was enough. These business are now closing one by one as they struggle to overcome costly compliance hurdles. “The actual amount [to farm medicinal cannabis] is closer to R20-million. Size is not the issue – you can get away with a four-hectare plot – but security, quality control, certification and the employment of a full-time pharmacist are all hidden costs of which many are not aware.”

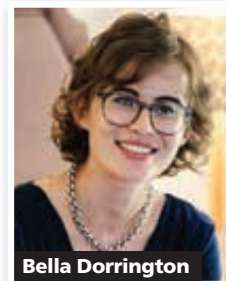
Nel says that numerous conversations with government about these constraints have not yet borne fruit. “If, for example, we can get cooperative models where a few small farmers could group together, then we can get more farmers involved in the sector and see mass job creation.”

Agriculturalist, Land Bank board member and cannabis farmer Andrew Makenete says that a one-size-fits all regulatory framework is not appropriate for the industry. “There should be different regulations for different parts of the value chain. There is also a need for different financing instruments to increase the participation of black businesses, like concessional support for cultivators, and a dedicated industry fund for the more complex manufacturing and processing enterprises.”

MAKE OR BREAK

Nel recently told the Cannabiz Africa website that 2022 “will be a make or break year for many participants in the South African cannabis industry. Cultivators are scrambling for a position to supply product to a regulated industry with many barriers to overcome, of which quality and regulatory are the most important. The industry will therefore first go through a period of turmoil if the regulatory framework is not aligned with international best practice. We are heading for a consolidation which unfortunately may leave many participants in dire straits.”

Bella Dorrington, a senior researcher at the Cannabis Research Institute of South Africa, says companies incur huge costs to become compliant with the requirements of the South African Health Products Regulatory Authority. “There are also regulatory limits on what can be produced.



Bella Dorrington

For example, cultivators are allowed to grow cannabis flower, but no value-added activities are allowed for in South Africa. Without the ability to offer value-added products, such as extracts and final consumer products, to the global market, South Africa will not be able to compete effectively.”

If these hurdles are overcome, Dorrington believes the industry has a bright future. “South Africa has the potential to set a standard for cannabis in the world market. We have a culture of collaboration and not working in silos. We have the resources, technology and people to make this happen if the government can open the way forward.” ■

THE CANNABIS INDUSTRY IN NUMBERS

R28-billion: Potential size of South Africa’s cannabis industry – Department of Agriculture, Land Reform and Rural Development Cannabis Masterplan

25 000: Number of jobs the industry could create across all value chains – Department of Agriculture, Land Reform and Rural Development Cannabis Masterplan

US\$20.5-billion (R300-billion): The global size of the cannabis market – Fortune Business Insights

US\$19.8-billion (R289-billion): The size of the US market, making up 97% of global sales – Fortune Business Insights



PIONEERING THE CANNABIS INDUSTRY

IN SOUTH AFRICA

Afriplex is a quality and solution driven company that employs optimized techniques to extract and refine botanical oils, including cannabis. At Afriplex we utilise high-quality cannabis from our Good Agricultural Practice (GAP) approved cultivation facilities. Afriplex has Good Manufacturing Practices (GMP) accreditation and is a South African Health Products Regulatory Authority (SAHPRA) licensed facility.

Afriplex offers a complete source-to-shelf solution:

- ✦ We manufacture active pharmaceutical ingredients (API's), standardized ingredients and extracts.
- ✦ We do cultivation, ingredient sourcing, product research and development, and final product manufacturing.
- ✦ We apply validated Quality Management Systems (QMS) with

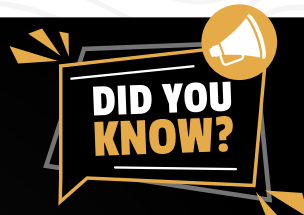
Enterprise Resource Planning (ERP) functionality for complete traceability, from source to shelf.

- ✦ We have in-house stability chambers and offer short term stability (accelerated stability) programs as well as long term stability programs.
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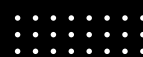
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SEEDLESS LEMONS, THE ULTIMATE CONVENIENCE

Described as the holy grail of the agricultural industry, seedless lemons are trending worldwide

Seedless lemons have found a sweet spot in various global markets where the seedlessness of the product addresses culinary frustrations experienced by chefs, home cooks, health enthusiasts, mixologists and lovers of all things lemony. The seedless lemon has been described as the holy grail of the agricultural industry. The global trend highlighting the health aspects of making lemons a part of daily life has put the spotlight on this zesty fruit that brings flavour to almost any dish – sometimes even termed “the new salt”. For foodies who have experienced this seedless option, there is no turning back.

South African fruit commercialisation and marketing company Fruitalyst* manages the distribution and branding of this fruit under the LemonGold™ brand, sister brand to the globally successful ClemenGold® mandarin brand.

**Fruitalyst is part of the ANB Group of agricultural companies.*

Fruitalyst’s marketing approach brings together like-minded growers planting the cultivar in different parts of the world with the aim of creating a constant supply of predictable quality fruit. This supply is then channelled to select global retailers based on exclusivity agreements. In South Africa, the ClemenGold and LemonGold brands have found a home in Woolworths.

In South Africa, plantings are found in the Limpopo, Mpumalanga, Western Cape and Eastern Cape provinces while production from growers in counter season countries augments the global supply programme aimed at whole-year availability. The strategy to increase supply and market share includes the expansion of plantings and more producers becoming aligned to the long-term supply strategy of a focused platform with established programmes among retailers supporting the brand. The recent signing of a new protocol agreement with China opened new opportunities for the expansion of the brand.



For more information and possible participation, visit www.fruitalyst.com or www.lemongold.co.za, or contact Charlene Nieuwoudt at charlene@anbinvestments.co.za



PARTNERSHIPS FOR UNLOCKING GROWTH

The agricultural sector holds potential for growth and job creation in rural South Africa, writes **WANDILE SIHLOBO**, chief economist of the Agricultural Business Chamber of South Africa



South Africa's primary agricultural sector grew by 13.4 per cent year-on-year in 2020 and 8.3 per cent in 2021 on the back of the expansion in area plantings and favourable weather conditions.

The government's decision to leave the sector relatively open from the onset of the COVID-19 pandemic also provided positive momentum. The gains sustained employment in the sector and benefited allied industries such as agricultural machinery, which registered robust sales in 2020 and 2021.

A few industries such as wine and tobacco didn't enjoy these solid economic gains due to bans in sales at various intervals, but nevertheless, the outlook for the sector has been positive.

STRAINING TO REACH CAPACITY

Still, one can argue that agriculture is not at full capacity. There are still lingering policy constraints to expansion and the participation of black farmers. The non-delivery of services by inept municipalities is a significant challenge that results in increased agribusiness costs and hinders new entrants' involvement. Some examples are Clover's announcement in 2021 that they intended to leave Lichtenburg because of unsatisfactory service delivery by the municipality. Astral is another agribusiness that suffers from poor municipal service in Mpumalanga, and we hear of similar challenges from agribusinesses operating in the Eastern Cape, such as the wool industry.

These business's operational costs have increased notably partly because of unmaintained roads and the absence of primary service delivery, forcing some to perform functions that the municipalities would have ordinarily fulfilled. Such challenges are binding constraints to expansion, and divert energy and capital that

agribusinesses could have spent expanding their business activities and creating employment to perform basic services that are key for business survival.

NOT SO FERTILE GROUND FOR GROWTH

There are also agriculture-specific binding constraints, which the Department of Agriculture, Land Reform and Rural Development (DALRRD) has started addressing collaboratively with the private sector. For example, for years the challenge of lack of modernising the Fertilizers, Farm Feeds, Seeds and Remedies Act 36 of 1947 has been highlighted as a significant threat to the registration and import of various agricultural input products.

These are critical products for improving the productivity and global competitiveness of the South African agricultural sector. Fortunately, the input providers are working with government to address this act's various challenges. This process should ideally continue in the spirit of a public-private partnership approach, leveraging all the sector's expertise to complete the process efficiently and allow the registration of all needed agrochemicals and other inputs.

Similarly, Onderstepoort Biological Products' (OBP) inability to produce the required vaccines for the South African livestock industry presents risks for major commercial livestock producers and the developing farmers who aim to build and

commercialise their herds alike. It is critical that National Treasury and the agricultural minister properly investigate any corruption and financial management issues at OBP.

INFRASTRUCTURE AND LAW ENFORCEMENT

The sabotage of local infrastructure is another major problem for all economic sectors. In 2021, South Africa's agricultural exports reached a record R180-billion under highly challenging conditions for exporters, who had to race against time trying to export perishable products using poor and often damaged infrastructure, while Transnet and various logistics value chain role players worked tirelessly with the industry to make the export season a success. From now on, the focus is on co-investing in improving the infrastructure. These efforts should be accompanied by improving security services to help curb the sabotage of the country's network infrastructure.

The security challenge extends beyond rail, with an increased need for proper police presence in rural South Africa to curb attacks on farms, stock theft and vandalism of infrastructure.

On land reform policy, the establishment of the Land Reform and Agriculture Development Agency by DALRRD, which President Ramaphosa also highlighted in the 2022 State of the Nation Address, has the potential to improve the pace of land redistribution and work collaboratively with the private sector. Hopefully, an improvement in land redistribution will be enough evidence that land reform can progress efficiently without pursuing policies such as expropriation.

Overall, the agricultural sector holds potential for growth and job creation in rural South Africa, which can best be achieved through deliberate partnerships. ■

IN 2021, SOUTH AFRICA'S AGRICULTURAL EXPORTS REACHED A RECORD R180-BILLION UNDER HIGHLY CHALLENGING CONDITIONS FOR EXPORTERS.

A CULTURE OF EXCELLENCE

Roux Wildenboer, head: agriculture at Absa Corporate and Investment Banking

Recent history has shown again that agriculture and its value chains are very complex and volatile. At the same time, these value chains are of critical importance as they provide us with one of the most basic human needs. This will further be magnified as the world population grows and the production, safety and affordability of food become more important.

Consider for a moment that domestic farmers enjoy none of the subsidies or regulated protection that their counterparts in the United States and Europe do. On top of this, we enjoy far smaller research and development budgets, and yet we consistently punch above our weight and lead in several primary agriculture and agro-processing fields.

CALLING YOUNG FARMERS

Whether it is wine, blueberries, citrus or grains – we excel. It is critical to start encouraging youth

on the African continent to embrace careers in agriculture. Recent events in Ukraine have increased food prices that will negatively impact the most vulnerable.

Apart from the economic benefits of participating in a booming agri-sector, there is a certain nobility to developing young farmers and entrepreneurs in this space. There is a lot of talk about environmental, social and governance (ESG) investing at the moment, and this clearly ticks the social part of that equation.

In April 2012, legendary United States investor and market commentator Jim Rogers made a bold pronouncement: farmers, not bankers, would be the next group driving Ferraris and Lamborghinis.

In an interview with *Forbes* magazine, he said: “More people in America study public relations than study farming. We have no farmers. You went to Princeton; nobody you went to school with became a farmer. I went to Yale; nobody I went to Yale with became a farmer. The average age of farmers in America is 58 years old. In Japan, the average age is 66. In Australia, it’s 58.”

In South Africa, the average age of farmers is currently 62. This is at odds with the median population age (that is 27). It is important that we highlight the attractiveness of the agriculture sector in Africa and find ways to bring young talent into the pipeline – particularly considering the youth unemployment crisis and global food security issues.

Many agri heavyweights have started to engage in academies that train young farmers. Despite these efforts, the dairy sector alone has more than halved in size to just 1 000 farmers in 2021. Although something is being done, it is not yet enough.

FUNDING AND OPPORTUNITIES

While farming does require a combination of both capital expenditure and working capital, there is significant appetite to fund deals, including:

- primary agriculture
- agro-processing facilities

- general working capital and production facilities
- specialist agriculture sector technology
- commodity finance.

The opportunities are significant, and being able to connect South African expertise with a Pan-African footprint means that Absa acts as a springboard onto the broader continent while we facilitate local deals.

While we haven’t quite reached the farmers in sports cars stage in the development of agriculture, there is no question that this is one of the economic growth sectors for the future with some very exciting projects that can be funded in the coming years.

Despite the many challenges, we look forward to engaging with forward-thinking agricultural businesses that see not only the economic benefit of the sector, but also feel a strong sense of responsibility to secure Africa’s food supply for the good of the broader continent. ■

Jim Rogers’ Forbes interview



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INVESTMENT IN AGRI INFRASTRUCTURE CRITICAL

Roux Wildenboer, head: agriculture at Absa Corporate and Investment Banking, writes that for the sector to shine, infrastructure support is needed



Agriculture, for the most part, has been a shining light for the continent and the investor community. Governments have recognised that agri is a driver of a couple of key aspects:

- overall economic growth
- job creation, particularly entry-level and micro-entrepreneurs
- food security
- commitment from all stakeholders to invest in research and development and critical infrastructure.

Unfortunately, these drivers need support to function. To fully realise the benefits of the agri opportunity on the continent, investment in infrastructure is critical. Without critical infrastructure support, the sector might still be able to produce, but will fall short when delivering.

Consider that 55 per cent of all Malawi's export costs are made up of transport costs, while 25 per cent of all cereal products produced on the continent are lost in the logistics chain.

South Africa has a very real challenge in that Transnet is our major mover of maize products, but only has the capacity to move 40 per cent of the total harvested each year – the rest has to be moved via expensive trucking routes. In 2021, Transnet was also the target of a cyberattack, which brought agri imports and exports to a grinding halt.

Until we can build critical capacity in these areas, African produce will prove to be expensive and unreliable.

Sub-Saharan Africa remains a net importer of food and is missing out on the solid increases

in improved commodity prices. This impacts the ability of the continent to secure valuable foreign exchange revenue that governments require to fund budget deficits.

SUCCESS STORIES AND OPPORTUNITIES

Although some success stories exist, it is only a light at the end of a tunnel. These examples are mere proof that Africa has the potential, and more needs to be done.

