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On the cover

Aquaculture offers sustainable growth and job creation without environmental devastation.

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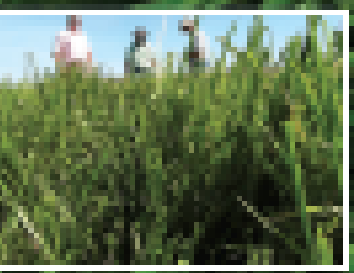

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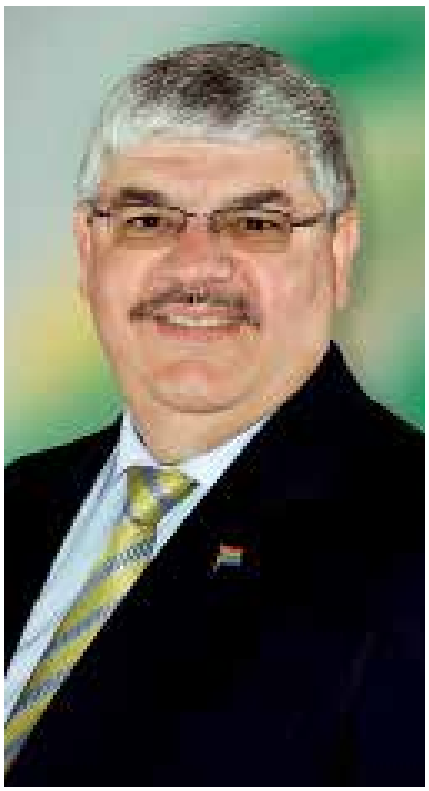
THE LEADERS IN BRAZILIAN PASTURES IN AFRICA

FOREWORD



JANNIE DE VILLIERS
CEO, GRAIN SA

Are we making progress with land reform?

The answer probably depends on from which side you look at it. I have been involved at almost all levels and throughout the process of finding the middle ground between the political imperative and the realism of food security. What I have observed is that the voices of 'no land reform' have died off and that the voices of 'expropriation without compensation' are perceived as unrealistic and too damaging to the broad society. The Minister of Rural Development and Land Reform, Gugile Nkwinti, managed to put the cat among the pigeons with some of his proposals. It was very noteworthy how the land debate opened up to a broader group of society other than the landless and a few white farmers.

Academia, the legal fraternity and the financial sector all started to air their voices in resolving this very complicated debate. Land reform is possibly the second biggest challenge this young democracy has faced so far. We need to learn from history and the various CODESAs of the past. My observation is that we are getting closer to the middle ground. The proposals outlined in the National Development Plan are widely accepted as the most realistic way forward. Lacking now are the nuts and bolts. I am trying to convey some hope. We cannot give all the land back to the Khoi-San, but we can't maintain the status quo, either.

Many commercial farmers are always busy with some scheme. They weigh their options and evaluate potential partners for the future. "'n Boer maak 'n plan": farmers have been planning for many years to produce food for you and your children. They have overcome droughts, floods, hailstorms, low commodity prices and many other difficulties. Impatience is killing many good intentions for every one of us, almost on a daily basis. We are almost there. I am convinced that by year end, the details will be on the table for implementation. I just hope those entrusted with the implementation task will be as dedicated as those who are producing our food every day.

The land debate has grown in quality with less and less emotion from both sides. The solutions are there and the final details are being addressed. It would not be perfect for all, but it will be good enough to redistribute land and maintain food security. What will also be very helpful is if both Government and Agriculture can talk with one voice. Differences between the government and the ruling party should be sorted out, and black and white farmers should unite and come to the table with a collective solution.

Our plea is for both parties to act responsibly and address this most challenging issue in a similar spirit as those who saved this country from civil war in 1994. We have done it in the past and it can be done again!

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EDS NOTE

GREG PENFOLD
greg@capemedia.co.za

Transformation through innovation

Agriculture has always been about transformation; the practice of cultivating the soil has transformed the very surface of the Earth itself over millennia. With that has come benefits and drawbacks. The human population has burgeoned with every advance in agricultural production, from the advent of the sickle to modern agriprocessing, enabling the human race to spread into every part of the globe. At the same time, clashes between cultures have led to some benefiting unjustly at the expense of others, while unsustainable farming practices have wrought environmental devastation in every country.

With its conscious focus on transformation, South Africa has a particular role to play in the story of world agriculture. In order to provide the economic opportunities that are the only pragmatic means of redressing historical injustice and enabling citizens to enjoy their constitutional rights regardless of gender or culture while ensuring food production is sustainable and environmentally sound, the agriculture sector has to innovate constantly—not only in terms of technology, but also in terms of imaginative solutions to pressing problems.

For example, how to cater to consumers' apparently insatiable demand for fresh, tasty fish without further depleting already dangerously overfished stocks? The solutions developed by South Africa's nascent aquaculture sector in the Eastern Cape are an excellent example of how to balance economic opportunity, job creation and sustainability—even drawing on the benefits of renewable energy, as this issue's cover story illustrates.

The Eastern Cape is also where Grain SA's latest branch has opened, as the grain producers' association goes from strength to strength in its invaluable efforts to bridge the gap between commercial agriculture, new farmers and government.

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Teach a man to fish...

***Harvest SA* speaks to Liam Ryan, Managing Director at Oceanwise, about sustainable aquaculture in South Africa**

Aquaculture in South Africa is entering a very exciting phase: new initiatives are being launched by government, with the objective to unlock the untapped value of the Blue Economy for job creation and economic growth.

"Sustainable aquaculture is the production of fish or seafood type products in a sustainable manner with minimal impact on the environment," explains Ryan. "Therefore, the farming methodologies must consider all resources and inputs such as seed-stock juveniles, feed, water, energy, land, people and funding to ensure they are sustainably utilised with negative impact kept to a minimum. At the same time, waste from the aquaculture facility must be sustainably managed to again limit negative impact and recycle as much waste as possible into reusable resources via a biodigestor to convert waste into methane for heat or electricity, or waste fish and offal as feed for pigs or other food scavengers such as freshwater crayfish or marron."

Non-sustainable aquaculture is fish-farming that impacts negatively on the environment, such as polluting a natural environment, or farming with an alien species and allowing them to escape and invade natural environments in competition with indigenous species.

"Since the South African aquaculture industry is still new, most local aquaculture companies are well researched on 'sustainability' and operate according to Codes of Conduct developed jointly with DAFF (Department of Agriculture, Forestry and Fisheries), with input from the Department of Environmental Affairs (DEAT) and animal welfare societies," explains Ryan. "In most cases, the lessons learnt from the negative effects of unscrupulous operators in other countries have been noted and considered by SA authorities in the environmental impact assessment processes. South African kabeljou, trout, tilapia, catfish, abalone, mussels, oysters and crayfish aquaculture are among the most responsible and sustainable globally," he says.

Each species or group has industry watchdog associations monitoring their members to ensure a consistent reputable standard critical to the good name of the industry and farmed seafood products.

"With the launch of the new dti (Department of Trade & Industry) grant specific for Aquaculture in 2013, the 'Aquaculture Development and Enhancement Programme (ADEP), there is renewed interest and expansion initiatives by most existing aquaculture operations," says Ryan.

"Total South African aquaculture output is expected to increase from about 5 000 tonnes in 2013 to 20 000 tonnes by 2019, through these expansion programmes and some new government initiatives to be launched under Operation Phakisa ('fast/hurry'), which is the intervention programme of DAFF, DEAT and the Presidency."

Oceanwise is the leading local producer of farmed kob or kabeljou in South Africa, accounting for 152 tonnes of the total production in 2013. "Oceanwise began as Espadon Marine Research in 2002 when it initiated research into the domestication of dusky kob (kabeljou) and other species," explains Ryan. "With a research hatchery in Hermanus, Oceanwise (Espadon) scientist Guy Musson along with some associates at DAFF and I&J pioneered the spawning protocols and larval rearing techniques for raising kabeljou juveniles. This was followed by development of a pilot recirculation-based grow-out facility in Centurion, using artificial seawater between 2004 and 2007."

The company relocated to the Eastern Cape in 2008/9 to build a new greenfields facility in the East London Industrial Development Zone (ELIDZ), with the assistance of recirculation expert Eden Kriel, who already had a functional recirculation abalone facility on the adjacent site, which later was incorporated into Oceanwise in 2011. Construction and development included a kob hatchery and nursery managed by John Philander, and grow-out facilities and systems managed by Eden Kriel, Craig Clayden and Justin Victor, together with a HACCP codexed fish processing facility managed by Zimkita Tofu. The current facility is capable of producing between 500t and 600t per annum at full production, which should be reached by 2016.

"Oceanwise relocated its business to East London because of its perfect seawater temperature profile, with water temperatures between 22 and 24 degrees Celsius all-year round," states Ryan. "This was supported by a progressive IDZ in East London which supported aquaculture development by completing EIAs and invested over R85m in seawater extraction facilities that pump pristine seawater from the adjacent ocean into storage reservoirs, from which Oceanwise draws its seawater requirements by gravity feed."

Oceanwise's East London facilities are the flagship of marine finfish aquaculture in South Africa, with a complete egg-to-plate facility capable of producing 600t per annum. The East London operation has a good symbiotic relationship with other kob producers such as Pure Ocean Aquaculture

(also in East London) and Blue-Green Aquaculture in Paternoster, Western Cape.

"The East London Oceanwise facility is focused on production of dusky kob or kabeljou for the local and international seafood market, primarily targeting environmentally conscious customers and clientele with focus on sustainability and green-listed seafood. Oceanwise currently employs approximately 90 permanent employees in its various stages of operation from broodstock to hatchery, to nursery and weaning and through to grow-out and harvesting and processing and logistics, with supporting services such as administration, finance, fish health, water quality and life support systems. Most training is completed in-house, on-farm which will be further formalised in 2014/15 by the AgriSETA."

Original Espadon Marine founder John Vorster has continued with aquaculture research at the Centurion facility after kob production was relocated to the Eastern Cape. He has focused on tilapia hatchery technology for inland recirculation systems, with low-cost viable production as his end target. John has much advice and guidance to give new emerging farmers hoping to invest in a profitable tilapia, kob or crayfish aquaculture facility.

Oceanwise farmed kabeljou is farmed on a land-based farm using recirculation tanks. "Being land-based, it has minimal impact on the ocean, and all inputs and outputs can be measured and controlled," says Ryan. Sustainability is an underlining principle behind every aspect of Oceanwise's production systems, which are designed to be energy-efficient and sustainable. Its carbon footprint is relatively small, with over 600t of protein being produced on a two-hectare footprint. Electricity consumption to pump and recirculate seawater is one of its liabilities along with imported feed supply. However, Oceanwise is in the process of installing solar PV cells on all its office roofs to convert as much of its electricity use as possible off the national grid to internal renewable solar energy.

Ryan explains that Oceanwise is also building a commercial biodigester to digest and convert biological waste from the farm and processing facility into gas, heat and electricity, and harvests rainwater from its tunnel structures and stores this for washing and maintenance use. Through its hatchery and grow-out facilities, land-based farms such as Oceanwise can produce and supply large volumes of kabeljou for human consumption with minimal impact on the oceans or marine environments—a practice that is therefore considered sustainable.

"The pros of farming kabeljou in a land-farmed aquaculture facility include that it is a fully controlled system with minimal impact on the wild ocean environment or wild kabeljou population, since only the handful of parent broodstock come from the ocean," he says. "Consequently, farming reduces pressure of overfishing and protects wild kabeljou populations. Secondly, being farmed on land in tanks, we are protected from marine weather conditions and can farm and harvest all-year round, which provides consistent sustainable supply to consumers. The third important benefit of farmed kabeljou is its healthy growth from a controlled traceable diet that is free of mercury, free of hormones, free of antibiotics, free of GMO and mammalian material."

Life for a kabeljou at Oceanwise begins as an egg from spawned broodstock, explains Ryan. "The fertilised eggs are transferred to incubation tanks with temperature-controlled brown algal water, where they hatch within 24 hours to become 'kob larvae'. The newly hatched larvae live off their yolk sack for two days before needing external live plankton type food called 'rotifers'. As the larvae grow, this feed is replaced by a larger shrimp-like feed called artemia, which is also grown in Oceanwise hatchery under controlled conditions."

After approximately two weeks, the young kabeljou larvae are weaned onto artificial diets, which are specifically formulated to meet the nutritional needs of the young fish. Like most fish, young kabeljou are cannibalistic and must be regularly graded to prevent larger larvae eating the smaller larvae. Over the next 12 months, the kabeljou are fed pellet feed based on their nutritional needs and are periodically graded to sort to similar sizes and manage feed requirements. Water currents in the tanks are designed to give the fish optimal exercise without exhausting them, while daily tank waste is removed by syphoning and tank centre drain design, to provide a healthy growing environment.

"Water temperature, water quality, dissolved oxygen levels, and management protocols are designed to minimise stress for the fish, so that feeding, food conversion and growth rates can be optimal. The kabeljou are harvested into an ice-slurry mix, which lowers their body temperature and stuns the fish as a most humane method of slaughter before transferring to the processing facility for cleaning and packing."

Oceanwise land-farmed kabeljou are raised from wild-caught parent kabeljou broodstock from the Eastern Cape oceans, so genetically they are the same as the wild kob. The diet fed to the Oceanwise kabeljou is also designed specifically for Oceanwise based on research of the ideal feed-profile required by this fish including proportions of protein, lipids and carbohydrates. "A portion of the protein content is made up of fishmeal from sustainable sources, as part of this commitment to maintain a diet assimilated to that found in the wild. However, in a protected controlled environment, such a diet is more efficient and regularly available to the fish. The main difference between Oceanwise kabeljou and historically wild-

Liam Ryan (Director), Debra Odendaal (Product Supervisor), Ziyanda Nontenja (Manager: Fish Health), Sindisle Tomsana (Harvest Supervisor)

caught kabeljou, explains Ryan, "is the size at which it is harvested and supplied to the market. Wild-caught kob by regulations had to be over 50cm in length, which meant they were around 5kg and over 5 years old when supplied to the market. Oceanwise kabeljou is harvested at approximately 1kg or one year old, so it is smaller and more tender than the wild equivalent. In the future, Oceanwise will grow some fish larger, but it is a factor of cost and risk to keep the fish for too long."

Oceanwise green-listed farmed kabeljou is supplied to top retailers such as Woolworths, and also to top hotels and fine-dining restaurants via leading seafood distributors such as Fisherman's Deli, La Marina and Food Inmind in Gauteng, Wild Peacock, Southern Cross and Gordon's Bay Fisheries in Cape Town and Roelof's Fresh Fish Co. in Mpumalanga, as well as top hotels such as The Oyster Box in Umhlanga, Mount Nelson in Cape Town and most Tsogo Sun Hotels.

"LSG Sky Chefs also sources Oceanwise sustainable kabeljou for several international airlines, and Oceanwise recently listed as a Sustainable Seafood Supplier to Air Chefs for our national carrier SAA and its alliance partners.

"Via its distributor Fisherman's Deli, Oceanwise sustainable kabeljou is also supplied to the fresh seafood counters of leading Pick n Pay stores in Gauteng, and select Food Lover's Market stores. Woolworths Foods offers value-added farmed kabeljou products over and above the fresh seafood counters including vacuum-packed fillets and vacuum-packed butterfly kabeljou with the bones in for extra taste."

Production of kob has increased from 20t to 48t to 152t over the past three years, and this should increase to close to 500t in the next two years in its current facilities.

Oceanwise has a historically strong relationship with both Rhodes University (Grahamstown) and Stellenbosch University, which are two of the leading academic institutions driving aquaculture research. However, other leading institutions such as Fort Hare University, the University of Cape Town and the University of the North (Limpopo) also have aquaculture-related study, research and support structures. The aquaculture sector of the DAFF, led by Belemane Semoli in the Cape Town office, is also a shining light of good government initiatives and support, with exciting new initiatives about to be launched in the coming months.

"The Department of Science and Technology has also recently committed support for aquaculture through their SIF (Sector Innovation Fund) directed at research that can aid the South African economy," says Ryan. Approximately R7m has been earmarked for a range of aquaculture research initiatives through the leadership of Marine Finfish Farmers Association of South Africa. The dti is also supportive via its ADEP and Sector Specific Assistance Scheme incentive programmes. Details can be found on their respective websites.

Ryan explains that obtaining funding for aquaculture investments remains a challenge, with development finance institutions (DFIs) such as the Industrial Development Corporation, Eastern Cape Development Corporation, Development Bank of Southern Africa and the Land Bank quite cautious of aquaculture projects due to the high initial capital costs and relatively high risk linked to a developing industry. However, each project and investment is judged on its individual merits, so interested investors should continue to approach these institutions or other DFIs that operate in their areas.

The Aquaculture Association of Southern Africa can also guide investors to appropriate institutions, and various regional development agencies exist such as the Western Cape Aquaculture Development Initiative. The DAFF research aquarium in Sea Point, Two Oceans Aquarium in the Waterfront and Ushaka in Durban are also very supportive to the aquaculture industry.

"From an Oceanwise perspective, our short-term goals are to complete a successful BBBEE transformation exercise and take the business forward to a profitable production of 252t of kob by June 2015 and 500t by 2016 and then expand our facilities to 3 500t capacity by 2019," says Ryan. "Ambitious but possible if the suggested DAFF and Operation Phakisa initiatives materialise. For these initiatives, we must wait for further announcements in October this year by the president."

In the medium term, the prospects remain challenging for the next 12 months until economies of scale are reached at over 300t output per annum. Thereafter, with volumes and continual improvements, the prospects are exciting for the long term, especially if production can be increased to over 3 500t per annum and sustainable aquaculture becomes more competitive and efficient, with renewable electricity forming a significant component of recirculation aquaculture systems.

Shannon Manuel

Interested developing farmers should contact their local DAFF extension officers for guidance and referral to appropriate technical partners, such as Oceanwise. Assistance may also be sourced via the Oceanwise website www.oceanwise.co.za or via email: liam@oceanwise.co.za or via the Aquaculture Association of Southern Africa.

Oceanwise

The green farmed choice

"Investment in aquaculture is one of the most important keys to job creation opportunities that simultaneously contribute to poverty eradication and to sustainable long-term food security. Such investments will improve the competitiveness of domestic production, increase farmers' profits and make food more affordable for the poor." (Johan Potgieter, Senior Researcher, Institute for Security Studies).

Oceanwise has invested extensively in the creation of a world class aquaculture facility where Dusky Kob (Kabeljou) is successfully farmed and formulated and a number of other species are being developed also as sustainable sources.

Through utilisation of specialised aquaculture technology the company will continuously improve on its farming procedures so that only top quality products are supplied to local and international markets.

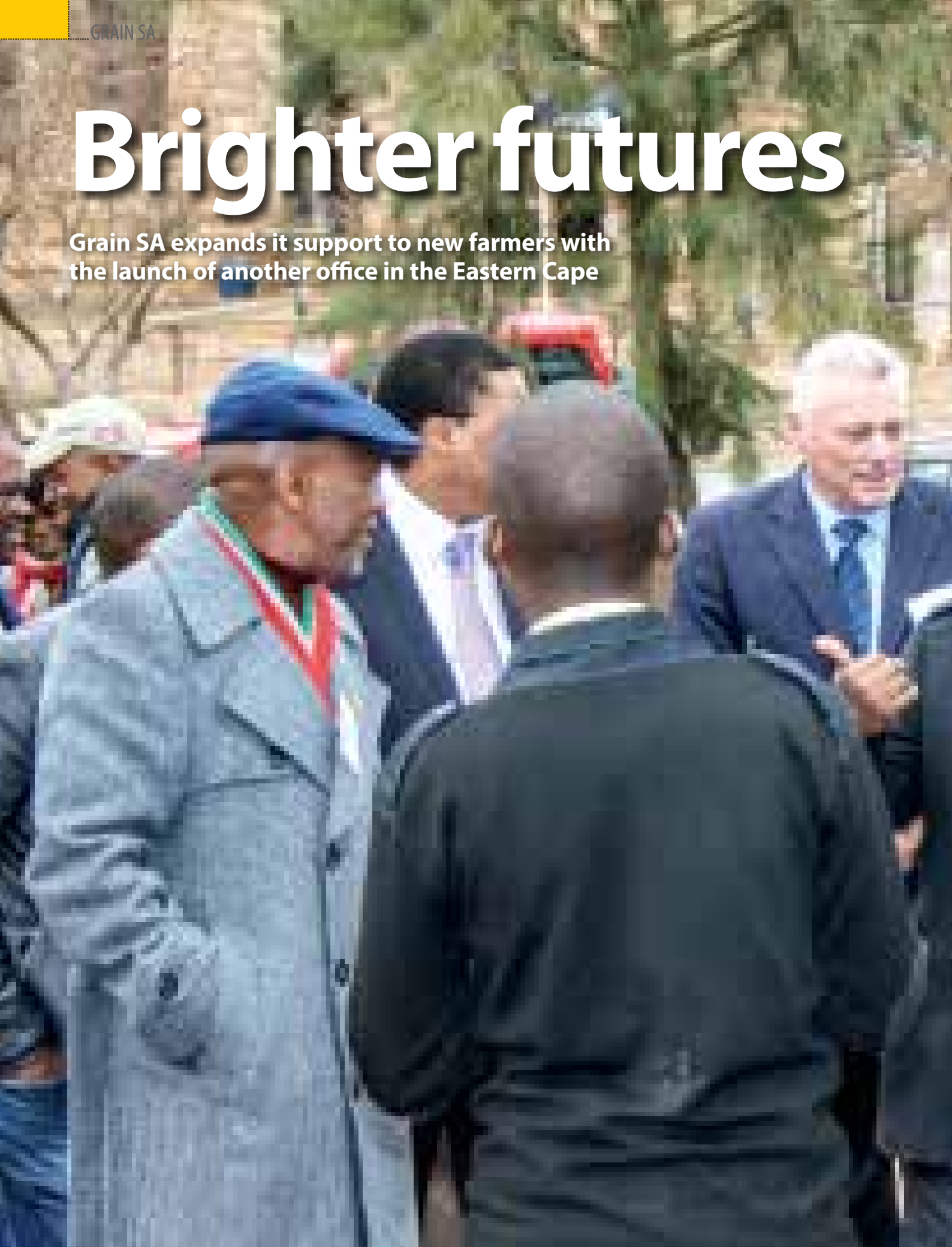
Oceanwise pioneered the culture of Dusky Kob, in South Africa, with specialised, on-land farming technology, using recirculation aquaculture. Wild caught brood stock are conditioned and spawned, from which only top quality fingerlings are reared to market sizes between 350g – 2.5 kg. All fish are fed sustainable local feeds.

Dusky Kob farmed on land has been listed as a GREEN best choice by WWF-SASSI (South African Sustainable Seafood Initiative). Oceanwise Kob is thus a preferred choice to the environmentally conscious consumer.

To find out more, call us on 043 702 8209, email: liam@oceanwise.co.za or visit www.oceanwise.co.za

Brighter futures

Grain SA expands it support to new farmers with the launch of another office in the Eastern Cape



Grain SA, the voluntary association representing grain producers in South Africa, officially inaugurated a third regional office in the Eastern Cape in Maclear on 15 August 2014 as part of its strategy to expand farmer development to the grain producing rural areas of the country.