The cashew nut industry in Ivory Coast is surging as a result of government taking an investor-friendly stance toward capacitating this strategic sector.

In Tanzania – which currently imports 50 per cent of its sugar requirements – government has deemed this commodity a strategic one. The equivalent of R1.5-billion and 5 000 hectares have been set aside to develop local capacity. We expect this investment in the entire sugar value chain to have a profound effect on the local sector here and build a product that will be export-ready in the next decade.

Countries like Mozambique, Rwanda, Malawi, and Uganda have also seen private and public sector investment in infrastructure rise noticeably. We believe this will receive a further kicker from the improvement in intra-Africa trade.

The fertilizer sector is another one that offers significant growth prospects, and countries like Zambia are investing heavily here. For context of the scale of the opportunity, the average fertilizer application per hectare across the globe is 142kg. In South Africa, this currently sits at 66kg, while sub-Saharan Africa is at 19kg.

In Lesotho, progressive legislation around cannabis has attracted interest from local and foreign investors, and is a trend many financiers are watching with interest.

Closer to home, we have seen a bumper citrus crop, which represents a very significant export opportunity. Feedback from the industry suggests that although the investment in harbour and port infrastructure still has some way to go, it is starting to pay dividends and being well received by the local citrus value chain.

These success stories are proof that with the right support structures, agriculture is one of the economic bright spots on the continent.

As a Pan-African bank specialising in the agri sector, we look forward to working with our clients to facilitate their growth and see the sector shine. ■



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AGRICULTURE: THE STARTING POINT TO ALLEVIATE HUNGER

A significant financier in the agricultural sector, Absa is heavily invested in the wellbeing of agriculture, especially as it contributes to food security. By Roux Wildenboer, head: agriculture at Absa Corporate and Investment Banking

As the continent emerges from the COVID-19 pandemic, the importance of food security cannot be overstated. This has again been highlighted by the conflict between Russia and Ukraine, which has put food supply chains and prices under renewed pressure and disruption. As both these countries are significant exporters of grains and oilseeds, this will put food-insecure countries in Africa under renewed pressure.

Food security means having both physical and economic access to sufficient food to meet the dietary needs for a productive and healthy life. A family is food secure when its members do not live in hunger or fear of hunger. As of 2020, in the whole of Africa, 282 million people were experiencing hunger, meaning about one-third of the continent was going hungry. This scenario will sadly deteriorate under current circumstances.

Apart from the expected short-term factors of the war and COVID-19, the fundamental reasons for food insecurity include urbanisation, water security, climate change and the amount of agriculture and food products wasted through inefficient logistics channels. While

issues such as water security and climate change are longer-term and structural in nature, the matter of inefficient logistics is one we need to focus on in the near term. It is estimated that between 20 and 35 per cent of all primary agriculture products are lost, this impacts the African continent both internally and, in terms of competitiveness, in the export market.

For a continent blessed with resources, this is an untenable situation. The world needs a very clear and urgent call to action to address the growing issue of food insecurity in Africa specifically. This is why Absa works closely with businesses looking to achieve food security and Zero Hunger – the second of the UN Sustainable Development Goals.

INNOVATION NEEDED

Specialised development and innovation in the African agriculture sector focused on the following features won't necessarily solve all the challenges, but are obvious short-term wins:

- Yields will have to improve significantly. We can't just produce more food – we have to do it more efficiently: with less land, water and power. Over the last year, we have

seen increases in the production of grains in important sub-Saharan countries. These increases were mostly due to increases in land use and favourable rains – yields per hectare have remained the lowest in the world, and this is not going to help us grow sustainably.

- Government and the private sector will need to collaborate. Land is often a contentious topic – particularly in countries like South Africa – and this has resulted in heightened tensions between the public and private sectors. Agriculture requires long-term thinking and planning, and co-ordinated strategies that align with private sector capital and skills are key.
- Most African farmers are small-scale farmers, producing on farms less than five hectares. This limits the access and affordability to yield-enhancing tools such as mechanisation, more sophisticated seeds, farming technology and know-how. This poses challenges to policy, the implementation of technology, logistics and finance, which are different compared to larger-scale commercial farming.
- Investment in research and veterinary capacity will be key. Diseases such as foot-and-mouth have played havoc with South African markets; so capacitating these sectors could grow both local and export markets.
- Logistics networks will have to improve significantly to reduce losses of current production, and effectively transport and store the increased production, which will be required in the future. While Africa is indeed the continent with the most remaining unrealised agri-potential, it is also the least developed in terms of logistics – the contradiction and need for improvement are obvious.

With a destination in mind, those at the steer will agree that appropriate financing structures that support the entire agriculture value chain together with better government policies are the main drivers for success.

As Africa's leading Pan-African banking group with specialist skills in agriculture financing, we look forward to partnering to enhance food security on the continent. ■



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The demand for citrus continues to grow on the back of health-conscious consumers.

AGRI EXPORTS KEY TO GREATER ECONOMIC INCLUSION

South Africa has become a formidable player on the world's fresh produce export stage. As the largest exporter of macadamia nuts and one of the bigger players in the global citrus, avocado and blueberry markets, our farming sector offers a ray of light in an otherwise gloomy economy. But how much further can these industries expand, and is there room for transformation? By **DUMA GQUBULE**

Industry experts say South Africa can generate more than 1 million jobs and livelihood opportunities in the R300-billion agricultural sector, and tap into huge opportunities in export markets over the next decade. "Agriculture is an important sector that directly contributes approximately 2.5 per cent of GDP," says Roux Wildenboer, sector head for Agriculture at Absa. "When all upstream and downstream linkages are considered, it is estimated that agriculture directly and indirectly supports 12 per cent of the country's GDP. This is particularly relevant in

the rural areas of South Africa, where the agricultural sector is often the largest employer and source of economic activity.

The sector directly employs 780 000-820 000 people (it varies between seasons). A substantial portion of this employment occurs in areas where there are few other employment opportunities.

The sector also, despite the pandemic, showed growth of 13 per cent and 8 per cent in 2020 and 2021 respectively, with export of agri products averaging at approximately R156-billion in 2020 and R188-billion in 2021."

National Agricultural Marketing Council chief economist Sifiso Ntombela adds thought that, "while the current Russia-Ukraine war could affect agricultural trade, the sector can grow

in the medium to long-term if the government increases investments in emerging farmers and promotes growth in fast-growing export sectors."

Industrial policy expert Nimrod Zalk adds that as South Africa searches for interventions that could generate large-scale employment, effect structural and racial transformation, and grow exports, a fundamental opportunity to realise these objectives is hiding in plain sight. "There is a large-scale, but overlooked, opportunity to promote the growth of a range of high-value agricultural products that are both labour intensive and export oriented."

Many agricultural sub-sectors have shown significant growth over the past two decades, especially in export markets. Agricultural volumes have doubled during this period and South African agricultural exports have soared more than 10 times – from R15.8-billion in 2000 to R168.5-billion in 2020. Star performers include apples, pears, oranges, soft citrus and grapes, which have grown exponentially since 2000, according to the Abstract of Agricultural Statistics 2021.

AN UNTRANSFORMED INDUSTRY

The rapid growth in exports received its first boost when the agricultural sector was deregulated in the 1990s and export markets opened up.

"WE SAW WHAT IS POSSIBLE WITH THE PRESIDENTIAL EMPLOYMENT STIMULUS, WHICH PROVIDED GRANTS TO 50 000 FARMERS: ALTHOUGH GOOD RAINS HELPED, WE HAVE HAD THE SECOND-LARGEST CROP EVER." – SIFISO NTOMBELA

The deregulation was, however, a double-edged sword as it benefited South Africa's established farmers who were in a position to capitalise on newly opened export markets, but made it difficult for emerging black farmers to thrive in an industry where the government had withdrawn farmer support. Decades later, the sector is still struggling to transform and bring a greater pool of black farmers into export-oriented crop farming.

Ntombela laments that there has been very little support given to emerging farmers. "There are about 2.3 million household farmers, according to Statistics South Africa. Imagine what would happen if we supported half of them? We saw what is possible with the Presidential Employment Stimulus, which provided grants to 50 000 farmers: although good rains helped, we have had the second-largest crop ever. We also have about 300 000 emerging farmers, who have the potential to become commercial farmers. The Land Bank could create an instrument to de-risk their operations."

Wildenboer agrees and adds that while we need commercialisation, we also need interventions and strategies to improve access to finance, seed, technology, and knowledge for the small-scale farmer. This can only be achieved if input suppliers, governments, finance institutions and off-takers develop models that can serve small farmers. Farming is risky, and this will require risk sharing, in various degrees, between the governments, DFIs, input suppliers and off-takers.

In terms of industry growth, Ntombela sees huge opportunities over the next decade in fruits, nuts, soybeans, cotton and mohair. "Many high-value brands such as Gucci and Louis Vuitton use South African mohair. As we revive our clothing industry through the Retail-Clothing, Textile, Footwear and Leather Master Plan, there could be increased demand for cotton."

BETTING ON BLUE

Blueberries are also touted to be a big winner as demand for this superfood continues to grow locally and worldwide. But rising input costs could put a damper on profits, slowing down the expansion of this labour-intensive industry. Louw Pienaar, a senior analyst at the Bureau for Food and Agricultural Policy (BFAP), notes that global prices are set to increase slightly in the medium term, as demand for the berries continues to grow amid a slowing down of global supply. "Considering big expansions in Peru and Chile, South Africa's room for growth is largely dependent on what the South Americans end up producing. Blueberries are, however, growing



Sifiso Ntombela



Avocados are a lucrative export crop.

in popularity among high-income households in South Africa, presenting a stable market, albeit one sensitive to price shocks.”

NOT JUST A NUT

South Africa has also become the world’s largest producer of macadamia nuts, with a market share of 26 per cent. The industry exports 97 per cent of production, with the value of exports growing from just under R1-billion in 2010 to R4.5-billion in 2019, and employs more than 10 000 permanent workers.

However, this year was the first in over a decade in which macadamia prices paid to farmers decreased. This symbolises a saturation of the market, indicating that growth in this industry has perhaps reached its peak. Many exporters are nevertheless of the opinion that the price decline represents a greater opportunity within the industry – that of value adding and product development.

Roelof van Rooyen, director of Marquis Macadamias, says that since macadamia nuts only make up less than 5 per cent of the global nut basket, there is much room to grow consumption. “However, investments in product development like ice creams and chocolate bars will only come when big food companies can be assured of a consistent supply of quality product, at stable prices. The tripling of the global macadamia nut crop in the next 10 years, along with slightly softer prices, creates the perfect environment for product innovation. This means future farmers can still reap the rewards of macadamia nut farming.”

PICK THE RIGHT CROPS

Zalk says South Africa is dominated by land- and capital-intensive field crops and livestock that employ less than one person per hectare, with many sub-sectors employing as few as 0.02 workers per hectare. However, deciduous and citrus fruits, fresh vegetables, berries, nuts, papayas, bananas, avocados, pumpkins, tobacco, tomatoes and flowers are 80–160 times more labour intensive.

BFAP estimates that around 200 000 jobs could be created mainly through expanding the production of export-oriented, high-value products, says Ntombela. “The largest tracts of potentially arable land lie in former homeland areas – where unemployment and poverty are almost endemic – particularly the Eastern Cape, Limpopo, the North West and parts

of KwaZulu-Natal. The multiplier effect on up- and downstream manufacturing and service industries could create an additional 1 million jobs. Export-oriented horticultural products such as fruit are high value, generating the highest returns per unit of land relative to other agricultural commodities.”

KEY CHALLENGES

Agriculturalist and Land Bank board member Andrew Makenete says that while there is a need to focus on export crops, the infrastructure constraints at Transnet, whose rail network and ports are preventing South Africa from taking full advantage of the export opportunities, must be addressed. “These export industries also need access to water. We have to find a way to award land and water rights together to new entrants.”

Water is possibly one of the biggest constraints to expanding these high-value export crops, even among those who do have water rights. New low-flow drip irrigation technologies could, however, be a game changer, as these systems allow for a far more efficient use of water than older sprinkler systems. Michael Esmeraldo, agronomy manager at irrigation company Netafim, notes that low-flow drip irrigation could reduce water usage by 30 per cent. The lower pressure also means that irrigation systems do not require large amounts of electricity and booster pumps.

THE FINANCE QUESTION

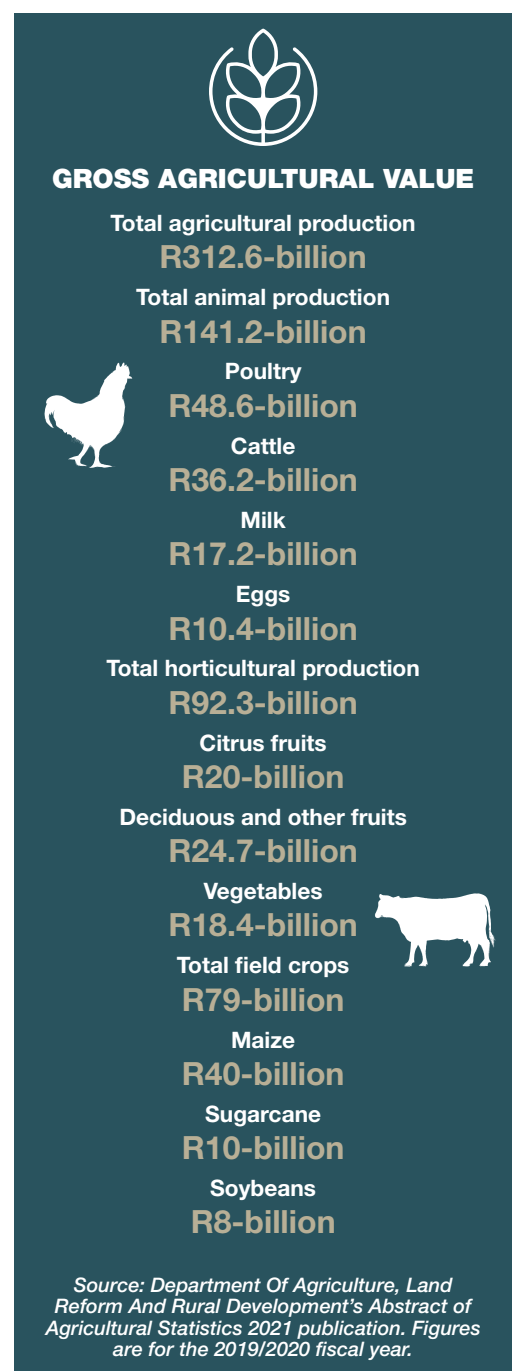
While new technologies go a long way toward solving on-farm problems, the greater climate in which emerging farmers need to operate still presents challenges. Financing models have not been able to successfully overcome the diversity of challenges in this landscape. Since higher-value crops require a higher level of investment, this is an area of particular concern.