As one of its core business units, the Farmer Development Programme's main objective is to work towards a united agricultural sector that can prosper. Representing 4,115 black new era commercial farmers, in addition to 3,500 commercial grain farmers, Grain SA now has a total of nine regional offices throughout production areas servicing its members, which include Kokstad, Mthatha, Maclear, Louwsburg, Ladybrand, Lichtenburg, Mbombela, Balfour and Paarl.

The official opening of the Maclear regional office, attended by the Minister of Agriculture, Forestry and Fisheries, Mr Senzeni Zokwana, the Eastern Cape MEC for Rural Development and Agrarian Reform, Mr Mlibo Qoboshiyane, the honourable Mayor Ruth Lengs and a host of other dignitaries, was a wonderful networking opportunity for all stakeholders, grain producers and the community at large.

Farming has a future

In its endeavours to address food security and food sovereignty, generate an income for those who have access to land, protect our natural resources and create jobs, Grain SA took the opportunity to highlight to stakeholders, the immense challenges faced by the country's new era grain farmers. These challenges range from limited funding for mentoring, to lack of finance for crop production due to the absence of title deeds. Our new era grain farmers further find it impossible to finance crops for communal land or to obtain the shortfall in insurance cover beyond input insurance. These challenges in turn, can potentially hamper the National Development Plan's objective for the agricultural sector to play the dual role of providing food and jobs.

In addition, the expansion of the mining sector in Mpumalanga impacts negatively on grain production and Grain SA's vision to migrate the lost production to the Eastern Cape has been applauded by the Minister. "We need to get the Eastern Cape into production if we want to be food secure in the next five to fifteen years," Minister Zokwana reiterated in his keynote address. He added that Government will have to prioritise this area, especially with regard to storage and transportation networks for the region, since no grain infrastructure currently exists in the province, including storage, railway and port infrastructure and sufficient transportation networks amongst others.

Sending a strong message of support to producers, the Minister stated that "Farming has a future. Mining has a beginning and an end. Mining only feeds a few shareholders whilst agriculture will feed the nations!" Minister Zokwana further briefly touched on the land reform debate and stated that government will not take farms without compensation whilst proclaiming that those who work the land, should own it.

Food security strategy

South Africa needs to ensure the sustainable production of surplus maize at all times. This will allow our maize prices to remain closer to export parity but at prices above production cost, ensuring the future production of sufficient maize. In instances where South Africa produce a short crop - whether due to drought or land reform failures etc. – local maize prices will move towards import parity, resulting in an increase in prices of approximately 66%. Consequently, maize meal, poultry, dairy and meat products will have similar increases, resulting in a surge in food inflation, interest rate increases and diminishing GPD growth.

Every kernel planted is an investment against poverty

According to Mr Jannie de Villiers, CEO of Grain SA, every kernel planted in South Africa is an investment against poverty. Certainly in enhancing the organisation's support to its 1,648 developing farmer members in the Eastern Cape Province, the farmer development programme is very dependent on the funding by its donors, the Maize Trust and the subsidy of farmers' production costs by the Grain Farmers Development Association (GFADA). De Villiers underlined the importance of funding to ensure the continuation of the valuable work accomplished by the programme to date, and called on financial institutions to find alternative avenues to accommodate new entrants to grain production.

Concluding a very successful occasion, Grain SA was able to emphasise its strategy to contribute to successful land reform in South Africa, whilst ensuring household as well as national food security for the nation.

Alzena Gomes

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Sappi Ultraflute

Sappi's new lightweight Ultraflute offers versatile, cost-effective packaging

In the competitive paper packaging market, product demand is driven by key factors. Is the product versatile, cost-effective, strong and environmentally sustainable? Ultraflute, Sappi's new lightweight semi-chemical fluting made with virgin NSSC (Neutral Sulphite Semi-chemical Pulp) fibre, is all of the above. This makes it an excellent choice for high-end, heavy duty packaging applications that need to endure rigorous conditions within the supply chain.

"Our product innovation is driven by market demand," says Richard Wells, General Manager Commercial, Sappi Paper and Paper Packaging. "Developing a product that addresses yield and cost advantages will assist converters in constructing a box that is cost competitive, without compromising on performance standards."

Key benefits of Ultraflute

Lightweighting is a worldwide trend due to its 'carbon footprint' benefit of reduced road, sea and air freight shipping costs. As a world-class lightweight product, Ultraflute's advantage is that it doesn't compromise on performance or the structural integrity of the box. It also means using less paper to achieve the same results, which leads to more competitively priced end-use products.

Ultraflute is used for agricultural packaging including fruit and vegetable paper packaging where boxes are exposed to changing cyclic humidity conditions and non-food applications such as tobacco leaves and long stem flowers. It is also used for industrial applications where heavy duty boxes are required for shipping eg automotive parts, domestic appliances, beverages and cans. Ultraflute's high virgin fibre composition adds to its superior strength, resulting in stronger boxes, improved stacking strength and yield advantages.

The product's high humidity performance makes it particularly ideal for packaging that need to withstand changing cyclic humidity conditions such as frozen fish, meat and other agricultural produce sent to market via the cold chain. Ultraflute typically retains more than 70% of its initial strength under high humidity conditions and maintains this strength for longer periods, which is an improvement on Sappi's previous semi-chemical fluting range.

In terms of convertibility (which is influenced by paper properties and machine running speed), Ultraflute offers improved flexibility and tensile, stretch and tear properties. These factors allow for increased corrugator speeds and the optimum use of raw materials.

On the environmental side, Sappi's new fluting product is made from renewable, sustainable resources that are certified in terms of internationally recognised environmental and quality standards (ISO 14001 and ISO 9001); and which carry the Forest Stewardship Council™ (FSC™) certification. Ultraflute is also biodegradable and recyclable, making it a responsible choice for agricultural and industrial packaging requirements.

This product is produced locally at Sappi's Tugela Mill in KwaZulu-Natal and is available in grammages of 125,140 en 165g/m^2.

Efficient, functional packaging

Ultraflute, our new semi-chemical flute, is made with virgin NSSC fibre and maximises machine performance and runnability. Its strength, lightweight and convertibility benefits offer improved yield and lower cost end-use products without compromising on performance standards.

Ultraflute is ideal for fruit and vegetable packaging needing to withstand changing cyclic humidity conditions, as well as frozen fish, meat and other agricultural produce sent to market via the cold chain, in addition to non-food agricultural and heavy duty industrial products.

Ultraflute is made from renewable sustainable resources. It is biodegradable and recyclable, making Ultraflute your natural choice for agricultural and industrial packaging requirements.

Make the responsible choice.
Choose Ultraflute from Sappi.

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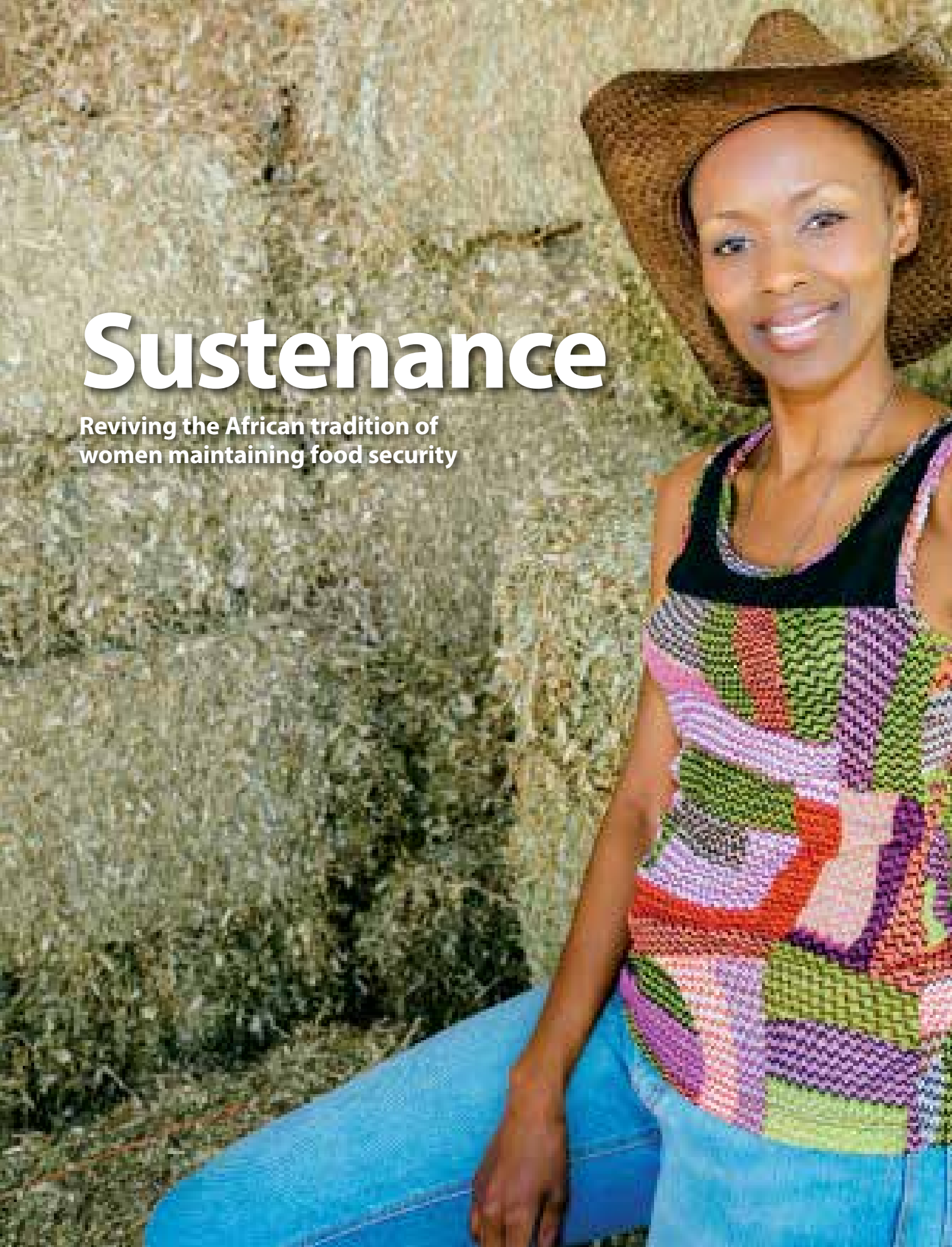

Sustenance

Reviving the African tradition of women maintaining food security

There are some 36 000 commercial farmers in South Africa; they are in the main white and male. Yet, historically, Africa has been a continent of small-scale, subsistence farming where women crofter farmers have kept the food supply secure for their families and communities.

Now, a small—barely two hectares—organic farm in the North West Province is trying to revive that tradition. Kenalemang Kgoroeadira—or Mama Kena—a PhD student at the University of South Africa (Unisa), who conceptualised the project, hopes Thojane Organic Farm will grow into a working example of small-scale sustainable farming that gives local residents access to healthy food.

Building communities using traditional African knowledge

Kgoroeadira and five other local women planted the first crops in 2009 on a single hectare plot. As an indigenous knowledge systems PhD candidate, she wanted her neighbours to rebuild their communities using traditional African knowledge. "Transformation by enlargement is the vision behind this farm … [It's] a place where people can have self-determination and begin to live like Africans, where what you do or learn is for the benefit of the whole society.

"It is knowledge that can benefit the whole nation," Kgoroeadira told a Unisa journal.

Along with organic green beans, spinach and tomatoes, the farm produces herbs—mint, yarrow, lemongrass, lavender—that are sold at local markets, to national retailers such as Food Lover's Market. It also donates produce to feeding schemes at the local Phokeng schools.