Makenete believes that the Land Bank needs to be refinanced and change its financing structure. “It cannot raise all its finance on capital markets and pay market rates to fund its developmental mandates. There has to be a dedicated grant allocation from the fiscus that can be blended with private capital. There must be transparency in the funding of development mandates so that the public knows what it is paying for.”

Wildenboer adds that what the sector needs is sound policies and governance, and prioritising physical and non-physical infrastructure.

- “Obvious measures to assist the sector include:
1. Allow for genetically modified seeds, especially for grains production;
 2. Cut the red tape and allow for policy measures to ease imports and exports;
 3. Prioritise investments into agricultural research aligned with the country’s natural production opportunities.”

Experts are in agreement about the sector’s potential and the obstacles in the way of accelerating its growth and creating jobs, Agriculture, Land Reform and Rural Development Minister Thoko Didiza must finalise the long-awaited industry master plan to unite all stakeholders around a common vision for the future of agriculture. ■



The sugarcane industry is struggling to remain afloat amid decreasing demand.

FIGHTING FOR SURVIVAL

Rising oil costs could be sugar's lifeline as demand for biofuels grows, but there are a host of challenges to overcome.

By COLLEEN DARDAGAN

As South Africa's sugar industry fights for survival, the production of bioethanol as a downstream value add is considered key if the R11-billion cane-growing sector is to return to its former health.

The industry has welcomed amendments to the Petroleum Products Act (1977) to allow for the mandatory blending of biofuels with both petrol and diesel. However, they say that for the plan to work, a pricing mechanism aimed at incentivising the commercial production of green fuel is an imperative.

SA Canegrowers CEO Dr Thomas Funke says while the amended regulations were a step in the right direction, the pricing mechanism must consider the cost of producing ethanol from sugarcane. "At present, this cost would have to be equivalent or higher than the local market price for sugar. Practically then, the price for sugarcane-based ethanol could be the equivalent price of the local market average sugar price as determined by the South African Sugar Association from time to time."

In the amended regulations, the government has proposed a regulated price equivalent to the Basic Fuel Price (BFP), which is feasible at higher oil prices, but not if the oil price falls below US\$70 per barrel.

The BFP for March listed by the Department of Minerals Resources and Energy was almost R11/litre for petrol, more than R11/litre for diesel and could increase even further as the war in the Ukraine continues to escalate. "The BFP on its own is not of sufficient value to allow for the successful and sustainable establishment of a viable biofuels industry," says Funke. "The average price of sugarcane is currently R640/tonne. Assuming that 70 litres of ethanol

can be made from a tonne of cane, that would make the cost of ethanol R9.14/litre. This excludes the cost of processing the sugarcane into ethanol, which in our estimation is around R2.50 to R3 per litre extra."

Richard Nicholson, economic research manager at SA Canegrowers, pegs the cost of growing a tonne of sugarcane at R682.02 against a gross return of R652.91/tonne projected for the 2021/22 season. "Growers are not making money now as the numbers above include the 100 per cent increase in fertiliser costs, 37 per cent increase in diesel costs and the 7 per cent increase in the national minimum wage. This also includes the impact of the increased sugar tax on the relative value price."

SOARING POTENTIAL

In a 2020 research document titled *The Viability of South African Sugarcane as Feedstock for Sustainable Aviation Fuel Production*, produced by the Roundtable on Sustainable Biomaterials and SA Canegrowers, South Africa's sugarcane crop was considered a "wholly viable feedstock for the production of Sustainable Aviation Fuel (SAF).

"Considering both aviation and road transportation, high-level estimates suggest local South African demand for fuel ethanol could be approximately 2.4 billion litres annually, with 75 per cent (1.8 billion litres) from aviation, and 25 per cent (600 million litres) from the national fuel blending mandate."

Based on current yields, the report says, the country's sugarcane farmers can produce about 700 million litres of ethanol from sugarcane, representing about 30 per cent of the estimated potential ethanol fuel demand for the country.



Sugar is labour intensive and the industry's demise would have far-reaching consequences.

A SECTOR IN DECLINE

The industry estimates at least 1 million rural people depend on the production of sugarcane for their livelihoods in KwaZulu-Natal and Mpumalanga. However, the sector has declined steadily since 2008 due to unsustainable input costs hikes linked to fuel, electricity and labour cost increases, the worst drought on record in 2015 and 2016, and the implementation of the Health Promotion Levy by the South African government in 2018, which will increase from 2.21c/g to 2.31c/g for beverages with more than 4g of sugar content per 100ml from April this year.

Reportedly the introduction of the tax has seen an estimated 20 per cent reduction in domestic market demand, with losses totalling some R2.2-billion in revenue. Growers are expected to produce more than 17 million tonnes of sugarcane this year.

The steady investment by the country's major milling groups into operations in the Southern African Development Community countries has further exacerbated the industry crisis, since they are unlikely to get a return on investment if demand for sugar does not increase.

In the 2021/22 harvesting season about 13 per cent of the total crop was not processed due to milling inefficiencies and stoppages, which included the political violence and looting in July 2021. ■

"THE PRICE FOR SUGARCANE-BASED ETHANOL COULD BE THE EQUIVALENT PRICE OF THE LOCAL MARKET AVERAGE SUGAR PRICE AS DETERMINED BY THE SOUTH AFRICAN SUGAR ASSOCIATION." — DR THOMAS FUNKE



CELEBRATING A DIVERSE MARKET

More consumer segments mean more market opportunities for fresh produce, writes agricultural economist **LINDIE STROEBEL**

Vegan and organic, meat and two veg, *pap* and *shebo* – we have it all in South Africa. A diverse and complex demographic make-up creates a wide range of different consumer segments, which in turn provides a wide range of marketing opportunities for fresh produce. The supply chain delivering to high-end consumers looking for convenience, quality and even theatrical presentation is completely different to the supply chain delivering to the cash-strapped consumer buying daily staples from the roadside spaza shop. Fresh produce producers should take care to recognise the valuable opportunities that lie within this diversity.

High-end South African consumers have access to some of the finest produce in the world, which adheres to standards that align with European demands for quality, minimum residue levels, and ethical, social and environmentally friendly practices. But South Africa's consumers are not homogeneously defined by its high-end segment, despite their significant spending value. In fact, a very small portion of the population falls within Living Standards Measure (LSM) 8-10, with a monthly salary of R13 210 to R32 521.

The LSM is a marketing tool used in South Africa to classify the population into different categories of living standards. It categorises people using urbanisation, education level, ownership of cars and access to appliances as measurement factors. This is relevant to

understanding consumer patterns. Available retail options in the urban centres are therefore different from those in the less populated rural villages. Owning a car determines your mobility to reach certain market places, while owning appliances such as freezers and refrigerators determines your buying patterns. Without a fridge, you will probably buy small volumes of fresh produce on a daily basis while travelling from work to home.

MAJORITY SPEND

The majority of the South African purchasing power in value falls within the LSM 5–7 bracket (monthly salary of R4 165 to R11 263) residing both in urban and rural areas. According to Statistics South Africa, 64 per cent of the population now lives in urban areas. Unfortunately, the population that falls within the LSM 1–4 category has increased since the onset of the pandemic, especially since almost half of the population is now unemployed. Generally, these households depend on grants for household income, but include people with salaries of up to R3 000 per month.

The consumer preferences and requirements of people within LSM 5–7 and especially the vast number of vulnerable people within LSM 1–4 differs greatly from those of LSM 8–10. This results in a “rainbow” of consumers, with a concomitant “rainbow” of marketing options for the fresh produce industry.

A DIVERSITY OF CHANNELS

Formal channels consisting of the export market, retail programmes, processing contracts and restaurants are very specific about what they need, with produce expected to be presented in perfect bunches of uniform size, while the informal channels are left to absorb the less-than-perfect produce. This reduces food waste and provides a market for almost all kinds of produce.

But make no mistake, while the informal markets don't mind deformed fruit and won't pay extra for environmentally friendly practices, they are very particular about product quality. The informal trader buying one box of tomatoes a day to sell at his or her stand relies on each and every fruit in that box to be of good quality. If one out of the 10 tomatoes is bad, the vendor loses 10 per cent of their sales that day.

The biggest benefit of having these diverse market channels is the access they provide to South Africa's vast array of farmers. Any grower, large or small, has a market place to sell all or some of their produce. Any buyer, from formal retailers and restaurateurs to spaza shop owners, has access to fresh produce to their liking. Their selling and buying channels and practices reflect the specific requirements and price sensitivity of their consumers. Other benefits include reduction in food waste. The agricultural sector and consumer groups alike should treasure and promote diverse market channels and pay more attention to preserving our marketing platforms. ■

THE BIGGEST BENEFIT OF HAVING THESE DIVERSE MARKET CHANNELS IS THE ACCESS THEY PROVIDE TO SOUTH AFRICA'S VAST ARRAY OF FARMERS.



FRUIT QUALITY LIES IN THE EYE OF THE CONSUMER

As the list of boxes to tick in meeting the demands of fruit-hungry consumers continuously grows, the industry is undertaking costly breeding programmes, branding exercises and marketing campaigns to hit the mark. But while the consumer wish list has a role to play, there is really only one factor that matters when selecting fruit: appearance. By COLLEEN DARDAGAN

To meet the growing demand for top-quality fruit that looks perfect and tastes delicious while at the same time telling a good production “story”, the fruit industry is spending years and millions of rands on developing marketable varieties. This has resulted in a highly competitive environment, with more than 70 breeding programmes from all over the world operating in South Africa’s deciduous fruit industry alone.

Dr Leon von Mollendorff, general manager at the Stellenbosch-based deciduous fruit licensing company Culdevco, says the development of a new variety of apple, pear, plum, nectarine or peach could take more than 15 years with costs running into millions of rands a year. “Conventional breeding involves the examining thousands of

individual plants for different characteristics ranging from agronomic performance to end-use quality. That means controlled hand pollination with selected parent plants, then developing and planting thousands of seedlings in the field. Promising selections are made for a further, more in-depth second evaluation phase.”

During the second evaluation phase the selected seedlings are grafted onto different rootstocks and planted in different climatic regions in the country. They are then evaluated in for, among others, adaptability, yield, precociousness, fruit quality, and whether or not they will be acceptable in the major local and export deciduous fruit markets.

The marketing of a new variety can also run into millions of rands, as they are first

registered for plant breeders’ rights and then trademarks. To allow for further effective control on a new variety, it is important to manage the fruit through the signing of agreements at all levels of management.

SUSTAINABLE, TRACEABLE, EQUITABLE

Raisins South Africa CEO Ferdie Botha says as the industry has been looking to increase its market share in the UK and Europe, international trends are driving positioning. “We place a very strong emphasis on food safety, taste and produce with a good shelf life. It’s basically the best quality at the best price, but quality relates to both intrinsic and extrinsic values. These include conventional versus organic production and whether or not the value chain is traceable from start to finish.

“Then in the higher-income markets such as Europe there is a strong focus on health, convenience and the ‘story’ of the product. With an increasing focus on sustainable production, farmers need to pay attention to social wellbeing, environmental integrity and economic resilience.”

Von Mollendorff says both domestic and international fruit buyers insist on fair and equitable farming systems. “The South African deciduous fruit industry and Culdevco have different programmes to support previously disadvantaged farmers. Our aim is to help them to become commercially viable and to be able to market their fruit, both in South Africa and abroad.”

INVESTING IN A BRAND

Apple and pear distributor Tru-Cape has been investing in their brand by developing variety-specific soft toys; a farm game application to educate users on growing, picking and packing; music videos; TikTok campaigns; and a strong and growing social media presence. “From the get-go in 2001 when Tru-Cape was first started, it was decided that a brand rather than a commodity would earn a higher premium,” says Tru-Cape Fruit Marketing’s marketing director, Conrad Fick. “Half of our marketing spend was initially invested in national television campaigns but this has shifted over the years to a number of branded marketing properties.”

While these trends certainly aid in pushing consumers towards produce, they only go so far in stimulating demand. Hortgro group communications manager Elise-Marie Steenkamp says while there are some South African brands that perform really well in the market, such as Pink Lady and Kanzi, consumers generally buy produce with their eyes. “Most consumers would rather eat a very red apple, even though a blush variety or green apple tastes better.” ■

“THE SOUTH AFRICAN DECIDUOUS FRUIT INDUSTRY AND CULDEVCO HAVE DIFFERENT PROGRAMMES TO SUPPORT PREVIOUSLY DISADVANTAGED FARMERS.” — DR LEON VON MOLLENDORFF



Jenniville Uithaler from the Misgund Trust gets the Best Producer Award.

DECIDUOUS FRUIT INDUSTRY GROWS INCLUSIVELY

HORTGRO, together with the Deciduous Fruit Development Chamber and the Deciduous Fruit Industry, hosted the inaugural Transformation Awards gala dinner

On 31 March 2022, the Deciduous Fruit Industry (DFI) hosted the inaugural Transformation Awards gala dinner in Stellenbosch Deciduous Fruit Industry. It was a momentous evening where all the short-listed candidates swapped their overalls and Wellingtons for black tie attire.

The event was jointly hosted by HORTGRO, the South African deciduous fruit industry organisation, and the Deciduous Fruit Development Chamber (DFDC-SA).