Produce from Thojane is grown without chemicals that strip the soil of its nutrients. Instead, Kgoroeadira and her team use

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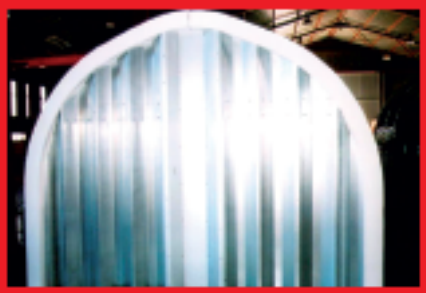

Most of these structures are also available to customers as a DIY kit making it even more affordable as no heavy duty cranes are required for erection. Structures are supplied with drawings and assembly instructions and can be erected in a few days.

For more info, please contact
Andre van der Merwe on 0832757016
or andre@shedsanywhere.co.za

natural fertilisers such as chicken manure. This method of farming is, Kgoroeadira believes, the most sustainable. It follows permaculture principles, which works with—rather than against—nature.

Kgoroeadira says, "It has always been my dream to go back to my roots, plough, interact with the soil like I used to as a girl, growing food, healthy organic food—not foods that are fed with chemicals for them to grow fast, losing all the nutrients."

Fighting poverty through food security

Thojane is also Mama Kena's schoolroom. It is where she takes all she has learnt and uses it to benefit her community. She encourages the women of Phokeng to plough their large backyards and turn them into vegetable gardens that can feed their families and give them an income. "In Phokeng, people are dependent on the mines, but they forget that platinum will be depleted one day. We need to fight poverty and have our own food security," she says.

Her thesis adviser inspired her to take her 'book knowledge' and build something tangible and real, something that would benefit her community and not simply become a book covered in dust on a library shelf. Thojane has become that, but for Kgoroeadira it is just the beginning. Looking out over two hectares of vegetables and herbs, she sees more.

"One day this farm will supply all the hospitals, mines and even international markets. We will grow organic vegetables and herbs; there will be honey, mutton, indigenous chickens and eggs. You will be able to buy essential oils, herbal teas, bath soaps and creams with a Thojane label. One day."

Her dream is no pipe one: what began as a small agricultural co-op has grown into an award-winning programme, with Kgoroeadira being named Best Female Subsistence Farmer by the Department of Agriculture, Forestry and Fisheries—and Thojane has not only improved food security in Phokeng, but also increased the nutritional content of the food that the poorest in the community eat. It is changing lives, one meal at a time.

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Honouring women farmers

Winners of the African Farmers Workshop & Expo announced

The African Farmers Workshop & Expo (AFWE) celebrated Women's Month by honouring women in agriculture at the Women in Farming Awards gala dinner on 13 August 2014. This prestigious function formed part of the three-day African Farmers Workshop & Expo that took place at the Johannesburg Expo Centre, Nasrec in Joburg from 12 to 14 August. AFWE aims to empower emerging and subsistence farmers across South Africa.

"The gender gap in African agriculture has created many challenges for women," says Mahlatse Masimini, CEO of Moshate Media, organiser of the event. "This gap makes it extremely challenging for African women to move out of poverty and thrive. This is despite the fact that 80% of agricultural production comes from smallholder farmers, most of whom are women, and the many challenges they face such as denial of land ownership, no access to credit, lack of quality seeds and fertiliser, to name a few.

"The main objectives of the Women in Farming Awards are to recognise women farmers, celebrate their achievements and reward their successes," explains Masimini.

Although women farmers in Africa do not get the credit they deserve, South Africa has started looking at female farmers and what they can achieve. The Women in Farming Awards honoured outstanding women farmers in five different categories, which are processing; export markets; commercial farming; smallholder farming; and best young female farmer.

The AFWE award winners are described as follows.

Caroline Mogoane
Company: Maano A Basadi
Category: Best Province—Limpopo
Maano A Basadi Co-operative is a 100% black-owned co-operative based in Phokwane Village under the Makhuduthamaga Local Municipality of Greater Sekhukhune in the province of Limpopo. The organisation was formed by black women of Phokwane Village and nearby villages with the intention

to empower the underprivileged and further create jobs for unemployed youth, men and women around Sekhukhune District.

Maano A Basadi's vision is to promote black people's participation in the economy and create job opportunities and further contribute to job creation and poverty alleviation by practising constructive business communication through our diligence, commitment and dedication and being accountable to our customers/clients.

The company presently offers the following SABS-approved products at professional level: tasty drinking yoghurt, sour milk and ice cream. These products are marketed at the local Spar, Roots (meat & chicken), shops, weddings and parties, pay points (pension grants), taxi rank and local schools around Limpopo.

Mirriam Mulungo
Company: Mulungo Agricultural Co-op
Category: Best Province—Gauteng

Mulungo's farm is situated in Modderfontein, north of Bronkhorstpruit. Mulungo started farming part-time while she was still working as a nurse in November 2002 at Nooitgedagt on a rented plot. She then bought a plot at Goldrich Hill with the aim to start farming full-time, but conditions did not favour her to farm with pigs. She decided to sell the plot and buy another one, which she acquired late 2005 at Modderfontein with 14.8ha and 20 pigs. She resigned from her nursing job in June 2006 because of her passion for agriculture and started farming full-time.

Mirriam never attended any formal training in agriculture—she received information about farming from farmers' days, reading books and visiting other farmers. She currently owns a 173.8ha plot, which has three poultry structures, one pig structure benefited from CASP infrastructure programme and three boreholes.

Mulungo produces pigs, maize, groundnuts and soya beans on her plot. She has 50 pigs, i.e. 50 growers (that are ready for market), 62 soars, 50 soars for breeding and two boars. She is also producing eggs, about 9 600 per day. She supplies the formal market, Nathoo supermarket in Bronkhorstspruit, and her own butchery. She has cattle and maize on her farm and employs 11 permanent employees (five women and six men) and accommodates students from different universities. She also hires 70 casual workers from the local community during peak season.

Nomzamo Khoza
Company: People's Bio Oil Pty Ltd
Category: Best Province—KwaZulu-Natal
People's Bio Oil (PBO) is a two-year-old black-owned community upliftment based private business committed to developing rural communities by providing business and farming skills. The core services of the company are the production and creation of products that speak to both health and daily needs of our customers, produced from moringa trees and other different types of herbs, as well as distribution of Morana products.

PBO aspires to be a significant contributor to Africa's future sustainability in farming and community development and will develop the rural communities by providing business and farming skills at the highest level. Through our passion for people, business and farming, PBO will ensure the growth of the farming industry at all levels while bringing back the responsibility in every household to have a natural healthy living by being a manufacturer and distributor of Morana natural health products from South Africa to all corners of the world. PBO is dedicated and committed to providing a range of natural products for the improvement of fellow men and women's health and wellbeing, and partners with willing communities to create sustainable jobs to protect and promote indigenous knowledge.

Sindisiwe Sabela
Company: Ikhwezi Development Projects & Services Primary Co-Operative Ltd
Category: Best Province—Gauteng
Ikhwezi's vision is to be the starting point of a bigger project in the agricultural sector by accessing bigger land and to be acknowledged as the most professional and dynamic farming businesses in the region, contributing to the economic growth of South Africa, providing excellent service and products to selected markets and thereby benefiting its customers, suppliers and shareholders through an enthusiastic, well-trained team, utilising appropriate technology, maintaining high ethical standards and a commitment to social responsibility.

Ikhwezi's mission is to embark on various measures to access all possible support that is available through the Woolworths farmer development programme.

Ikhwezi owes its success to factors that make it stand out from the rest, such as providing prompt, friendly and efficient response to enquiries and complaints; emphasising customer satisfaction through fast, accurate, flexible and reliable service; maintaining quality standards, and meeting customer and industry specifications; empowering personnel through training and skills development; developing sound customer and supplier relationships; ensuring service level agreements are met and exceeded; striving to deliver 'on time, all the time, every time'; determining society's perceptions with the aim of making an impact on society; and maintaining low overhead costs by monitoring and scheduling operating methods, to name a few.

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Developing further

Israeli Ambassador Arthur Lenk speaks to *Harvest SA* about South African agriculture and ways to increase consistent agricultural productivity

One of the leaders in the international agricultural sector, Israel has a great reputation for making the desert bloom, and is eager to share knowledge with South Africa to increase food security and the development of small farmers and reliable agricultural growth.

"Israel and agriculture go together as does South Africa and agriculture", says Lenk. "Anybody who pays attention to the national goals of South Africa, your national development plan, food security, job creation, water use—all of those things are agriculture, aren't they?"

The two countries have had a long, successful agricultural relationship over the years. "In terms of business, we did about R8 billion worth of bilateral trade in goods and services last year and a significant amount was in agriculture," Lenk explains. "We think we have things to share together, both in terms of business and with my colleague who's really an expert in sharing his experience in different regions around South Africa", he states, referring to his partner Isaac Isaac, an agricultural consultant. "He is much more experienced in South Africa than I am and my teacher in terms of agriculture."

Isaac has spent nine years working with developing small-scale farmers in Mpumalanga, Limpopo and the Free State. "It's a very interesting country," he says. "On one side, you can find first-class equipment, technologies and exactly what modern agriculture is doing. On the other side, you can see emerging farmers who are not able to feed themselves, utilising very basic farming processes. They are not harvesting and cannot sell anything and then approach the government to ask for help. That is where we are coming on board and we are trying to breach between what the government is giving them and what we can offer by means of training and support."

Effective skills development is a combined effort of international, local and governmental assistance and not isolated to any one individual or group. Lenk believes the responsibility does not completely lie in private enterprise hands, financial houses or equipment suppliers, and that government plays an important hand in the development of small farmers.

"I would argue that there's room for both. It happens in Israel: our government is very involved, our ministry of agriculture and rural development is involved in teaching and in training small-scale farmers".

Small developing farmers who are coming back to agriculture or are just trying to figure it out, are attempting to transfer over from traditional methods to more modern methods, he further explains. The emerging, aspirant upcoming farmer needs a lot of help in South Africa to be capable of utilising new technologies effectively, quality skills education being the most important. Through their travels around South Africa, Ambassador Lenk and his colleagues teach local farmers about Israeli technologies such as drip irrigation, skills in proper pest control, and after-harvest marketing.

"My foreign minister [Avigdor Lieberman] is about to make a trip to five different countries across Africa and he's going to talk agriculture, business, politics and development in all of those different places", explains Lenk.

"Whether it's trade, agriculture or development, it's my job and my colleagues'

Israeli Ambassador Arthur Lenk

to find those commonalities here in South Africa. The goal is to educate and get emerging farmers to realise the enormous potential that lies within agriculture, and offer local small-scale farmers the opportunity to travel internationally and gain first-hand experience in modern farming methods and their advantages.

"Israel's international co-operation programme is called Mashav, and if you go to the Embassy website, you find we have courses in Israel three or four times a year on agriculture issues," explains the ambassador. "We offer bursaries to South African farmers who have the right experience, who have the right background and could come and see and learn from what we do.

"By the way," Lenk adds, "in the business sector, there's an opportunity to see what we're doing. In April 2015, we are going to have our biennial exhibition, Agritech." The exhibition will take place in Tel Aviv and showcase all the modern technologies and innovations that have been utilised within the agricultural and development sector in Israel.

Tony Sanderson and Shannon Manuel

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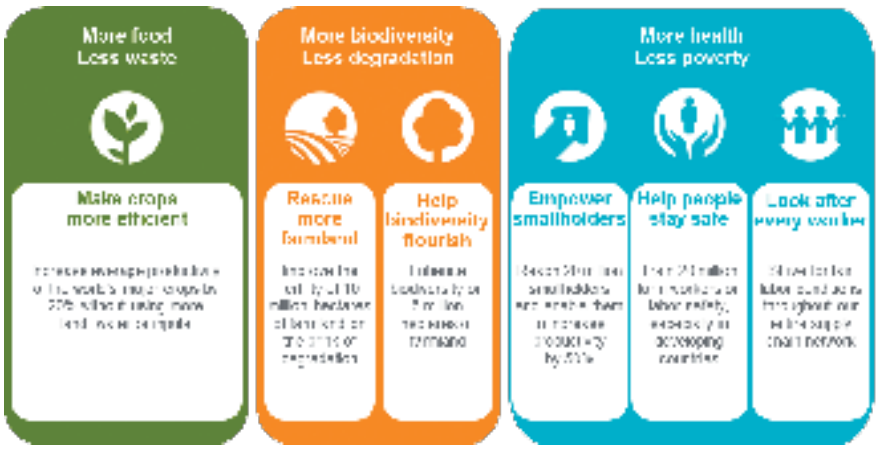
Syngenta

Committed to sustainable agriculture

Syngenta – a world leading agri-business committed to sustainable agriculture through innovative research and technology recently announced six commitments to address the global food security challenge.



The commitments known as the Good Growth Plan has specific, ambitious and measurable targets which focus on boosting resource efficiency, rejuvenating ecosystems and strengthening rural communities:

These commitments are as follows:

- Make crops more efficient: Increase average productivity of the world's major crops by 20% without using more land, water or inputs
- Rescue more farmland: Improve the fertility of 10 million hectares of farmland on the brink of degradation
- Help biodiversity flourish: Enhance biodiversity on five million hectares of farmland
- Empower smallholders: Reach 20 million smallholders and enable them to increase productivity by 50%
- Help people stay safe: Train 20 million farm workers on labour safety, especially in developing countries
- Look after every worker: Strive for fair labour conditions throughout the entire supply chain network

Mike Mack, Chief Executive Officer of Syngenta, said at the launch: "We have always been acutely aware that our business can only grow if we ensure that farming is carried out in a sustainable way. We continuously seek to bring this awareness to life through our focus on land, technology and people. We now need to take our contribution to a new level and this is the driving force behind the commitments announced today."

The Good Growth Plan reflects Syngenta's belief that agricultural productivity must increase in order to feed a global population which is currently increasing by 200 000 every day. At the same time, farmland is being depleted through urbanisation and soil erosion while water resources are under increasing pressure. Rural communities – those responsible for growing food – are often trapped in poverty.

At a series of launch events around the world, Syngenta met with opinion leaders to discuss these challenges and set out the company's contribution to help tackle them.

Extensive research has revealed a widespread societal view that farming needs to become more responsible. While governments are seen as primarily accountable for ensuring reliable food availability, Syngenta believes it is incumbent on business to play a larger role in fostering a long term approach to food security.

This means using their substantial investment in Research and Development to advance technologies that not only protect but also enhance the environment and benefit rural communities.

Mike Mack continued: "Delivering on these commitments won't be easy given the conflicting views of society on agriculture and food production. The Good Growth Plan represents our collective commitment as a company to do things differently and better.

We know we can't solve the challenges alone which is why we are bringing together stakeholders from across the world to share our intent and to benefit from their input."

For more information on The Good Growth Plan go to www.goodgrowthplan.com

Syngenta is one of the world's leading companies with more than 28,000 employees in over 90 countries dedicated to our purpose: Bringing plant potential to life. Through world-class science, global reach and commitment to our customers we help to increase crop productivity, protect the environment and improve health and quality of life. For more information about us please go to www.syngenta.co.za

syngenta

the good growth plan

Beth Wangari is one of 450 million smallholders worldwide, who produce over 30% of the world's food. As one of the world's leading agricultural companies, we're committed to empowering smallholders like Beth, so they can increase their yields sustainably and become more profitable. But it doesn't stop there. In The Good Growth Plan, we have set out six measurable ways in which we'll help farmers to overcome major farming challenges by 2020. To learn more about The Good Growth Plan, our six commitments and the progress we are making, visit www.goodgrowthplan.com

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Secure energy

South African farmers will benefit from converting to solar energy

Eskom's 8% average increase of energy prices per annum over the next five years, petrol price hikes, the increase of farmworkers' minimum wage, as well as the e-tolling regulations in Gauteng, will all add to the increasingly high input costs across the agricultural sector—all of which farmers continue to battle to contain.

According to Arthur Chien, CEO of Talesun Energy, a leading supplier of solar energy solutions, some of these costs can be alleviated; electricity is one cost that farmers can reduce and do have control over.

"Renewable energy solutions allow farmers to reduce energy costs and protect themselves against energy shortages and price increases. Crop irrigation, for instance, is a key energy concern for farmers, as the action of pumping water around the farmland can utilise a great amount of energy."

Chien says renewable energy such as solar photovoltaic allows farmers to pump water throughout the crops at a reduced cost. He also points to the example of poultry farms, which require constant ventilation and lighting, and can be the most expensive elements of an agricultural business.

The benefits of solar PV within the agricultural industry, according to Chien, include providing energy for light, heat, irrigation, feeders, ventilation and other processes. "Solar PV can be integrated into a farm's electrical distribution, helping to decrease the overall costs of large energy bills. It also lowers the carbon emissions on a farm, which increases an establishment's green credentials. Furthermore, solar panels are low-maintenance, have no moving parts that can wear out over time, and are therefore very reliable."

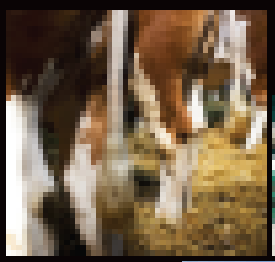
Chien says there is no need for farmers to build additional structures in order to make use of PV solar power, as all that is needed is a solid roof or an open piece of land for a ground-mounted system. "Farmers are well positioned to benefit from solar PV systems with the large amount of roof space available on the roofs of farm barns, stables and houses, and can harness solar power well due to their often vast exposure to the sun."

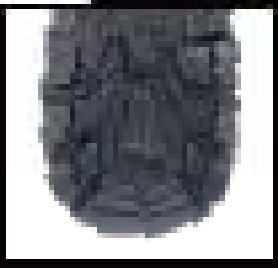
He advises that should farmers be serious about investing in solar PV, they first need to ensure they conduct efficient research on the selected solar PV company. "Choosing the right renewable company, one that will be there in the long term, is the key criteria when seeking professional advice and renewable energy."

Chien says the following checklist should be reviewed before pursuing renewable or solar energy installations:

- Solar panels need to be able to provide the best performance to help ensure economic payback of the power produced. It is therefore important to select a solar energy supplier that uses panels that are of high quality. The quality of the panels can be determined by the brand, the durability and longevity of the panels, whether they are able to withstand harsh weather conditions, as well as any certifications the company and its products may have. Low-quality panels can get damaged easily, and this will affect function and efficiency.
- Panels installed on top of livestock barns should be tested for their resistance to ammonia, salt and mist corrosion. Ensure the solar PV company conforms to the Quality Tested Certificate for passing the salt mist, ammonia corrosion test. Panels need to be able to withstand high mechanical load strength of 5 400 pascal in accordance with the requirements and conditions set out by the International Electrotechnical Committee.
- See that the solar modules come with at least a 10-year product guarantee.
- Ensure the modules are protected against fire damage.
- Check with authorities whether planning permission is required.
- Check that the solar modules have undergone a PID (potential induced degradation) test at 85 degrees Celsius to ensure modules can withstand South Africa's hot climate; and
- Ensure warranty details on product and workmanship are clarified.

Talesun Energy, a subsidiary of global solar solutions company, Zhongli Talesun Solar, consistently produces industry-leading quality, crystalline photovoltaic modules manufactured in the world's largest, fully automated production facility (210 000 square metres). For more information, visit www.talesunenergy.com





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AN INTERVIEW WITH JON GRIFFITHS ON OUR CHELSEA SAFETY BOOTS

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Jon Griffiths, General Manager of Agri Mags Investments, was not a fan of safety footwear until he purchased a pair of Chelsea's from Beier Safety Footwear. We were curious about his change of heart, so we chatted to him to find out why.

1. WHAT WILL YOU BE USING AGRIMAGS FOR?

"WE DO ALL MECHANICAL PUBLICITY FOR A FEW AGRICULTURAL COMPANIES"

Jon is responsible for the production and marketing of all products for the Agrimags group. This means I work on projects with companies from Great Agricultural Shows and The Royal Highland Show.

2. WHAT DID YOU USE YOUR AGRICULTURAL BOOTS FOR BEFORE?

I wore them on my dairy sheep farm, working on farm visiting agricultural machine shows – I do everything from fix a mid summer hay making machine to carrying out machine demos and comfort is right very important and it was there in all areas.

3. WHY DID YOU PURCHASE BEIER SAFETY BOOTS, PLEASE EXPLAIN?

I grew up in Stranraer on industrial estate where I worked in the factory. My boss was very kind to me as I was very young. My previous experience with them was that they were heavy and uncomfortable so I stayed away from them.

4. TELL US, WHAT MADE YOU BUY A BEIER AGRICULTURAL SAFETY BOOT OVER THE AVERAGE SAFETY FOOTWEAR?

I bought 42 pairs for the farm only because I was so impressed after I tried them out.

5. HOW MANY PAIRS DO YOU OWN & WOULD YOU RECOMMEND THEM TO OTHERS IN THE AGRICULTURAL INDUSTRY?

I own many pairs of Beier for years as a craftsman. Before buying the Chelsea I owned all safety boots were heavy and uncomfortable. The Chelsea helped me as a safety boot and safety footwear like the safety footwear are comfortable.

6. IS THERE ANYTHING ELSE YOU'D LIKE TO ADD?

"I'D ADD THE THOUGHTS OF THE MORE PEOPLE WEARING THEM THE BETTER SAFETY FOOTWEAR"

Choose comfort and assurance – you'll want to wear them everyday! If I had to keep one pair of safety shoes only, it would be my Beier Safety Footwear and gloves for sure.

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Amid the alien corn

Maize is not an uncommon sight in the Western Cape

Maize is a summer crop and is planted from October onward. Production in South Africa is mainly in the summer rainfall areas of the country, with an estimated 2.5 million hectares or more planted for grain production. The Western Cape gets winter rain and is therefore far from ideal for production of maize, yet more and more maize fields are noticed when driving through the rural areas of the Swartland and Overberg. The main reason for this is a dramatic rise in the cost of maize as well as an increase in the cost of transporting the maize down from the production areas in the north.

As very little rainfall occurs in the Western Cape during summer, production of maize is only possible in areas where irrigation water is available. Available irrigation is, however, mainly used in the Western Cape for grapes, fruit and vegetable production with some also utilised for pasture production in the dairy industry. The high cost of setting up the infrastructure for irrigation coupled with high electricity costs has limited the use of irrigation to production of these higher value sectors.

A worldwide shortage of maize coupled with lower reserves available locally saw the maize price jump from around R1 700/tonne in 2011 to more than R2 500/tonne with some locally produced maize fetching prices in excess of R3 000/tonne during 2013. This had serious implications for the livestock industry, which consumes large quantities of maize for feed. Dairy farmers in the Western Cape have been struggling for years with low milk prices and high input costs, resulting in many farmers even closing down their dairy operations. The high landing cost of maize in the Western Cape has prompted some dairy farmers to plant maize to produce their own silage in order to curb high input costs due to the rise in the price of maize.

When choosing the variety of maize for production of silage, different traits have to be considered compared to varieties planted for grain production. Varieties with a high total dry matter yield are preferable while still having a high grain yield to achieve maximum metabolisable energy yield per tonne produced. High grain yield is important, as the grain is the biggest contributor to metabolisable energy (70% more than the green part of the maize plant). The digestibility of the grain is also important. A softer, more digestible grain is preferred compared to a harder grain that is usually typical of most commercial hybrids planted for grain.