CONTEXTUALISATION AND TRANSFORMATION

Dr Thembi Xaba, CEO of DFDC-SA, contextualised the Transformation Awards, saying that in any industry, role players and workers need not necessarily be incentivised with rewards as such, but recognition of excellence and black talent in the deciduous fruit industry was vital.

DFDC-SA chairman Ismail Motala said that transformation is not a touchy subject if you are transformed. The question is: how do we get there? "We know that there is a level of saturation in the Western Cape and therefore we need to increase the footprint of our industry in the nontraditional areas. We can duplicate this to other areas, making it a success story in South Africa."

HORTGRO AND TRANSFORMATION

Hortgro chairman Nic Dicey said that economic development with a value chain approach and land reform, supported by socioeconomic rural development, skills development and training, form two of the key focus areas within Hortgro that are crosscutting across the whole spectrum of industry programmes and services.

"Transformation in the agricultural sector has been a challenging topic for a long time and the correct models to follow have been debated, investigated, and implemented by numerous role players and industries to ensure workable, sustainable, emotion-free and equitable ways of addressing this highly complex and sensitive topic. Throw into the mix food security, land claims, generational family ownership and the volatility and long-term nature of the agriculture sector and a simple answer to address this need is not clear-cut.

"Hortgro believes that impactful, meaningful and sustainable transformation is only possible if we duplicate our successes and learn from our mistakes. There are no quick fixes or silver bullets in our long-term industry. Transformation is a process requiring generational succession and certainly not ad hoc events."

KEYNOTE ADDRESS

Department of Agriculture, Land Reform and Rural Development Minister Thoko Didiza said in her keynote address that without success, there would be no need to celebrate.

"In every challenge, there is always an opportunity. And listening to what the DFI has been doing in terms of transformation, it is in line with Agriculture's Agri-Master Plan of inclusive growth, prosperity, and sustainability. Agriculture as sector must feed its nation as a primary objective. We must deal with food security on a local as well as national level.

"Today, the DFI is saying they looked at this country, and we need to go further than the Western Cape. There are possibilities in the Eastern Cape, Limpopo, the Free State and Gauteng. What about Kwa-Zulu Natal? I think there are lots of possibilities. What I like most about the DFI is that when you talk growth in South Africa, you need to factor in traditional communities. That's where you have the people, the land and water as well as other natural resources.

"In agriculture, each day is a challenge. If you don't have faith, don't enter this sector. Easy as it may look from the financial perspective, remember the returns in the long-term are not only economical, but also social. It is the sector of our economy that has a larger capacity to employ people than any other. But it is also an industry that can create a balance in terms of migration. Because if our rural areas are cultivated and attracting some investment, you will not have more people moving to the cities. It is also one of those industries that can accelerate your development as a society. If agriculture thrives in rural areas, your infrastructure and logistics would be better." ■

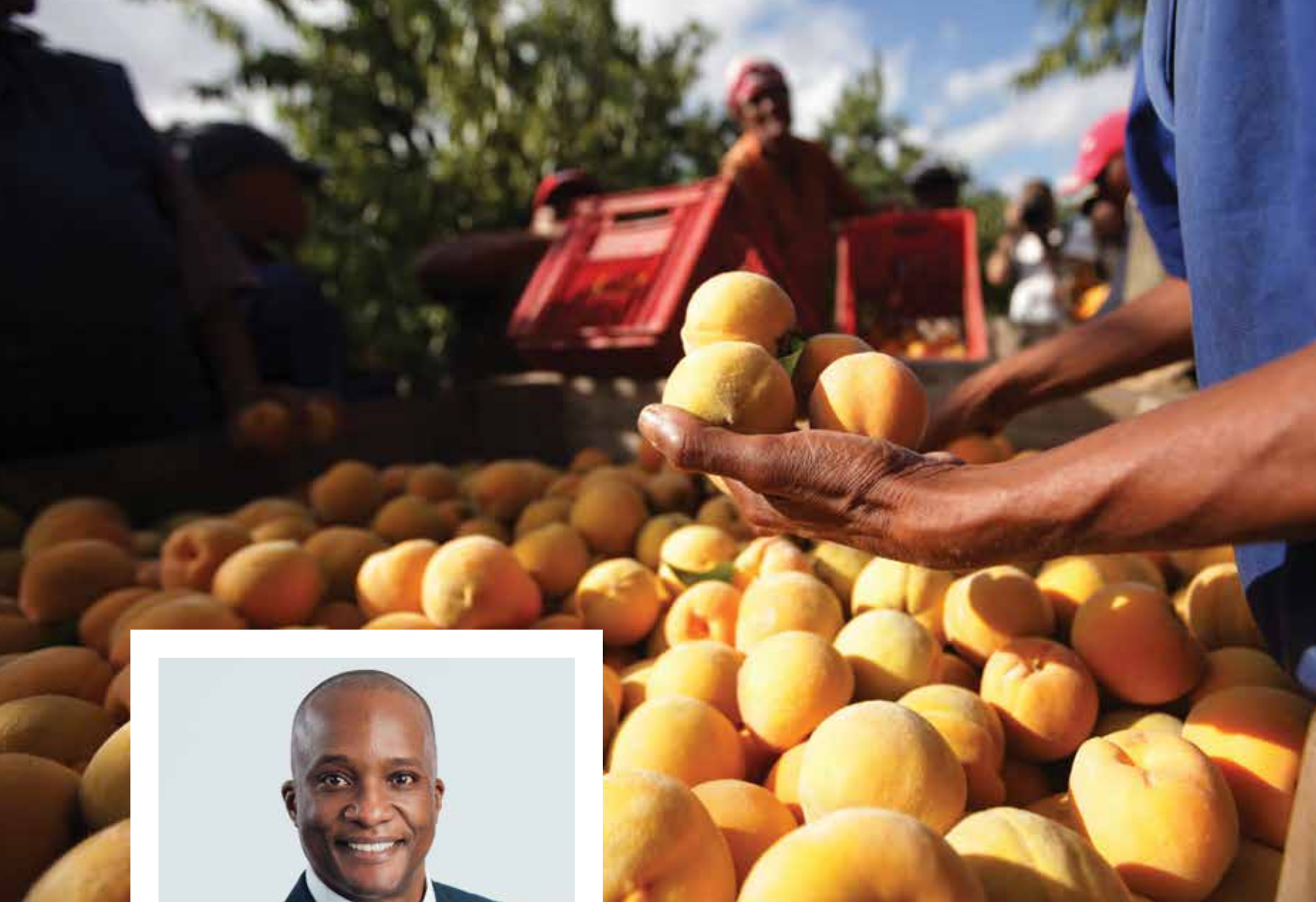


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 🌐 www.hortgro.co.za

"THERE ARE NO QUICK FIXES OR SILVER BULLETS IN OUR LONG-TERM INDUSTRY. TRANSFORMATION IS A PROCESS REQUIRING GENERATIONAL SUCCESSION AND CERTAINLY NOT AD HOC EVENTS." – NIC DICEY



“The Kgodiso Development Fund will prioritise activities that support the growth and scaling of black-owned emerging farming enterprises and SMME businesses, promote regenerative agriculture practices and encourage the adoption of innovation to revitalise local production within South Africa’s agriculture sector” explains Executive Director, Diale Tilo.

Kgodiso Development Fund to help build a sustainable food system in South Africa

Food and beverage company PepsiCo launched the Kgodiso Development Fund, a five-year, R600 million investment which hopes to transform the food system in South Africa. It will look to create ‘shared value’ solutions that ultimately help build a sustainable food system by creating local employment opportunities and increasing local procurement and supplier diversity.

Although founded by PepsiCo it will be run as an independent Fund, with an Executive Director and a Board of Trustees.



The Fund will allocate R300 million to agricultural development to assist black-owned emerging farming enterprises to upscale their businesses and ensure that they are provided with opportunities to integrate into the value chain. “This will help transform the country’s agricultural landscape by developing a new generation of sustainable farming enterprises,” says Diale Tilo, Executive Director, Kgodiso Development Fund.

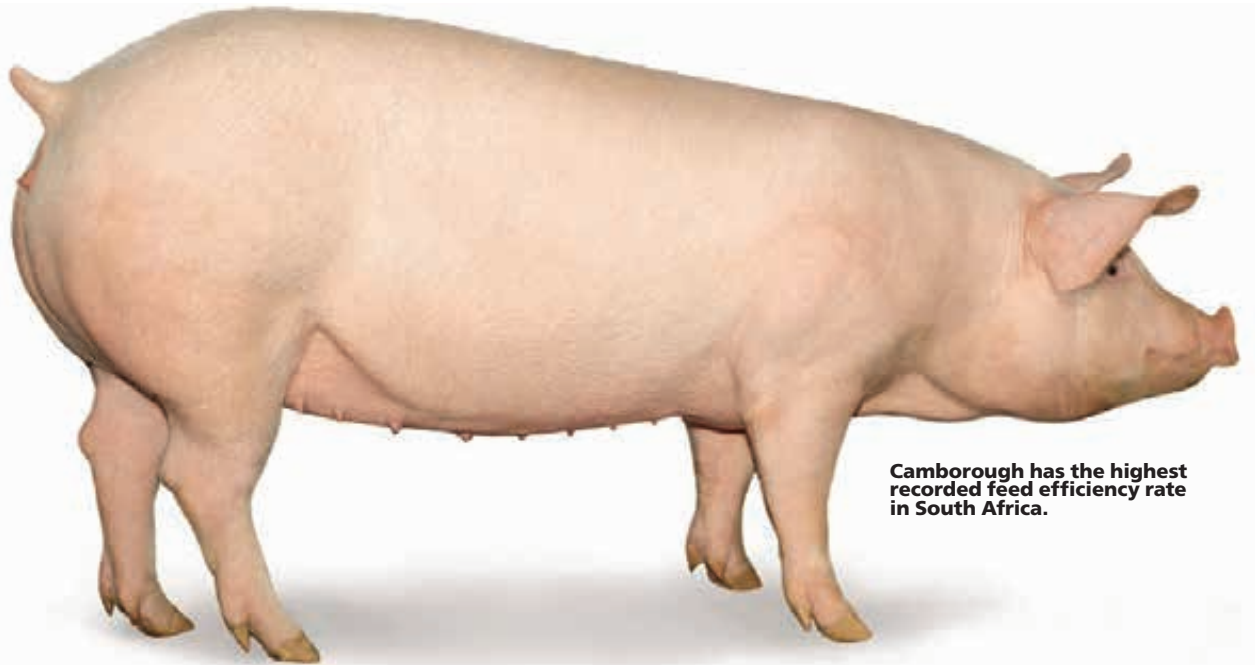
PepsiCo procures more than 1.5 million tonnes of local maize, wheat, potatoes, oats and raisins every year and employs approximately 13 000 people in 70 warehouses and 46 production facilities on the continent.

Importance of Partnerships

“We believe this Fund is a critical initiative which will provide effective solutions to the agriculture challenges in South Africa. What makes this powerful is the collaboration effort brought by various stakeholders,” says Tilo. With strategic partnerships, the Fund aims to build a more sustainable food system for Sub-Saharan Africa.



www.kgodisofund.co.za



Camborough has the highest recorded feed efficiency rate in South Africa.

HIGH-QUALITY GENETICS DRIVE SUSTAINABILITY FOR PORK PRODUCERS

Pig farming is a race against time as genetics decline every month of a pig's life, influencing feed conversion and reproduction rates. If farmers want to stay ahead of the curve, they need to start with the best. While the ban on importing live animals has curtailed the industry's genetic pool, frozen semen has offered a solution, reports **LINDI BOTHA**

When African swine fever swept through GTG Fourie Piggeries in Potchefstroom two years ago, owner Charlie Fourie lost his entire herd of 1 400 sows. Although it was a massive blow to this family enterprise, it gave Fourie the opportunity to start with a clean slate, using superior genetics.

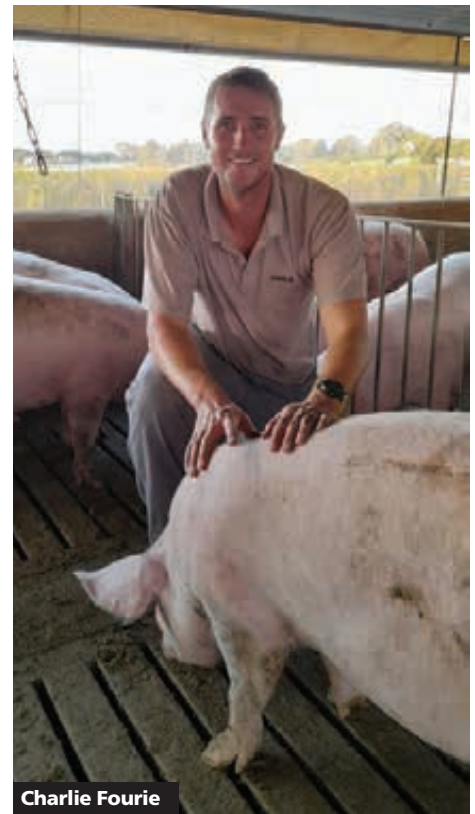
"Our previous herd had a genetic lag of about four years, with our index average sitting at 23 points," says Fourie. "I had good genetics, but I was not achieving the results I wanted and knew could be achieved."

Genetic potential, measured as a selection index, represents the inherent ability of an animal to contribute to production profitability. An index allows an accurate comparison of each animal to its peers based not only on its own performance information but also that of the animals to which it is genetically related. Higher genetic potential is associated with a higher index. An index of 100 is used as a benchmark. Since pigs lose on average approximately 18 index points per year,

it is important for producers to drive genetic improvement through selecting replacement animals with good genetic values like like feed conversion ratios.

Immarie Smal, swine nutritionist responsible for genetic services at PIC South Africa, explains that the genetic potential of one's animals has a major influence on the productivity and profitability of a pig enterprise. "Although a combination of nutrition, health, environment and management influences the expression of genetic potential, these cannot make up for a poor genetic foundation in the animal, just as an excellent genetic foundation cannot make up for poor nutrition, environment or management."