Genetic improvement of maize for grain production has shifted to varieties that are shorter and more compact with higher grain to stover ratio, which is not ideal for high production of silage. The ideal variety for silage production is one that has a high biomass production, a high grain production and a slow drying-off cycle, with good digestibility traits.

Agricol has a range of maize varieties dedicated to the production of silage. The genetics of these varieties produces a type of maize plant that is more suited to production of silage. These varieties were the originally developed for subtropical climates and tend

to be much leafier while still producing high grain volumes. The drying-off cycle is also slower than most grain varieties, which is important when producing silage. More and more dairy producers in the Overberg area are now opting for these dedicated silage varieties, with more than 80 tonnes/ha achieved in most cases.

While the utilisation of maize in the production of silage has seen a noticeable increase, the production of grain is also on the rise. In the traditional potato-producing areas of the Sandveld, more and more pivots with maize can be seen each season. The input costs, averaging more than R130 000 per hectare, to produce potatoes together with fluctuating market prices has made potato production less attractive over the past years, with some farmers switching to alternative crops to ensure profitability.

With potato production, vast amounts of fertiliser are applied to ensure high yields. A lot of this fertiliser actually gets washed past the root zone of the potato plants and remains unutilised after the potatoes have been harvested. Following the potato crop with a maize crop enables the mining of this wasted fertiliser. While some farmers follow their potato crop with a maize crop in summer, some have even opted to move away from potato production altogether, with double cropping winter crops together with maize. Typical maize yields in the Sandveld during the past seasons ranged from 12 to 14 tonnes/ha with yields of up to 16 tonnes/ha achieved on the heavier soils. The high maize price seen during the past seasons has ensured a much steadier and risk-free income scenario for these farmers.

The Sandveld area is known for very high temperatures during the summer. Although heat units are important in the production of maize, the adaptability of varieties to these high temperatures seems to have an effect on yield. Maize varieties supplied by Agricol are well adapted to the conditions in the Sandveld, with the variety Impak 51-92 being the variety of choice for the farmers in this region.

Many farmers will testify to the huge risk of choosing a maize hybrid that has not been tested for at least two years in the area. Plant densities of 75 000/ha and above gave yields averaging above 12 tonne/ha under these conditions. Impak 51-92 is also available with RR technology, which allows the broad spectrum herbicide, glyphosate, to be used.

Some farmers have averaged more than 12 tonne/ha during the past two seasons and have opted to stop producing potatoes altogether and to just focus on maize production, winter crops and livestock. According to Mr Smit, a farmer in the Redelinghuys area, the risk of producing potatoes has just become too high. Although the maize does not give the high returns of potatoes, the risk is much less—and with contracts acquired in the local feed market, good prices are ensured. The maize is less labour intensive and reasonable returns are more likely than with potato production.

Mr Jan Genis, who farms in the Graafwater district, reckons that maize has stabilised his cash flow and forms an integral part of his farming business. Planting the maize following a potato crop recycles a lot of the fertiliser from the potato crop and average yields of more than 12.5 tonne/ha were achieved during the past seasons The added benefit of the livestock grazing on the stubble and the increase of organic material and the very important ground cover is a further benefit to him.

The fact that the Western Cape is a winter rainfall region, large-scale maize production as we know it in the northern parts of the country will never be a viable option. The Western Cape simply does not have enough water.

The prices seen during the past two seasons, however, made the production of maize under irrigation in the Western Cape a much more lucrative option lately. Even if there is a drop in the price of maize, it must be remembered that transport cost to the region will always be added, leading to higher regional prices compared to maize produced in the northern parts.

KUILVOERMIELIES

SC 602 Geel

SC602

Laat konvensionele geelmielie baster
Stadige graanafdroging
Besproeiing: 55 000 plante per ha
Droëland: 45 000 plante per ha
Goeie blaarsiekte toleransie – spesifiek teen grysblaarvlek
Lang snyperiode vir kuilvoer
Kenmerkend hoë kuilvoeropbrengs

SC 608 Geel (nuut)

SC 608

- Medium groeiseisoen geelmielie baster
- Uitstekende opbrengspotensiaal as kuilvoer
- Verbeterde wortel- en stamontwikkeling
- Uitstekende staanvermoë
- Goeie toleransie teen siektes
- Waar siektedruk baie hoog is moet voorkomend gespuit word
- Goeie toleransie teen hitte- en droogte stres

SC 709 Wit

SC 709

- Laat konvensionele witmielie baster
- Verkieslik hoë potensiaal gebiede
- Stadige graanafdroging – ideaal waar kontrakteurs gebruik word
- Besproeiing: 65 000 plante per ha
- Droëland: 45 000 plante per ha
- Goeie siekte toleransie – spesifiek teen grysblaarvlek
- Lang snyperiode vir kuilvoer
- Hoë graanopbrengs sowel as kuilvoer
- Ideaal geskik vir KwaZulu-Natal streek

SC 719 Wit (nuut)

SC 719

- SC 719 is 'n witmielie baster
- Het 'n lang en groot plantstruktuur wat uitstekende vroeë groeikrag toon
- Uitstekende staanvermoë
- Goeie toleransie teen droogtetoestande
- 'n Ideale keuse vir kuilvoer onder droëland- en besproeiing toestande
- Waar kwantiteit die bepalende faktor is sal SC 719 as kuilvoer uitstaan
- Baie geskik vir die Oos- en Suid-Kaap streke

SOJA AS KUILVOER
DM 6.8iRR

- Goeie stamkanker toleransie
- Goeie Phytophtora toleransie
- Baie goeie sytak ontwikkeling
- Goeie staanvermoë
- Goeie 'frogeye' toleransie

agricol
aan die groei

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TOPCON Precision Agriculture

Topcon produces a range of controllers for steering and guidance, spraying, seeding, planting, fertilizing, spreading, and incorporating auto-section and variable rate control.

Topcon's advanced products are designed to increase efficiency, improve yields, reduce input costs, conserve water, protect the environment, and enhance your farm management system.

X14 SOLUTION

Topcon's X14 console provides an entry level solution for those seeking visual guidance and/or auto steering on a budget. Featuring a bright 4.3" full colour, sunlight readable touchscreen, on-screen light-bar and a form factor very similar to Topcon's innovative X30, the X14 offers powerful 3D graphics for manual guidance, coverage mapping and auto steering applications. The icon-based, user-configurable interface offers a full range of pre-configured guidance patterns and offers easy setup on leading manufacturer vehicles including tractors, sprayers and harvesters. Best of all the X14 grows with your needs, from low-cost manual guidance all the way up to RTK accuracy for ultimate precision performance.

X30 SOLUTION

Featuring Topcon's industry-leading X30 console with intuitive multi-view interface – powerful all-in-one control for your farming operation. Plus, Topcon's new AGI-4 receiver/steering controller is a truly modular and ISO compliant steering system. The user definable interface provides a wealth of control and display options for simplicity and flexibility with feedback at a glance from multiple sensors throughout your machine. For easy navigation, the user never leaves the "home page" - it's always in view.

Key Features: Mini-view windows with drag-and-drop positioning; Interaction keypads with "expandable menus"; Dashboard readouts provide constant, convenient basic data; Integrated LED light-bar for manual guidance; Full-screen views available for more detailed information; Advanced setup wizard provides simple icon based setup control.

Application and Rate Controls: X30 controllers include spraying, spreading, or planting, and feature innovative efficiency tools such as virtual switchbox, channel-based pressure control, and auto coverage to help ensure no gaps or overlap; Variable rate control for up to 8 products/channels; Up to 32-channel auto-section control with ISO interface for sprayers and planters; The ASC-10 provides 10-channel sprayer, planter, or spreader auto-section control with liquid rate control for up to 8 products.

Optimal Lines for Controlled Traffic Farming: Reduces compaction damage from heavy or repeated passes. X30 Optimal Lines reduces plant damage in sugar cane applications along with many additional benefits. A CTF confine machinery to the least possible area of permanent traffic lanes and reduces fuel use, increases yields, improves soil function and seedbed quality.

Jobs Menu: Job Assist Menu provides step-by-step guidance through basic operations. Choose Field Menu, Jobs Menu, or Guideline Menu.

Autosteering: Autosteering eases operator fatigue, reduces machine wear-and-tear, and reduces overlap and input costs. Allows 24/7 operation regardless of environmental conditions. The AGI-4 receiver/steering controller features a modular design that includes antenna, receiver, and steering controller, with optional high- accuracy inertials snap-in module, offering unmatched upgradeability. RTK communication module is an upgradeable option. For non-steer-ready vehicles, add optional AES-25 to your System 350 for the convenience of electric steering with quick, precise response and up to 2cm accuracy. The X30 guidance screen combines views of autosteering settings, dashboard, and multiple product control. Industry standard steering patterns; straight (A-B), identical curve, adaptive curve, and center pivot allow you to work with virtually any field shape. Integrated light-bar provides easy offline reference at a glance.

Enhanced Data Management: The X30 provides multiple input/output features for maximum data use. Client / Farm / Field / Job menu lets you save multiple fields and tasks for different farms, then create detailed reports for data tracking and multi-year analysis. Data features include: Job reports exportable as convenient pdf files; Coverage logging, and exportable as-applied maps with flag points; Imports shape files & ISOXML prescription maps; Calculates covered and remaining areas; Auto Field Recognition for easy field identification and job loading; Virtual ISO terminal (VT) interfaces with common controllers and implement ECU's.

ISO Virtual Terminal (VT) Capable: The X30 virtual terminal supports industry standard ISO11783 plug-and-play operation for direct control of major planter monitors and planter, seeder and sprayer controllers. The VT operates in parallel with X30 32-section auto-section control.

Christo Helm, Topcon Precision Agriculture Africa

TOPCON

POWERFUL PRECISION
MADE EASY...

The Topcon portfolio of precision farming products features the most advanced technology for guidance, auto steering, variable rate control, auto section control, crop canopy sensing, water management and farm data management. All designed to be user friendly and easy to use.

Topcon's line-up of precision farming consoles will help you improve operational efficiency and reduce input costs:

X-Console
The industry's easiest to use touchscreen display with icon-based, user-definable interface.

GX-45 Console
CMOS accelerator offering lightbar guidance with full upgrade ability to auto steering. Optional spray rate control and auto section control.

X10 Console
Topcon's newest precision farming console, for easy hands-free guidance or auto steering, offers the same look and feel of the easy-to-use X20 touchscreen.

Contact: Christo Heins | +27(0)33 3364157 | christo@topcon.com
www.topconpa.com

The JSE Commodity Derivatives Market

Take the opportunity to discover basis premiums on a transparent and JSE-guaranteed platform

There has been much published about the JSE's reference to location differentials in order to accommodate physical delivery in completion of a futures contract, particularly where a single point is referenced and the need for improved transparency around basis premiums. The JSE Commodity Derivatives Market, previously operating under the Safex brand, strives to provide market participants with a price discovery mechanism and a price risk management facility through which to manage exposure to adverse price movements in the underlying cash market and where performance by both counterparties to the contract is guaranteed.

Critical to ensure the futures prices, particularly those futures contracts approaching expiry, reflects the supply and demand situation in the underlying cash market, the derivatives market focuses on providing an efficient and easily accessible physical delivery mechanism. Such an efficient mechanism thereby ensures price convergence of the cash and futures markets at expiration.

As the South African agricultural derivatives market has matured, so the exchange's physical delivery processes have evolved. It started out with a random allocation process that was tweaked later with the introduction of a platform where product delivered via a Safex silo receipt, now known as a JSE silo receipt, was then available for auction to all interested buyers in the market. In 2012, there was a move to introduce as an alternative to the physical delivery process in completion of a futures contract, functionality to allow for basis premium trading.

There have been a number of attempts at establishing transparent spot market trading environments or platforms with varying degrees of success. Since the JSE automated its delivery systems in 2008, and with the help of JSE silo receipts recognised as a mechanism for delivery, the concept of extending its current platforms to provide a basis trading platform (trading individual delivery points by both buyers and sellers) has been simplified. The recommendations by the Matthew Roberts report, undertaken on behalf of the National Agricultural Marketing Council, strongly recommended a move by industry participants to look at improving the transparency in the basis markets. With this background, the JSE's Commodity Derivatives Market extended its delivery functionality to the grains market.

Trading of basis premiums referencing JSE silo receipts is an initiative that provides market participants with an opportunity to trade grain at a JSE-registered delivery point as represented by JSE silo receipts at a price over and above the futures price less location differential. Clients who have a long position for the specific futures delivery month have an opportunity to bid on preferred locations. At the same time, clients who have access to physical grain on JSE silo receipts have an opportunity to offer the stock at a premium to secure a better basis premium. This will provide price discovery in terms of the spot basis premium and transparency for the entire grain market to benefit from. It is imperative to note that for efficient price discovery, there must be enough liquidity or trading activity to ensure a fair representation of the basis premium.

Still not sure what a basis premium is all about? Consider that grain stored in a silo, bag or bunker site has a different value across grain of the same quality stored in other parts of the country. What influences this difference in price is a factor of supply and demand per delivery point, or more commonly referred to as basis. So if you have grain in an area where there is a high demand for the commodity, this could either stem from a number of buyers competing for the product or due to limited supply and, for logistic reasons, buyers are prepared to pay a premium for the product, a basis premium comes about for product at a specific delivery point. A basis premium is also something that can vary significantly across the marketing season as factors influencing supply and demand varies. Earlier this year, we saw basis premiums for white maize in Mareetsane range from R200-R260 per tonne, not that common, however, attributed to the very tight stock levels in this area and buyers keen to source product from this specific point to honour their contracts.

In terms of opportunities using the JSE basis premiums contracts, clients no longer require an existing futures position to participate. However, should orders entered be successful, participants will either be required to open a futures position during the remainder of the trading session or alternatively be provided with an equal short and long futures position when the physical delivery is processed that same afternoon after close of the agricultural derivatives market.

The platform provided by the JSE offers farmers who have access to stock on JSE silo receipts the opportunity to negotiate a better basis premium depending where the product is available. In consultation with a JSE-registered member, a farmer can 'offer' his receipts onto the system for a premium over and above the JSE's nearby futures price. The offer therefore will represent a premium per tonne price for stock in the specific silo as represented by the JSE silo receipt. A farmer delivering in completion of a futures contract would in the past have received: Net Price = JSE Price – Location differential – Admin fees. Using the basis premium platform, the potential income to the farmer now becomes: Net Price= JSE Price – Location differential – Admin fees + Basis Premium.

Buyers of grain, on the other hand, i.e. miller and processors, will be able to bid regardless if there is stock on offer, at any of the 253 JSE-registered delivery points on a premium per tonne basis. This is a significant improvement on the previous delivery system since, in the past, no bids were permissible without available stock on offer.

Trading hours to accommodate basis premium trading via JSE silo receipts is from 09h00 through until 14h15 each business day, with a 15-minute admin period. At 14h30, all physical deliveries are processed and the necessary tax invoices generated for the day. All payments are processed on the next business day. In the same time frame, buyers will take ownership of the JSE silo receipts, however, must take note of the storage operator's requirements and procedures for out-loading in order to request access to the physical grain.

In operation for nearly two years and having matched almost one million tonnes, the JSE's basis premium platform remains available to assist market participants with price discovery of basis premiums. In July 2014, 25% of all the physical deliveries processed during the month were done at a basis premium, which confirms the increased use of the platform but also that there is room for growth. There is no cost to enter bids or offers, provided you are a registered client of the JSE Commodity Derivatives Market, should these orders trade the JSE charges R2.00 per tonne (incl. VAT) delivery fee over and above the futures contract fee.

For the full list of JSE members, including a daily summary of all basis premiums traded, visit *www.jse.co.za/commodities* or email *commodities@jse.co.za* for more information.

You are also welcome to contact the writer of this article, Chris Sturgess: Director—Commodity Derivatives on +27 11 520 7231 to discuss in more detail the basis premium platform offered by the JSE.

Food, water, life

South Africa's commercial agriculture sector is increasingly viewed as too thirsty

Our farmers, who balance in their green fingers the delicate scales of food security and social equity, also face the commercial pressure of international markets and shifts in consumption patterns.

Yet, South Africa's commercial agriculture sector is increasingly viewed by upstream and downstream industries—and especially government as an overly thirsty and at times thrifty water user. The term 'farm water' refers to water used to irrigate crops, leach harmful salts from fields, and to manage the environment.

Water bombs for farmers

Recently, agriculture's 62% guaranteed supply of our country's surface water was fingered personally by the Environment and Water Affairs Ministry for nipping mining and industry growth in the bud, with a sweeping wag at using excess water as a private sector trading stock.

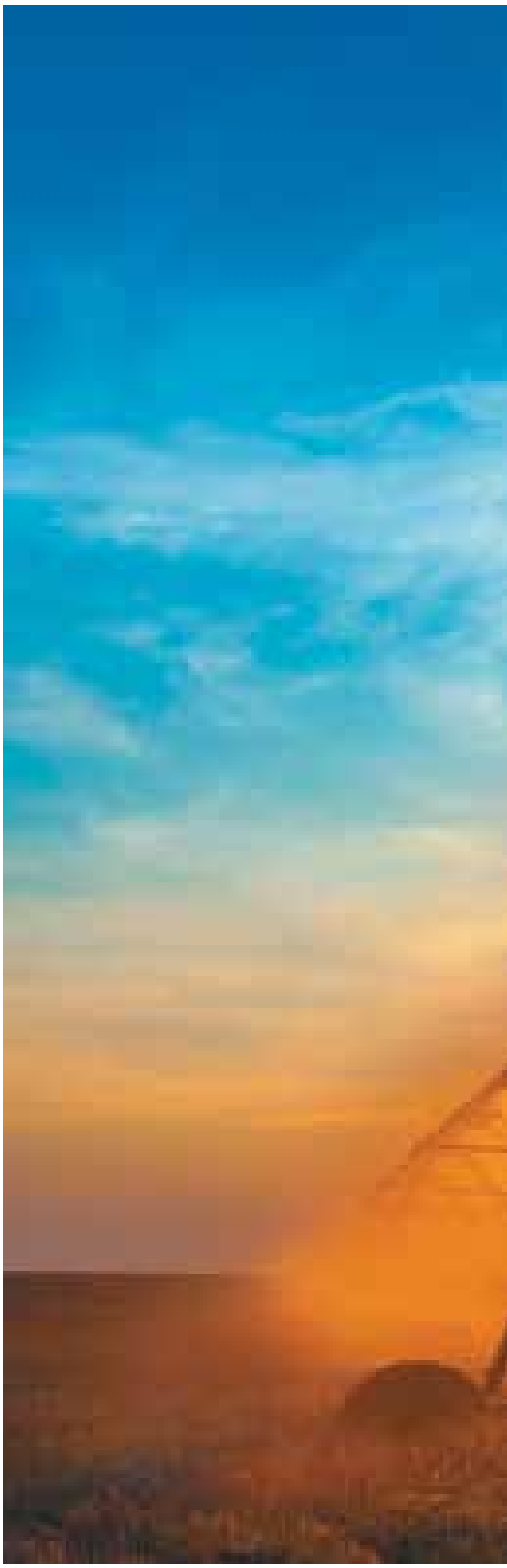
The National Water Policy Review, now in circulation, aims to address legislative gaps in the sector, and arguably seeks nationalisation of temporary and permanent water trading of any nature. With 98% of this 'basic human right' resource allocated—and a huge rural access backlog—the logic is clear. Interestingly, however, the Food and Agriculture Organisation (FAO) cites a greater reliance on farmer-owned and -operated irrigation among its key water-saving measures.

Water—tricky flow models

While the world population grew from 2.5 billion in 1950 to 7 billion, the irrigated area doubled and water withdrawals tripled. When scarce water is under human control via irrigation systems, and irrigation gets a bad rap, it's a sign to investigate the problems and potential for improved efficiency.

To review irrigation practices, farmers must test cost and time overruns; poor management; the non-realisation of full, planned benefits; adverse environmental and health impacts; and the exacerbation of inequities in the existing social and economic distribution of assets.

Globally, since the mid-70s, ballooning construction costs, falling wheat and rice prices, the environmental and social cost revolution, and poor irrigation performance at farm



level have combined to shrink growth in the coverage of irrigated land.

Just as ageing irrigation projects have produced gradually declining yields, modernisation of existing irrigation projects is becoming increasingly expensive. Old projects designed for mono-cropping also need to be redesigned to permit crop diversity, increase yields, conserve water and reduce environmental hazards. Modernisation involves canal lining, improved hydraulic control structures, better land development and appropriate irrigation techniques.

Leading the farm horse to water

Economic water scarcity means a lack of infrastructure, with people often having to fetch water from rivers for domestic and agricultural use. The resulting overdevelopment of hydraulic infrastructure for irrigation often leads to environmental degradation and declining groundwater.

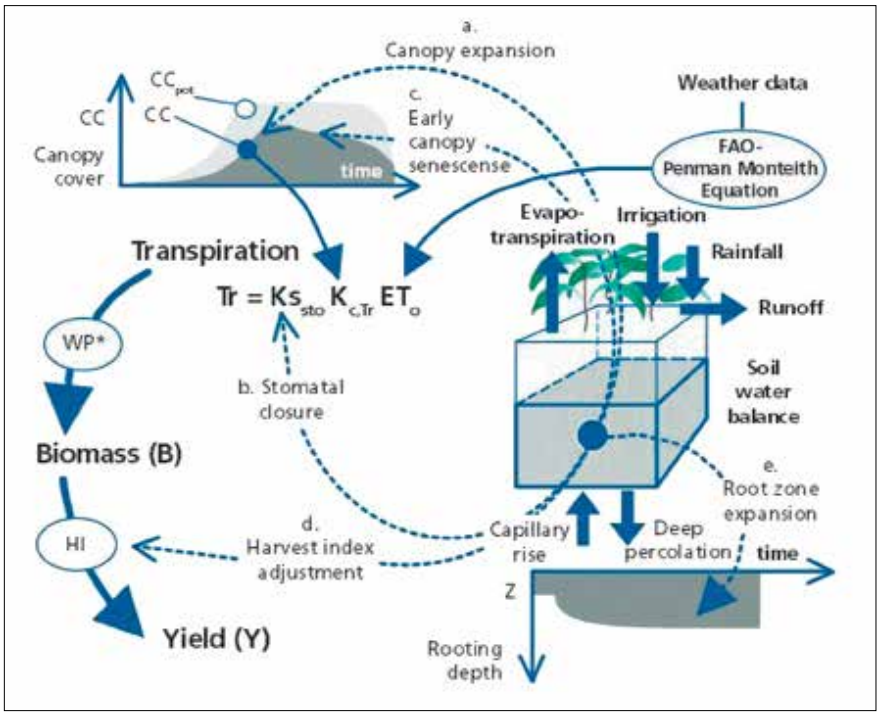
Around 1.3 million hectares of South African farmland are under irrigation. The ideal is to apply the right amount of water, at the correct application rate and uniformly to a field, at the right time, with the least amount of non-beneficial water consumption (losses), and as economically as possible, says the Agricultural Research Council.

The agriculture sector faces a complex challenge: producing more food of better quality while using less water per unit of output; providing rural people with resources and opportunities to live a healthy and productive life; applying clean technologies that ensure environmental sustainability; and contributing in productively to the economy.

Fluid institutional guides

With agriculture in constant evolution, irrigation needs to adapt to new, more stringent requirements: the supply of water within large irrigated systems needs to be much more reliable and flexible than in the past. Sound simple?