Starting with the best genetics is therefore crucial to staying ahead of the cost-price squeeze, where farmers need to increase their output while decreasing their input. This is where Fourie has gained a genetic advancement through using imported frozen semen from some of the best boars in the world. "I get



Charlie Fourie

"THE ONLY WAY TO IMPROVE YOUR HERD IS TO BUY IN GILTS WITH HIGH INDEXES, AND USE HIGH-INDEXED SEMEN."

— CHARLIE FOURIE

“ALTHOUGH A COMBINATION OF NUTRITION, HEALTH, ENVIRONMENT AND MANAGEMENT INFLUENCES THE EXPRESSION OF GENETIC POTENTIAL, THESE CANNOT MAKE UP FOR A POOR GENETIC FOUNDATION IN THE ANIMAL.” — IRMARIE SMAL

semen every six weeks from PIC, which imports it from an elite PIC Boar stud in Canada which has the highest index points in the world. So by using that semen in my females, I get a big jump in index points in the resultant litters. Through this system, I have managed to lift my average index point across the farm to 80.”



Irmalie Smal

TANGIBLE BENEFITS

This lift in points brought tangible benefits to the business. The herd’s feed-conversion ratio went from 2.7kg of feed for a 1kg weight gain to only 2kg of feed for the same gain. “At 700g of feed per pig, it results in a massive saving across the herd,” says Fourie.

For small-scale farmers, the advancements that come from better genetics are especially lucrative when considering the quicker time to slaughter weight. While not all pork producers are registered in South Africa, of those that are, 78 per cent are small-scale farmers. This represents a significant opportunity to grow these farmers through better genetics, all the while reducing poverty.

Smal states that the latest innovations and technology have not only brought the time to reach 136kg down by 17 days, but reduce the needed feed by 21kg. “PIC’s flagship parent female, Camborough, plays a big role in improving local herds. This super-sow has been bred for high prolificacy combined with least cost to produce a kilogramme of pork. On average, she consumes 100–150kg less feed per year than her competitors.”

While better genetics bring invaluable benefits to commercial growers, the advantages they offer to small scale farmers are often the difference between farming and not farming. Kgadi Senyatsi, head of business development at the South African Pork Producers’ Organisation, notes that while many small-scale farmers still make use of unknown breeds, there is a greater movement towards using better genetics from reputable breeders, which has led to an improvement in the overall herd quality in South Africa. “Through industry support, these farmers are able to access better breeding programmes. They are then also advised on production plans, which all result in better quality and contribute to the success of the entire enterprise.”

FROM SEMEN TO SLAUGHTER

Irrespective of the size of the farm, semen from superior pigs plays a major role in achieving the production parameters required for successful pig farming. Senyatsi says that good-quality tested semen has an impact on meat quality, improved average daily gain and improved feed conversion

ratio, among other things.

An obvious benefit of better genetics is the increase in litter size. Since more piglets mean more income, the gradual increase in litter size over the years is also making an impact on South African herds. Fourie recalls that whereas in 2003 a sow produced on average 17 piglets per sow per year, it moved to 24 by 2017, and stands at just over 32 today. “The farmer where my imported semen is obtained has just reached the mark of 40 piglets per sow per year. This is what chasing good genetics is all about.”

Smal says that while producers often get more than 30 pigs weaned per sow per year with better genetics, during difficult financial times it is not only the number of pigs that will drive return on investment, but also whole herd efficiency. “When investing in genetics, producers should focus not only on growth rate, feed efficiency, reduced days to slaughter and wean-to-finish survival, but also efficient females. One of the biggest costs in pig production is feed, and investing in females that require less feed per piglet weaned will ensure long-term sustainability.”

Fourie agrees, noting that the pork industry is highly competitive. “The market sets the price and we take what we can get, so any jumps in profitability need to be achieved through on-farm efficiencies. The only way to stay afloat is by producing more piglets per sow, reducing mortality rates by increasing pig health and getting a better feed conversion ratio so you spend less on feed while still maximising meat output.”

With a greater ability to harness the genetic potential of pigs, farmers have a better opportunity to enter this sector, even if they only have a small piece of land. Since pigs have far more potential to produce meat than other livestock, they have a bigger role to play in food security.

GOOD GENETICS WORTH THE COST

The robust availability of traits within imported semen means that farmers have the opportunity to advance their herds faster, according to their breeding goals. Smal advises farmers to identify their production goals and markets and select their sire lines accordingly. “For example, PIC337 is the best choice for producers who want an exceptional feed conversion with superior performance at heavy weights. It offers producers the greatest profit potential.

“PIC800 is the best choice for producers who value the Duroc breed’s traits like robustness, meat quality and fast growth, plus it has the lowest production cost compared to other Durocs.

“PIC410 combines robust and efficient growth with exceptional primal yield and continues to perform at increasing slaughter weight.”

Good genetics do come at a higher cost, but Fourie maintains that sustainable, profitable pork production can’t be achieved without them. “The only way to improve your herd is to buy in gilts with high indexes, and use high-indexed semen. Return on investment takes time, but with a bigger litter and more robust piglets, you make the money back with the first litter.”

Fourie has been able to improve his genetic lag in one year, as opposed to the four years it would have taken if he continued with his previous herd. He has managed to rebuild his herd to 1 400 sows, leaping forward with every new batch of genetics.

Genetic improvement of pigs has rapidly progressed over the past 50 years and the trend is set to continue. The imminent future promises to be even more exciting as new technologies evolve that benefit global food production. ■

“GOOD-QUALITY TESTED SEMEN IMPROVES FEED CONVERSION RATIO.”

— KGADI SENYATSI



Kgadi Senyatsi



OPTIMISTIC FUTURE FOR SOYBEAN PRODUCTION

The soybean industry in South Africa is in a bloom period, exiting the technology drought that loomed over the country for years with renewal sparked by the soybean levy. With an estimated increase in yields of up to 50 per cent in the next five years, new cultivars and technologies are making their mark, writes MAGDA DU TOIT

South Africa has in recent years made significant investments in the domestic soybean industry. Crushing capacity has increased and, thanks to a recently introduced soybean levy, crop technologies have started flowing into the country, creating a lot of optimism over the industry's future.

The country has increased crushing capacity by approximately 2.2 million tonnes. These investments are aimed at stimulating domestic soybean production as part of an import substitution strategy, and offering farmers a viable substitution crop for maize.

Soybean producers have responded positively to these interventions. During the 2021/2022 production season, the area planted to soybeans climbed to a substantial 910 000 hectares, compared with 46 000 hectares in the 1992/1993 production season. Yields have also seen advancements, from 1.3 tonnes during the 2016/17 season to 1.89 tonnes per hectare during the 2021/22 season. Driven by increased profitability, farmers have continued to expand the area under soybean production, underscoring the importance of investments in crop technology.

This upward trajectory is set to continue, especially as the industry starts reaping the rewards of the soybean breeding and technology levy, introduced in 2019. While South African farmers are legally allowed to plant farm-saved seed, this prevents seed companies from being compensated for research and development of new technology and cultivars, since income from sales is limited when no new seed is purchased. This meant that for many years, improved soybean seed and technology did not enter the local market, causing local farmers to lag behind their international counterparts.

SEEDING INNOVATION

The South African Cultivar and Technology Agency (SACTA) administers levies for all open-pollinated crops, distributing 80 per cent of the income to seed companies according to their market share, to incentivise them to develop new and improved cultivars.

Apart from new biotechnology traits, new germ plasm is also becoming available that can bring about additional yield gains. Under favourable climatic conditions, it is expected that yields could increase by 50 per cent due to the combination of new biotechnology and soybean cultivars in future.

SACTA CEO Gert Heyns states that since the inception of the breeding and technology levy, there has been increased effort and investment from seed companies in their soybean programmes in South Africa. “In the last four years, more than 50 new soybean varieties have been registered. These new varieties, more adapted to production in the drier western production regions, have also contributed to more soybeans being produced.”

This year, Bayer’s new biotechnology trait, Intacta Roundup Ready 2 Pro, was deregulated for commercial planting in South Africa, the first new addition of biotechnology to the local market since 2001, when Roundup Ready 1 was deregulated.

Intacta Roundup Ready 2 Pro offers protection against major pests that attack soybean such as the African bollworm (*Helicoverpa armigera*), which can significantly reduce yields. The insect-resistant trait offers better insect control compared to conventional insecticides. The technology further provides a more cost-effective, less expensive and easier weed control system via the herbicide-tolerance trait that offers tolerance to glyphosate. This technology is therefore expected to add value for many years to come.

Several new biotech traits are in the pipeline, with trials needed for deregulation. According to Heyns, farmers can expect to see various new biotech traits being released in future. “New soybean germ plasm and biotechnology, in combination with improved production methods, can make a large contribution to improving yields per hectare in future. This will make a major contribution towards growth in the soybean industry as well as food security.”

Corteva has increased its local soybean offering, and has applied for the general release of its Conkesta E3 cultivars for insect control and herbicide tolerance.

Bioceres Crop Solutions has also indicated a desire to release its HB4 drought-tolerance gene, which could prove very useful in the case of a midsummer drought. According to the company, the trait may bring about a 25 per cent increase in yield. This will be a crucial advancement amid increasingly unpredictable weather and longer periods without rain.

MANAGEMENT PRACTICES

Soybeans are a sensitive crop when it comes to climatic conditions. Yields can vary between one and four tonnes per hectare, as seen during the 2020/21 season. Since soybeans play an integral role in crop rotation, optimising yields is vital for farmer profitability. But while genetics and biotechnology play a crucial role, all production inputs need to be optimised to fully reach the crop’s potential.



“ONLY AFTER CORRECTING SOIL FERTILITY CAN YOU MOVE TO THE NEXT STEP, WHICH IS TO LOOK AT THE SPECIFIC CULTIVAR.”
— LOUIS STRYDOM

Prof Fred Below, from the University of Illinois’s Department of Crop Sciences, has done significant research on soybean production. He says that if farmers want to optimise yields, they need to gain an understanding of how their management practices can influence yield. “A systems-based approach to planting can help farmers achieve maximum yield. Such a comprehensive agronomic management programme will look at a combination of cultivation practices, cultivar choice, and the use of herbicides, fungicides and insecticides.

“Management practices that promote strong root development, such as excellent-quality seed, fertility, enhanced seed emergence and disease control, may help mitigate many of the production risks. Proper selection of soybean varieties is therefore crucial for success in a management-intensive, high-yield production system.”

With the large pool of seed becoming available to farmers, Below highlights the following aspects farmers should pay attention to when

selecting a cultivar: “Grow length is important. Soybeans are sensitive to daylight and the further south they are planted, the later they will mature. Temperatures, especially at night, influence the growth of soybean plants. That is why soybeans in the eastern production areas will grow at a slower rate than those in the warmer, western parts of the country.”

Below explains that the optimum planting date in a specific area will influence the cultivar choice as it will determine the choice between an early or late maturity variety. “The best planting time is from mid-October, but in the warmer areas farmers can still plant until December.

“The desired plant and pod height should also be determined, since it will have an influence on the standability as well as harvestability of the variety. Varieties that are prone to making side shoots will be more suitable for wider rows while those varieties with fewer side shoots and a more open canopy are better suited to narrower rows.”

GETTING THE NUTRIENTS RIGHT

Going one step further towards optimum yields, Louis Strydom, marketing director at Omnia Nutriology, adds that optimum yields can only be realised by combining good soil and fertilisation programmes with technology and quality germ plasm. “Soil fertility is a crucial aspect of soybean production and all nutrient elements should receive equal attention. Although soybeans can adjust their own nitrogen, a lack of other essential elements can have a detrimental effect on the overall yield. Also keep in mind that improved genetics require more nutrients to sustain that potential.”

Strydom highlights the benefits of zone fertilisation. “Multi-year yield data matched with soil-type data creates management zones for fertilisation, eliminating the over- and under-fertilisation of different yield potential zones, because every zone receives the correct amount of fertiliser. Soil acidity levels are stabilised and consequently increase the yield per zone significantly. Only after correcting soil fertility can you move to the next step, which is to look at the specific cultivar.”

Considering the positive reaction brought about as a result of the levy, this year’s Grain SA Congress saw farmers calling on SACTA to seek approval from government for the extension of the levy system for a further two years. This bodes well for an industry that is seeing a high local and international demand for its product, and serves to bolster agricultural production and food security in South Africa. ■

NEW SOYBEAN GERM PLASM AND BIOTECHNOLOGY, IN COMBINATION WITH IMPROVED PRODUCTION METHODS, CAN MAKE A LARGE CONTRIBUTION TO IMPROVING YIELDS PER HECTARE IN FUTURE.” — GERT HEYNS



HEALTHIER FOOD FOR A HEALTHIER PLANET

Food production has never been under such public scrutiny, with farmers being pushed to reduce their environmental footprint while still delivering top-quality produce. Solutions for water reduction and pest and weed control are accelerating, resulting in food that is not only socially acceptable, but good for agricultural sustainability.

By **LINDI BOTHA**

European consumers have led the charge towards chemical-free food that reduces the emissions responsible for climate change. Although export-oriented farmers are more vulnerable to the whims of these consumers, the quest for healthy food for a healthy planet is taking shape in a broader sense worldwide.

Besides maintaining market share, food producers are increasingly finding that combining old and new techniques in a way that brings the best result for people

and plant offers the best solutions for their businesses.

Sias Leipoldt, commercial product portfolio manager at Andermatt Madumbi, says that producing food to feed a growing global population cannot be done without chemicals.

“IN SOUTH AFRICA, BIOLOGICAL SOLUTIONS ARE USED IN A VARIETY OF APPLICATIONS INCLUDING ORCHARD CROPS, VEGETABLES, ORNAMENTALS, ROW CROPS AND MANY MORE.” — SIAS LEIPOLDT

“But there is an increased focus on adopting a holistic approach and focusing on integrated pest management (IPM), with the aim of reducing reliance on chemical pesticides only.”

IPM includes the integrated use of insect traps, pheromones, predators and parasitoids, microbial products, plant extracts and “softer” synthetic chemical pesticides to manage pests and diseases. Equally important is adopting the principles of precision farming, where the decision to apply agricultural products is based on data analysis from scouting and monitoring crops. Applying products when it is needed has been proven to be more sustainable and effective compared to traditional calendar-based applications.



Sias Leipoldt

FARM TO FORK

The EU's Farm to Fork Strategy aims to reduce pesticide use in Europe by 50 per cent by the end of 2030. This will also apply to all produce that is imported to the EU. These policies will impact South African farmers due to stricter regulations regarding residue limits on export food crops, as well as a decrease in availability of frequently used pesticides. Many of the more hazardous pesticides are already banned or in the process of being banned.

GROWING INTEREST IN BIOLOGICAL INTERVENTIONS

Since biological products are usually exempt from maximum residue limits and withholding periods, food produced using these products is easier to export. Biological solutions have less impact on the environment and beneficial organisms, and leave fewer harmful toxic residues on crops.

By far the greatest benefits of biological products, however, are those they offer in terms of pest management and disease resistance, explains Leipoldt. "A pest or disease can become resistant to a specific chemical pesticide active ingredient when conventional pesticides containing that active ingredient are used irresponsibly. This includes incorrect dose rate or too many applications per season. The IPM approach allows for many strategies and products to be combined, reducing the risk of resistance significantly. The end result is prolonging the lifetime of synthetic chemistry, so these options will still be there if farmers need them to curtail large outbreaks of pests."

Market growth of biological agents is currently outstripping that of chemicals, notes Leipoldt, at a compound annual growth rate in the region of 16 per cent worldwide compared to 5 per cent for chemical interventions. "In South Africa, biological solutions are used in a variety of applications including orchard crops, vegetables, ornamentals, row crops and many more. These solutions are used on both conventional and organic farms, but the latter only make up 10 per cent of the total biological market. Biological products are used more frequently in plant protection programmes compared with a decade ago, mainly due to increasing pressure from consumers to reduce pesticide use."

SNAKES IN THE GRASS

The fast-growing interest in this sphere of pest control has, however, brought a wave of unscrupulous companies to the fore, leading to mistrust from producers. Commonly referred to as "snake oils", these products are neither registered nor scientifically proven to work. Since these products have found their way to many a farm, the reputation of biological products has suffered.

A further hurdle in gaining wider adoption is that biological products are most effective when used in a holistic pest management programme, and should not be seen as a quick fix when problems arise in the fields. Leipoldt cautions that since biological solutions incorporate living organisms as the active ingredient, they are affected by more parameters than conventional pesticides. "This includes application methods, compatibility with other products when combined in the same tank, extreme temperature during transport or storage, humidity levels, and pest or disease pressure in the crop. Selecting quality products from reputable companies with proper knowledge transfer and technical support is therefore critical."

Leipoldt adds that it is important to manage grower expectations and use biological solutions within their performance parameters. "The best strategy is to combine these solutions in an IPM approach with other control strategies and synthetic chemistry. When used correctly, these solutions are effective and add many benefits."

LEADING THE WAY

Global food giants have also responded to the demand for more sustainable foods by changing the way they source ingredients. By pushing for production aligned with sustainability goals, companies like PepsiCo and McDonald's are having a positive impact on food systems.

PepsiCo, responsible for products like Lay's, Doritos and a variety of soft drinks, relies on nearly 3 million hectares of farmland worldwide. The company has implemented a Global Sustainable Agriculture Policy that guides farmers towards IPM rather than sole reliance on harsh chemicals. CEO Ramon Laguarta says that while the company recognises the important role that pesticides play in maintaining crop quality and yield, IPM strategies implement a broader range of pest-mitigation strategies that bring more natural methods to the fore.



Ramon Laguarta

Going one step further, PepsiCo is also working with farmers to implement regenerative farming practices, which restore soil health and reduce water and fertiliser usage. It's estimated these efforts will lead to a net reduction of at least 3 million tonnes in greenhouse gas emissions by 2030. Laguarta explains that demonstration farms are being used to roll out regenerative practices, which teach techniques that improve and restore ecosystems. The practices focus on building soil health and fertility, reducing carbon emissions, enhancing watershed management and increasing biodiversity.

Adhering to a growing call to consume local, McDonald's has undertaken to source the majority of their ingredients within the countries where it operates. South African consumers, for example, can rest assured that 95 per cent of the food they buy from the fast food chain has been produced on local soil. Daniel Padiachy, executive for supply chain, marketing and technology at McDonald's South Africa, notes that this not only reduces carbon

footprint of the food due to shorter travelling distances, but also benefits local employment and economies. "Coffee, one of the few products not necessarily sourced in the country of consumption due to the unique climate required for growing the beans, is sourced from farms that have been Rain Forest Alliance certified. We also recycle all of our ground coffee waste."

LOOKING FORWARD

Ideas around healthier food for plants and people are gaining a lot of traction. Leipoldt says that the focus on greener solutions has increased tremendously, especially over the past 10 years. "This segment has received a lot of attention from existing producers and distributors. Multinational chemical pesticide companies have seen the opportunity and are investing in their own research, development and production of biological solutions."

Due to this focus, the overall quality of biological solutions has increased, which can be attributed to more effective active ingredients, improved formulation technology and a wider variety of available products.

The sector does face challenges in expanding the segment even further. Registration of new products under the act is facing severe delays due to backlogs in the Department of Agriculture, Land Reform and Rural Development. Leipoldt states that this is limiting the availability of new biological solutions for farmers. "We are hopeful that these delays will be sorted out in due course. For now, farmers should take care to ensure that the products they buy have been registered and are backed by science." ■

PEPSICO IS WORKING WITH FARMERS TO IMPLEMENT REGENERATIVE FARMING PRACTICES, WHICH RESTORE SOIL HEALTH AND REDUCE WATER AND FERTILISER USAGE.

Agri SA

IN FOCUS

Agricultural policymakers must face the realities of commercial food production in the 21st century

Food production in South Africa goes back approximately 2000 years to a time when indigenous people started practicing pastoralism. As far back as 1668, travellers to the Cape wrote that the Kochoquas (also called Saldanhars) owned 'a large collection of cattle, well over a hundred thousand in number, and about two hundred thousand sheep, which instead of wool have longish coloured hair on the body'.

Commercial food production as we know it today in South Africa gained momentum with the establishment of a refreshment station at the Cape of Good Hope in 1652. But today, the world of agriculture looks remarkably different to its late 17th century roots. With a growing population, currently estimated at 60,7 million people and predicted to reach 65,2 million in 2026, commercial food production is not a matter of refreshment, but a national imperative. Our policies and action must reflect this.

The growth of the sector and the integral role of farmers in our society necessitated the rise of organised agricultural structures such as Agri SA that have played an instrumental role in lobbying on behalf of the sector in order to advance and protect all sector participants' interests, and to create greater awareness of the critical role farmers play in society. The massive challenges facing the sector today require us to use our platform to sound the alarm about the real and difficult state of the sector.

From the outside, it is easy to assume that agriculture is an easy sector, but this is far from true. As President Dwight D. Eisenhower noted: "Farming looks mighty easy when your plow is a pencil, and you're a thousand miles from the corn field."

In reality, the sector is fraught with risks. Our farmers are disproportionately vulnerable to natural disruptions including droughts, floods, fires and other natural disasters. These hardships are compounded by regular outbreaks of diseases such as Foot and Mouth disease in cattle, African Swine Fever amongst pigs, Avian Influenza in poultry and Fall Armyworm in maize. This vulnerability has more recently been on display in the locust swarms across the country. These seemingly mundane matters are often lost on policy makers who are driven by different priorities such as political imperatives rather than economic realities.

Yet even as we tackle the highbrow policy problems, we need to prioritise the real and present threats on the ground. We cannot afford to allow our national livestock herds or national grain stocks to be compromised while we fight more abstract battles. Compromising agricultural produce in South Africa due to negligence, non-compliance of food health and safety standards, and ill-conceived policies such as expropriation of land without compensation will not only lead to large scale disinvestment of capital and expertise, but it will also compromise food availability, affordability and quality. Indeed this threat is already materialising.

A recent study by the Bureau for Food and Agricultural Policy (BFAP) indicated that 1 out of 5 South African farmers want to leave farming in the next decade. Some of the reasons for this relate to age, lack of a successor, lack of reliable labour, uncertainty about land reform policy and lack of rural safety. But the precarious financial situation in which many found themselves is the overriding factor.

According to the latest figures by the Department of Agriculture, agricultural debt has grown by 7,5% to R204,8 billion rand at the end of December 2021. Agricultural debt is now equal to approximate 35% of agricultural assets, considerably more than their counterparts in America and Australia which sits at 12 to 14% respectively. Gross agricultural income for 2021 has grown by 11,5% to R368 billion, but at the same time intermediary inputs (diesel, fertilizer, feed, seed, etc) have grown by 7,1% to R202 billion. We produce food with debt!

All this has caused declining business confidence, and many farmers' financial strategy is aimed at cutting costs and reducing farming activities rather than expanding it. This has negative consequences for the local economy, the number of people employed in the sector, food production for local and international markets, and the profitability of farms.

Amidst these challenges, agricultural support for commercial farming has been reduced significantly beginning with the reforms of the mid-1990s, and support to farms has remained below 5% of gross farm receipts since 2010. Most of the policy measures and direct payments continue to target the smallholder sub-sector.



<https://data.oecd.org/agrpolicy/agricultural-support.htm>



This grim picture suggests that South Africans must have a greater appreciation for the contribution and resilience of commercial farmers. As Thomas Jefferson said, "Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bonds." Establishing a cohort of future commercial farmers will depend on how we support and value them as a society.

Support for the sector is not just about the present, but also about the past and the future. Our history dictates that fostering greater inclusivity by growing the number of black commercial farmers must be a priority, but we need more creative thinking about how to achieve this without sacrificing our nation's future food security. We need an economically viable and sustainable land reform process.

The Department of Agriculture, Land Reform and Rural Development is the custodian of a total of 10 454 652 hectares (ha) of land. We need to put this land in the hands of South Africans with an appetite for commercial farming.

Currently, a total of 1 289 583 hectares are subject to active long-term agricultural leases. During the past five years only 8 173 ha were transferred to individuals and businesses, while 104 850 ha were transferred to communities. Why so little of this land acquired by the state is translated into full ownership or long-term leases cannot go unchallenged, because it undermines the productive use of such land. It is also hindering the drive to pull more South Africans out of poverty.

For South Africa to feed its growing population, it is critical to increase food production. For this to happen, long term land use and ownership of land must be secured. Equally important though is to create a conducive political, economic and social environment in which farmers and food production can flourish. And we have no time to waste in this regard because our nation's food security depends on it.

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HIGH GRAIN PRICES

INVESTING IN RESEARCH AND DEVELOPMENT OF BETTER, HIGHER-YIELDING VARIETIES THAT CAN BE LOCALLY PRODUCED WILL BOOST PRODUCTIVITY.

COULD BE THE NEW NORM

Global grain production is continuing its bumpy ride as effects from the Russia-Ukraine conflict override any gains made in the wake of the COVID-19 pandemic. While higher prices place consumers under pressure, farmers are by no means being spared since fertiliser prices continue the same upward trajectory. Bureau for Food and Agricultural Policy economist DR MMATLOU KALABA weighs in on the challenges

Global grain production increased by nearly 3 million tonnes (0.8 per cent) in 2021 as most countries were recovering from the disruptions caused by the pandemic. The Food and Agricultural Organization of the United Nations reported that the largest increases were for wheat, which was contributed by predominantly four countries: Argentina; Australia; Russia and Ukraine. Maize also recorded an increase of 0.2 per cent while rice was 0.7 per cent higher than in 2020.

South African production ended at around 15.3 million tons, which represented the second-largest output on record. This year's output is expected to be higher, with expansion of 60 000–75 000 hectares. Production for other grains such as wheat and sorghum is also expected to increase. But since South Africa remains a net importer of wheat, we still rely on large producers abroad to supply the shortfall.

THE WAR ON GRAINS

The pandemic created challenges for consistent supply of imported grain, and this year's war between Russia and Ukraine has exacerbated concerns over our ability to meet

demand, which are expected to continue throughout the year, even if the conflict ends soon. If the war becomes prolonged, grain commodities globally will come under strain, since these two countries are major exporters of wheat, maize and barley. Russia is the world's largest exporter of wheat, responsible for more than 8 million tonnes in global markets. Ukraine is the fifth-largest exporter of wheat, adding about 4 million tonnes.

South Africa and other African countries rely these supplies from Russia and Ukraine for up to one-third of total wheat imports. One of the staple items for food security, bread may be in short supply, and we could see a substantial increase in prices. Countries such as Egypt, which is a leading importer of wheat, will be significantly affected. In Cameroon, bread prices are reported to have increased by as much as 40 per cent, and deliveries of flour and bran have been suspended. All these are attributed to the war.

IF THE RUSSIA-UKRAINE WAR BECOMES PROLONGED, GRAIN COMMODITIES GLOBALLY WILL COME UNDER STRAIN, SINCE THESE TWO COUNTRIES ARE MAJOR EXPORTERS OF WHEAT, MAIZE AND BARLEY.

Another area of agricultural production affected by the conflict is fertiliser supply and prices. Russia accounts for the production of 23 per cent of ammonia, 10 per cent of phosphate, and 20 per cent of potash supplies globally. Fertiliser is key to sustaining high maize, soybean, rice and wheat yields. The global fertiliser supply disruptions may contribute to lower yields, leading to further inflationary effects on the demand side.

A PROACTIVE APPROACH IS NEEDED

Taking a look at long-term trends, urbanisation will play an increasing role in the supply of grains. For now, producers have managed to increase yields to the extent where a reduction in land cultivated has not had an impact. On the contrary, South Africa has been able to maintain its output while decreasing the cultivated area by 25 per cent, thanks to advances in technology.

But the concerns around grain supply in Africa remain and if the continent wants to get ahead we will need to be more proactive. Investing in research and development of better, higher-yielding varieties that can be locally produced will boost productivity. The African Continental Free Trade Agreement and other continental programmes such as the Malabo Declaration and Agenda 2063 can be used as a springboard to encourage cross-country collaboration to make such initiatives successful. ■

Precision planting allows for uniform seed emergence.

Exponentially increasing input costs have slashed profit margins in the South African maize production environment. To remain profitable and survive, farmers either have to increase yields per hectare or the maize price will have to rise significantly.

Amid a continuous rise in global plantings, the industry is looking to further advances in biotechnology, which have contributed to substantially higher maize yields over the last 20 years, says Corné Louw, applied economics and member services lead at Grain SA. “Fertiliser application was responsible for maize yield increases from 1970 to 1980. From 1995 to 2015, yield increases could be attributed to planting maize on high-potential soils, irrigation, new genetics and biotechnology traits. In 1999 the first *Bacillus thuringiensis* (Bt) maize was planted, then in 2004 the first herbicide-tolerant maize, with the stacked traits becoming available in 2006. From 2015 to 2020 precision farming, new genetics and biotechnology played a role in production improvement.”

THE RIGHTS TRAITS FOR THE JOB

Farmers currently have a wide variety of biotechnology traits to choose from, including those that offer built-in protection against lepidoptera species such as stalk borers (*Busseola fusca* and *Chilo partellus*) and fall armyworm (*Spodoptera frugiperda*). Bayer’s Roundup Ready Maize 2 offers built-in tolerance to registered and approved glyphosate herbicides, and there are stacked options that combine all the trait technologies in one product. Corteva Agriscience recently introduced PowerCore technology to South Africa to help protect crops from damaging above-ground insects, like maize stalk borer and spotted maize stem borer.

In 2021 Syngenta received the general release approval for the Agrisure Viptera seed trait technology in maize, which combines protection against fall armyworm, maize stalk borers and the common cutworm (*Agrotis segetum*). This will be commercially available within the next two years.

It is this kind of technology that has been responsible for the greatest gains in maize production, with a near doubling of yields. Since these biotechnology traits protect the plants when they are at their most vulnerable – during the vegetative and reproductive phases – it is estimated that further advances in this sphere will catapult the industry into the next boom in yield.

“Biotechnology has led to a better understanding of maize genetics and the structure and behaviour of the maize genome,” says Kobus Lindeque, head of seed business for Syngenta in Africa. “This has opened doors to a number of new and powerful techniques in the development of new hybrids. Biotechnology, in combination with new germ plasm and precision farming techniques, will be the big focus areas going forward.”

ADVANCES IN MAIZE PRODUCTION: THE SKY’S THE LIMIT

Genetic and technological advances in maize production could mean a boom for the sector. By **MAGDA DU TOIT**

BETTER CROPS THROUGH BIGGER DATA

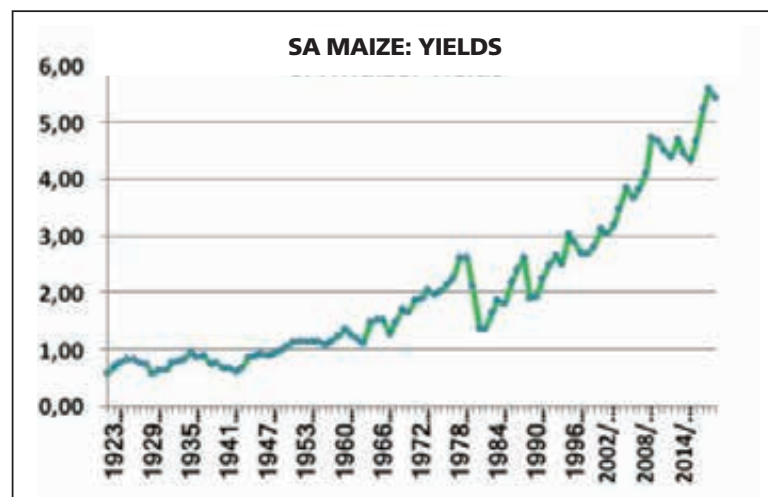
Big data and the agricultural digital revolution have changed the way that farmers look at research and products, opening the door to more sustainable farming through better yield predictions, improved input use, ease of applications and customised agronomical support services.

Lindeque says that if the industry is to see the next big leap in yields, though, raw data needs to be processed to become useful information for decision-making and technologies such as variable rate applications (VRA). “Soil sampling can indicate the nutrient requirements on various parts of a field so that precision soil corrections can be done. Variable rate technology then guides the farmer in applying different amounts of fertiliser during broad applications as well as during planting for each area. Farmers are also able to plant seed at different rates on different sections in each field, based on data gathered across seasons.”

VRA makes farming operations more efficient and can optimise the return on annual input investments, adds Lindeque. “It can result in drastic cost savings due to better efficiency regarding seed, fertiliser and crop protection applications.”

Further efficiencies are also expected to come as a result of better harvesting technology and infield machinery. Godfried Heydenrych, managing director of tractor company Argo South Africa, notes that inefficient machinery could result in crop losses as a result of mechanical damage to plants or shattering of grains. Specialised agricultural machinery is therefore key to reducing production costs and post-harvest losses.

While it may seem that the biggest strides in yield increases have already been made, a deeper understanding of all the components that go into maize production could bring even greater advancements in years to come. Whether many small tweaks or a few large changes, the maize industry still has much room to grow to reach its full potential. ■



Hybrid and biotechnology, as well as precision farming techniques, accounted for the exponential increase in yields from the 1960’s. Precision farming offers a series of strategies and tools that allow farmers to optimise and increase soil quality and productivity. The dips in the graph clearly indicate years of severe drought.

Growing black farmer-contribution

Jenny Mathews, SA Graan/Grain contributor

We are passionate about growing grain farmers towards commercial success. Our vision is for building a competent sector which has skilled commercial farmers who are sustainably contributing to national food security,' says Derek Mathews, chairman of Grain SA.

SA Graan/Grain contributor, Jenny Mathews, spoke to him about Grain SA's vision for farmer development after he had been re-elected as chairman of the organisation during the Grain SA Congress in early March.

According to Derek any industry should have an ongoing process where it welcomes and nurtures new entrants into the business. 'There are always dynamic developments and new knowledge systems that must be transferred to farmers. It is all about delivering the required results through capacitated farmers,' he said.

Grain production

When asked how much of the grain crop is produced by black farmers, Derek answered: 'As an organisation committed to transformation in the agricultural sector, we have been working in farmer development for over 22 years now. We have met, encouraged, supported, mentored, cried and laughed with so many amazing people. They are hardworking farmers from all over the country.'

'We have seen farmland in the hands of a variety of black farmers – from the small-farmer subsistence level that really matters to household food security, to the much larger and still expanding commercial enterprises of new era commercial farmers who are successful businessmen. At Grain SA we believe that everyone who wishes to turn his hand to grain farming deserves a fighting chance – and we can help with that.'

'It is increasingly more important that we see results where we put our funding. The question our leadership is facing more and more, is not how many farmers we are helping, but rather how much of the annual crop is being produced by black farmers.'

Derek said the question of how many of the farmers that Grain SA has worked with were now independent commercial farmers, was not always easy to answer as progress was impacted by many things. 'A farmer can do everything right, but in a drought season the crop will always be negatively affected and profits will plummet.'

To Derek it is essential that the transformation funds spent by Grain SA must increase the percentage of the crop that is produced by black farmers. It is widely recognised that even when there is support in the form of recapitalisation, mentorship or other support to new era farmers, the playing fields are not automatically evened out. The bottom line is that it must always make financial sense to grow grains.

The profitability in the industry should be corrected and this can only be done when farmers and the different role-players, including input suppliers and the state, work together.

Collaboration

Grain SA is the voice of the grain producer. To Derek it is heartening when Grain SA is approached by policymakers and role-players in the sector for collaboration. 'They turn to us for opinions, insights and advice as well as for accurate industry data and statistics. We have the capacity to do development, to advise and to lobby around the economics of farming because of the expertise we have.'

To the question why other stakeholders should channel their funds through the Grain SA Farmer Development Programme, Derek answered in the following way:



to the national grain crop

'One would search hard to find another team like the one we have,' he said about the passionate and dedicated Farmer Development team, of whom he is very proud. He is also proud of Grain SA's capacity to manage diverse projects with excellence in implementation, supported by good financial management – which time and again has presented the annual Congress with consistent unqualified audits. He believes that Grain SA has much to offer the sector – not just because of the experience of the team but also because of the footprint that the organisation has in all the grain-growing regions of the country.

The question we are facing, is how much of the annual crop is being produced by black farmers

Derek highlighted the capacity of the Grain SA Farmer Development Programme to adapt a project according to any specific partner's objectives and vision. 'There is fluidity in the way we design projects for different groups of farmers. This enables us to implement projects such as the Beyond Abundance Project for small-scale farmers, but also equally manage large sums of money targeted at addressing the unique needs of a large-scale farming operation.'

Highlights and successes

'Grain SA's involvement and influence in discussions that are related, for example, to the soybean industry, the diesel rebate,



Derek Mathews,
chairman of Grain SA.

grading regulations and Leaf Services, are highlights. We were proactive in the drive for a turnaround strategy in the wheat industry. There have been some dramatic and significant improvements in the producer's pocket because of our interventions. The benefit is a massive return on investment in relation to the small levy they pay to Grain SA.'

Looking ahead

'In five years' time, we should have more fully commercial black farmer members. Those are farmers who are farming on their own, fully independent of grants. We also need to bring more of those who are already farming successfully into the fold by educating more farmers about the important role that Grain SA plays in the sector. We do significant work that affects the farmer's pocket,

regardless of whether he or she is a member of Grain SA. We'd love for more farmers to join us, commit their levies to furthering the grain farmer's interests and make our voices heard,' Derek elaborated about Grain SA's vision.

'At the same time, we would love to ignite a fire in the hearts of young farmers. We would love to meet them and include them in our organisation. Any industry that has no succession plan in place, has a limited lifespan.' ●

Grain SA has been working in farmer development for over 22 years and has a passionate and dedicated team who manages diverse projects with excellence in implementation.



This baby rhino may be the last generation South Africa's iconic national park may see if poaching continues at its current alarming rate.



In May last year, Barbara Creecy, Minister of Forestry, Fisheries and the Environment (DFFE), recommended an end to captive lion breeding, captive-bred lion hunting, cub petting and the slaughter of captive-bred lions for their bones. While lauded for the effort to end animal cruelty and captive hunting, the draft policy has come under fire from wildlife ranchers for seeking an end to an industry that has been largely responsible for the conservation of the species, rather than its demise.

The draft policy, titled *Conservation and Ecologically Sustainable Use Of Elephant, Lion, Leopard And Rhinoceros*, follows the findings by a high-level panel set up in 2019 to investigate issues surrounding wildlife management in South Africa. In the last decade there has been increasingly vocal protest from local and international communities and NGOs against captive lion breeding. Government, in turn, wants the image of South Africa as a top destination for wildlife tourism to remain untarnished.

Tourism makes a direct contribution of close to 4 per cent to the GDP, so this is especially important given the economic difficulties the country faces in the post-pandemic environment. Part of this contribution comes from South Africa's commercial wildlife sector, which includes game ranchers and private reserve owners who host foreign tourists, including hunters, looking for a wildlife experience.

CALLING OFF THE HUNT

A government draft policy under the guise of conservation could see South Africa's lion population decimated and years of work to keep rhinos safe from poachers made redundant, writes NAN SMITH

If the draft policy were to succeed, it would bring an end to lions and rhinos being held in private hands. These animals would either have to be relocated to national parks or, if parks could not accommodate them, be euthanised. South Africa could see over 12 000 rhinos and lions killed as a result, causing outrage among wildlife enthusiasts.

CONSERVATION CONTROVERSY

Richard York, CEO of Wildlife Ranching South Africa (WRSA), queried claims made by the panel that the captive lion industry harms South Africa's conservation reputation. "They also state that captive breeding of lions creates a risk of lions becoming extinct in the wild, and that lions raised by our members are linked to an increased risk of COVID-19. We have asked for the scientific evidence that supports these claims, but it has not been forthcoming."

While lions have become extinct in 26 African countries, South Africa has had overwhelming success in keeping lion populations flourishing and reintroducing captive animals into the wild. This is evident in the nearly 10 000 lions currently housed on private farms. Yet, the draft policy claims that "captive breeding of lions is currently not necessary for conservation purposes".

York says that besides the incalculable loss to our biodiversity of euthanising the animals in private hands, this will also cost the government in excess of R16-million in euthanasia fees. "The sad irony is that organisations like Born Free have gone to great lengths to rescue lions from zoos abroad and relocate them to South Africa, where they can live their lives in their natural habitat on private farms. Under the current DFFE proposals, these lions will be killed. They would have come back home to die."



Lions held in private hands will be euthanised under a new government draft policy.

“ORGANISATIONS LIKE BORN FREE HAVE GONE TO GREAT LENGTHS TO RESCUE LIONS FROM ZOOS ABROAD AND RELOCATE THEM TO SOUTH AFRICA, WHERE THEY CAN LIVE THEIR LIVES IN THEIR NATURAL HABITAT ON PRIVATE FARMS.” – RICHARD YORK

IT'S A COMPLICATED ISSUE

There is little doubt that the lion population worldwide has suffered a massive decline, from 200 000 lions in 1975 to around 20 000 today, and the International Union for the Conservation of Nature (IUCN) lists them as a vulnerable species.

The captive-bred lion sector, said to be a multi-million-dollar industry, supports commercially lucrative opportunities around cub petting, walking with lions, trophy hunting and the lion bone trade. But in response to growing international disapproval, the world's largest trophy hunting organisation, Safari Club International, banned trophy hunts of captive-bred lions in 2018, while the United States and the United Kingdom have refused import permits to trophy hunters.

Because lion farmers may no longer take animals from the wild, captive lions suffer increasingly from dwindling genetic diversity, which scientists say causes lowered resistance to disease and other genetic problems and these animals would be unfit for a return to the wild. There have, however, been scientifically documented cases of captive bred lions being released and successfully adapting to a wild environment.

Most South African lion hunts use captive-bred lions. Prior to the hunt, for periods ranging from 96 hours to one year, lions are released into areas where they are hunted. This type of hunting is unlikely to fulfil the “principles of fair chase”.

But just as cattle are bred and killed for consumption, so too is some wildlife. And just as farming needs to be profitable for food production to continue, hunting pays for the conservation services that come with

wildlife ranching. Shutting down this sector of the economy could therefore have far-reaching consequences not only for rural economies and jobs, but also for the conservation of vast tracts of land.

LETTING THE CAT OUT OF THE CAN

York reiterated that “canned” lion hunting remains illegal and is in no way supported by WRSA. “Anyone who hunts captive-bred lion must hunt on foot, accompanied by a nature conservation official. They are not permitted to hunt at night or to hunt baited animals.”

John Varty, South African conservationist and owner of the only free-roaming population of tigers outside Asia, at a private game reserve in the Free State, says shutting down the captive-bred lion industry is a shrewd and positive move on Creecy's part.

Varty says he has had repeated requests from professional hunters looking for a tiger to shoot, even though they know it is illegal. “In the Free State there are no fewer than seven tiger breeders and there are more in other provinces. These tigers are obviously going into canned hunts. This is not something that will go away. It's going to move into Botswana, Lesotho, Eswatini. There's big money involved.”

Dr Peter Oberem, a vet and member of WRSA, does not deny the existence of unscrupulous and unprincipled operators in the captive lion breeding sector, but said there are also ethical breeders. “The answer is not to punish the good and kill an industry that brings tourists and foreign exchange into the country while creating jobs. The answer is for the DFFE to catch and punish the bad guys.”

RHINOS JOIN THE FRAY

The rhino is in serious decline in national parks, while on privately owned and protected reserves and ranches, their numbers have risen steadily. Yet the panel says the intensive management and breeding of rhino has a negative effect on the genetics and on the animals' ability to survive in an unmanaged environment, and recommends that these rhino populations be moved into wilder habitats.

A move like this could present a serious threat to the rhino population, says Oberem, pointing out that private rhino owners have spent billions growing and protecting their populations. “Rhinos under the protection of the DFFE in national and provincial parks have been decimated. Now we want to destroy the remaining rhinos in the country – it's just plain crazy.”

There is no silver bullet solution to the difficulties of managing wildlife for the good of the animals, their habitats and the surrounding rural communities. But there is no shortage of informed and experienced people in the private and public sectors of this field. Now they just need to work together to find innovative and visionary solutions to these wildlife problems. ■

STAGGERING NUMBERS

- In the Kruger National Park, rhino populations have suffered a 75% decline in the last 10 years.
- In 2010 the IUCN reported that there were 18 800 white rhino in South Africa with 5 500 in private hands. The rhino population is now estimated to number about 16 000 animals.
- SANParks and private rhino owners share custodianship of the rhino at about 50% each.
- In 2020 a SANParks survey reported 3 549 rhino in the Kruger National Park. Since then the population has dropped to below 3 000.
- In 2016 Stellenbosch University estimated that 54% of lions in the southern Kruger National Park lion population were infected with bovine tuberculosis.
- There are an estimated 3 000 free-ranging lions in South African national parks.
- There are around 10 000 lions in captivity in South Africa.

Sources: Report to Parliamentary Monitoring Group, 17 March 2020

National Geographic population figures 2021
Humane Society International – Africa (HSI/Africa), 10 August 2020

International Union for the Conservation of Nature
Red List of Threatened species
Ed Stoddard. SA rhino ranchers face an uncertain future. 9 December 2021
Wildlife Ranching South Africa



A NEW ERA OF GROWTH AWAITS

Government should use regulation as a tool for good rather than as a straitjacket, writes Agri SA economist **KULANI SIWEYA**

The agricultural sector has in recent years shown itself to be a key contributor to the South African economy. The sector excelled through the COVID-19 pandemic and has continued this strong performance, registering greater economic growth than any other sector according to the latest GDP statistics released by Statistics South Africa. This has all happened despite a regulatory framework that often creates significant challenges. The sky is the limit in terms of what could be achieved with some key interventions.

A standout example is the impact of onerous labour regulations on the sector's ability to expand employment opportunities. The agricultural sector directly employs more than 800 000 people and indirectly supports millions more. These jobs provide an essential economic lifeline in South Africa's rural communities.

Labour policy should be geared toward maintaining these jobs and expanding opportunities in the sector. We need innovative legislation with the understanding that accelerating inclusivity requires tailored solutions for South Africa's diverse sectors.

Loosening regulation would unleash the power of business to create economic growth and new opportunities to bring more people into the economy. This shift would be a

THE CURRENT AGRIBEE REGIME IS SO CONVOLUTED THAT IT HAS CREATED A WHOLE NEW INDUSTRY JUST TO HELP BUSINESSES UNDERSTAND THE REGULATIONS.

game-changer, incentivising employers to hire more people without the threat of the tortuous regulatory compliance requirements to maintain or expand their workforces.

Similarly, more attention needs to be paid to the economic consequences of the increasingly complex AgriBEE Sector Code. The current regime is so convoluted that it has created a whole new industry just to help businesses understand the regulations. This in turn has discouraged engagement with this important project, especially by small businesses. Here again a process of simplification rather than expansion would be a boon to both compliance and the underlying objective: greater sector inclusivity.

MITIGATING PRICE SHOCKS

In the more immediate term, economies across the world are feeling the impact of the Ukraine crisis. The results of the Russia's invasion of Ukraine have been especially acute for the agricultural sector. Russia and Ukraine are some of the world's biggest producers of wheat and gas, with Russia also producing significant quantities of fertiliser. Commodity prices have thus skyrocketed.

Farmers are price-takers; they are as vulnerable to price shocks as consumers. The longer input costs rise, the more farms will come under financial pressure. The cumulative result of all these price hikes will therefore be higher food prices for consumers and job losses in the agriculture sector.

To address the impact of this crisis, Agri SA has called on government to suspend fuel levies to give much-needed relief to farmers and consumers alike, and recent reports suggest that ministers are mulling over the proposal.

But the time for talk and reflection is short and running out fast, and any reticence to act swiftly to mitigate the immediate threat to the country's food security is another example of the potent regulatory levers at our disposal not being adequately used to alleviate the plight of farmers

WE NEED TO SHIFT PERSPECTIVE

Finally, as we look forward, another looming threat is the proposed reduction of farmers' ability to offset previous years' losses against their tax burden in good years. South Africa's farmers work under unpredictable and difficult circumstances in a cyclical business. Farmers often carry losses for years owing to natural disasters and market forces, even as they continue to provide sustenance for the nation.

Moreover, we compete with European and North American farmers, who receive substantial state subsidies. If government takes away the little assistance it currently provides, it will endanger both South Africa's food security and the sector's global competitiveness as farmers sink under the weight of an unsustainable tax burden.

These examples barely scratch the surface of all the levers government has to unlock agricultural sector growth and the expansion of employment opportunities. Government has a sizeable toolbox filled with measures we can tighten or loosen and switch on or off to stimulate growth. A shift in perspective towards business and regulation could mark the beginning of a new era of growth and opportunity to the benefit of the national economy, the sector and South Africa's millions of jobseekers. ■

New technologies like gene editing have the potential to unlock more innovation and entrepreneurship in the agricultural sector than ever. But while scientists around the world are urging governments to relax regulation of manipulated crops, South Africa has instead opted to retain laborious and expensive regulatory processes. This could hinder both food security and climate change mitigation.

Last year the Department of Agriculture, Land Reform and Rural Development classified genome-edited (GE) plants as genetically modified (GM), meaning that they would be regulated under the Genetically Modified Organisms Amendment Act of 2006. Scientists and the food industry fear the move will hinder scientific innovation in South Africa, saying it is not in tandem with global practice around embracing new technologies that do not use genetic modification.

The act regulates the development and use of GMOs, defining them as “an organism, genes or genetic material which has been modified in a way that does not occur naturally through mating or natural recombination or both”. Based on this interpretation, the Executive Council of the GMO Act classified all new breeding technologies (NBTs) that include GE as part of GMO, carrying the same risk.

SPEEDING UP NATURAL PROCESSES

While GM crops insert foreign DNA to get desired characteristics like disease resistance or higher yields in plants, GE crops do not contain foreign DNA. Rather, these crops mimic changes that would occur through natural breeding and selection, albeit far faster since the DNA is edited directly in a laboratory. Because the final product is as natural as any other conventional crop, the global move has been to regulate them as conventional crops.

South Africa, alongside New Zealand and the EU, has classified GE products as GMOs while 20 other countries have put regulations in place to distinguish between selected GE products and GMO products. In Africa, Nigeria and Kenya have published regulatory guidelines on GE that make the distinction. Malawi and Ethiopia are considering similar systems.

Chantel Arendse, plant biotechnology lead at CropLife South Africa, describes the decision by the South African government as misaligned with international trends. “This decision is a problem because the blanket approach to have all products derived from NBTs regulated as GMOs has widespread implications in terms of cost, as well as the time it will take to have products registered



COULD SOUTH AFRICA'S GENE-EDITING REGULATIONS DECREASE LOCAL FOOD SECURITY?

According to some experts, South Africa's gene editing legislation is extremely short-sighted and doesn't bode well for food security concerns, reports **BUSANI BAFANA**

and approved in South Africa. It will also discourage the use of GE technology and investment in its use to develop specific products for the country.”

RISK VS REWARD

Scientists, and the food industry in particular, feel the legislation is short-sighted and that the government should have taken a science-based approach rather than a precautionary one, particularly because the legislation has far-reaching consequences for food security.

Some gene-edited crops are already on the market globally, with more nutritious tomatoes developed in Japan and a healthier soybean in Canada.

“If the South African government revised the regulations to exempt gene-edited crops that have no foreign DNA, this would lead to cheaper seeds, which would greatly benefit smallholder and subsistence farmers,” says Dave Berger, professor in the Department of Plant and Soil Sciences at the University of Pretoria.

Berger adds that if a pest- or disease-resistant maize cultivar was produced by gene editing with no insertion of foreign DNA, this would mean small or large scale farmers would not need to go to the expense or create the environmental impact of spraying pesticides.

The decision to regulate GE crops is touted to favour foreign multinationals more than local researchers and innovators who cannot afford to pay the regulatory burden. This is a problem for food security, as the seed companies could be forced either to abandon GE crops in South Africa or to pass on the high costs of regulatory approval for their GE seeds to farmers and consumers.

Dr Hennie Groenewald, CEO of Biosafety South Africa, says he would prefer to see “GMO” clearly defined on a product basis. “We should focus on the product and on its possible associated risks – this is why we have regulations – to manage concrete risks. We need to amend the act to accommodate GE sensibly as this technology reduces the bio-innovation barriers, including those of cost, technical and risk. What we need to do now is to reduce the regulatory barriers in a similar way.” ■

“IF THE SOUTH AFRICAN GOVERNMENT REVISED THE REGULATIONS TO EXEMPT GENE-EDITED CROPS THAT HAVE NO FOREIGN DNA, THIS WOULD LEAD TO CHEAPER SEEDS, WHICH WOULD GREATLY BENEFIT SMALLHOLDER AND SUBSISTENCE FARMERS.” — PROF DAVE BERGER



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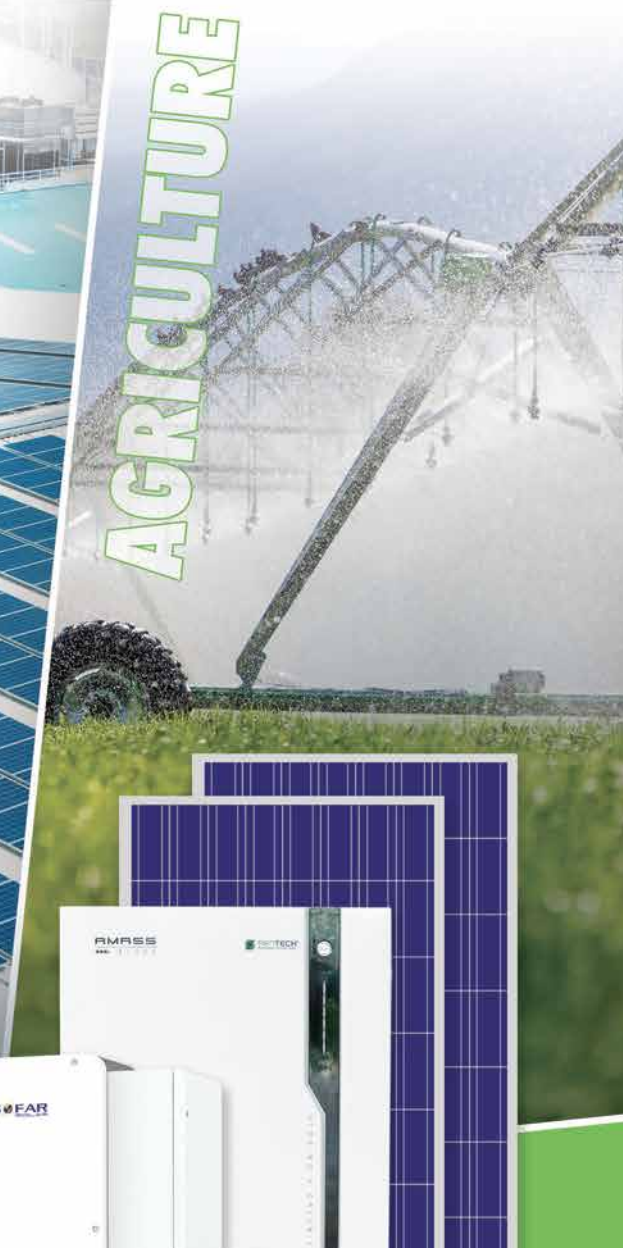
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