The South African Framework for Improved Efficiency of Irrigation Water Use views water-management infrastructure from four vantage points: the water source, bulk conveyance system, irrigation scheme and irrigation farm. The South African Irrigation Institute represents 450 designers, engineers, soil scientists, crop experts,



Schematic representation of the crop response to water stress as simulated by AquaCrop, with indication (dotted arrows) of the processes (a to e) affected by water stress (adjusted from Raes et al., 2009).

economists and irrigation farmers, as well as 50 manufacturers and suppliers of irrigation equipment, applying their minds to this task.

The FAO's approach to irrigation and drainage, widely used today, is based on the relative yield loss of any crop (either herbaceous or woody species) to the relative reduction of water consumption i.e. evapotranspiration, specific for any given crop and condition. Responding to the evolution of synthetic water production needs over the last three decades, the FAO created a unique crop simulation model, called AquaCrop, which calculates the crop biomass, based on the amount of water transpired, and the crop yield as the proportion of biomass that goes into the harvestable parts.

Cannot control what can't be measured

South African commercial farmers, and their institutional guides, would do well to invest more time and money into water-measuring equipment, so as to correctly measure and protect the precious water resources allocated to them, while at the same time reducing associated electricity costs.

By combining the FAO's AquaCrop model with a trusty water metering system, farmers can better motivate the retention of their water allocations to water authorities. In turn, water authorities will have more reliable data on which to base their vital decisions.

The financial returns of an irrigator are strongly correlated with the volume and pattern of irrigation water application—saving water and electricity costs, says the Water Research Commission (WRC). The Department of Water Affairs will also publish new regulations for river, irrigation scheme and farm water measurement, ensuring stricter enforcement of water metering.

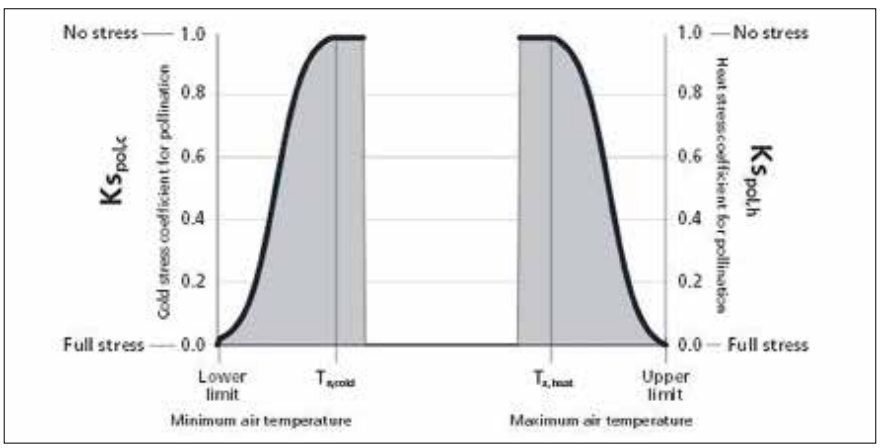
Whereto from here?

To assist farmers and policy makers, the WRC published a report for sustainable on-farm and on-scheme irrigation water measurement with the Department of Agriculture, Forestry & Fisheries, guiding the process to effectively implement water measurement at river, irrigation scheme and farm level in South Africa. For direct assistance, industry suppliers can be contacted via the South African Irrigation Institute.

The original version of this article first appeared in Green Business Journal.

About Lani Botha

Lani has dedicated 20+ years of her career to technical and industry journalism as well as communications counsel to help government, institutional, corporate, SME and NGO clients tell their stories better and to the right audiences. A broad career path has synched her insights with the heartbeat of South Africa's commercial, societal and environmental needs and interplay. She is a freelance writer/strategist/communicator working from Johannesburg, servicing clients nationally.



Variation of the temperature stress co-efficient (Ks) for cold (left) and heat stresses (right) on pollination. One important temperature stress effect is on pollination, which is inhibited by temperatures, either too high or too low—highlighting the effect of temperature hikes on pollination and water use (FAO).

Water Wise Agriculture?

The National Water Resource Strategy 2 document has determined that approximately 60% of South Africa's water resources are used in agricultural/irrigation practices. This means that this sector is the single largest water user in South Africa. Hence water conservation practices for commercial and subsistence farmers are essential. The first step towards conservation of water is awareness. Consider the tips below to reduce your water consumption:

- Fix leaks in supply and delivery lines.
- Reduce overwatering of crops to the extent that run-off occurs as this results in wastage.
- Use technology to assist decision making on when and how much to water.
- Additives such as manure, agricultural lime and/or no till processes improves the soil as well as water retention.
- Avoid a combination of over-fertilising crops and over-watering to the point of run-off as this results in excessive Nitrogen and Phosphates flowing into rivers which impact downstream users and water sources.

Remember that every kilolitre of water "wasted", means you pumped that water for nothing and literally eats into your profit margin.

Water Wise

RAND WATER

For other information on water conservation practices please visit:
www.randwater.co.za and click on the Water Wise logo
or contact us on 0860 10 10 60

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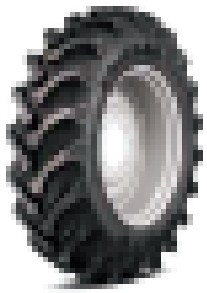
KRISHAK PREMIUM



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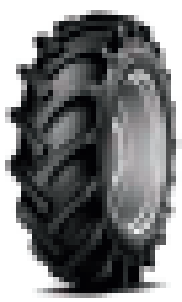

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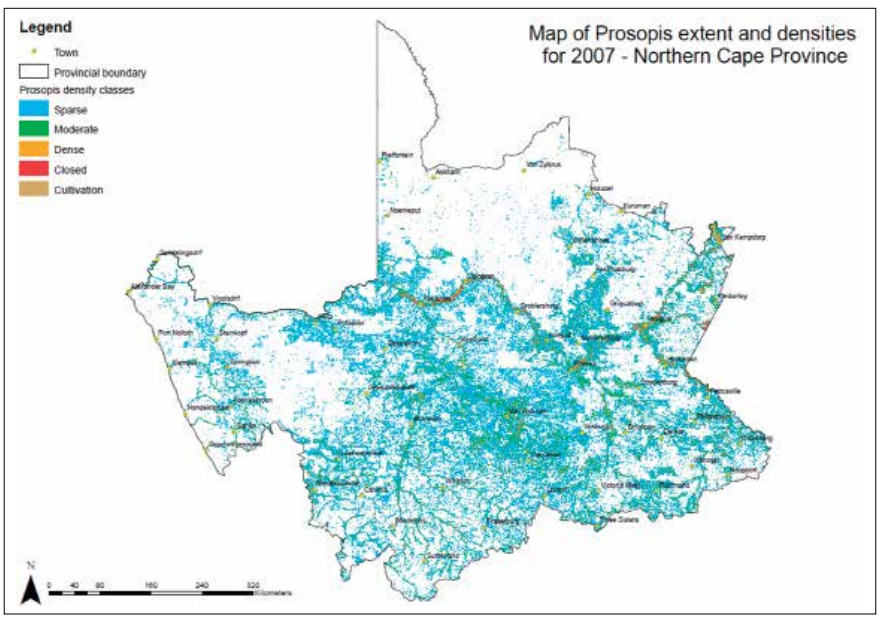
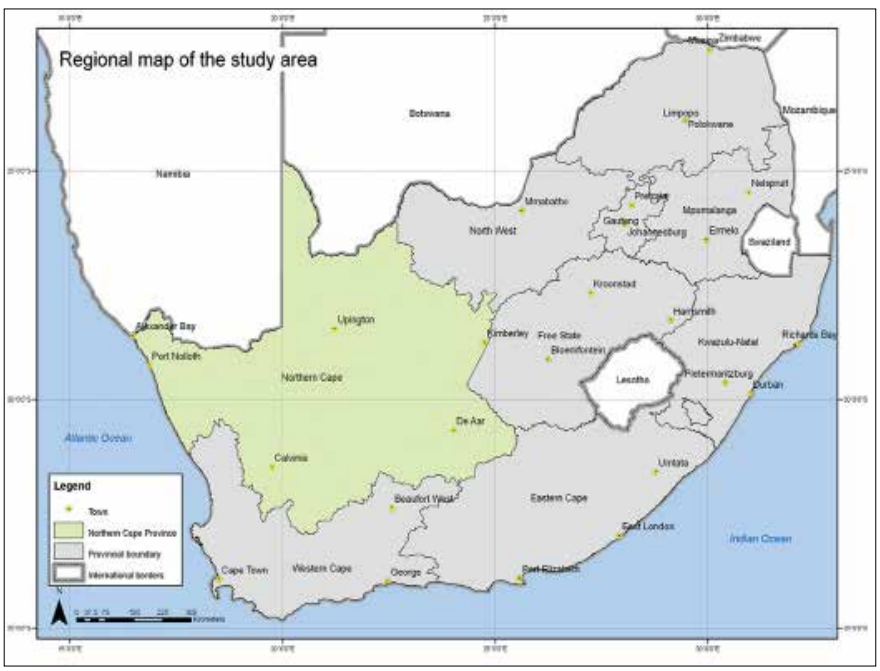
Bad seeds

Prosopis invasion in the Northern Cape Province of South Africa

A study by the Agricultural Research Council showed that prosopis is an aggressive invader increasing from 127 821ha to 1 473 953ha over the past 30 years, spreading rapidly over the landscape of the Northern Cape once it gets established, preferring riparian zones and alluvial lowlands rather than steeper rocky areas.





The number of introduced tree species in South Africa is estimated at about 750 species. Fortunately, only a small percentage of these introduced species have become invasive. An 'invasive species' is defined as a species that is non-native (or alien) to a specific ecosystem that spreads rapidly by natural means, out-competes native species and whose introduction is likely to cause economic or environmental harm.

One such introduction of woody plants is prosopis. The tree was imported to South Africa to provide shade, wood for fuel and pods for fodder. The nature of the tree and its extraordinary ability to adapt to extreme weather conditions, together with the high protein content of its pods—which can be fed to animals in times of drought—made this a very valuable tree up until the end of the 1950s. Prosopis species and their hybrids became invasive in the arid northern parts of South Africa because of their adaptability to the harsh climatic conditions, vigorous growth, high seed production leading to large seed banks, the absence of natural seed-feeding insects and an efficient seed dispersal mechanism.

Invasive alien trees and shrubs pose significant threats to biodiversity and ecosystem services in South African biomes. Riparian habitats in many parts of South

Africa are severely degraded by invasive alien species, especially tree communities on riverbanks. These invasions reduce water yields from catchments and affect riverine functioning and biodiversity.

Other effects of invasive alien species include suppression and replacement of indigenous vegetation, increased transpiration and reduction in stream flow as a result of larger biomass of the invaders compared to indigenous vegetation. Studies have, however, shown that invasive alien plant species can directly or indirectly affect the food security of local communities. In areas where they spread, invasive species can destroy natural pasture, displace native trees, and reduce grazing potential of natural rangeland or compete for water and nutrients, reducing the productivity of croplands.

The control of invasive species is a key objective of the South African government through initiatives such as the national Working for Water (WfW) programme, but requires considerable effort, time and money. The WfW programme was started in 1995 to conduct and co-ordinate alien plant management throughout South Africa. It

has grown into one of the world's biggest programmes dealing with invasive alien species. Invaders are often not controlled by a single method or single chemical application. Government therefore needs a management tool such as a Geographical Information System (GIS) with up-to-date spatial information to better understand prosopis invasion and to identify potential high-risk ecosystems in order to manage the WfW programme.

One of the goals of a project by the Agricultural Research Council (ARC) was describing the extent and densities of prosopis spp. in the Northern Cape to assist the WfW programme with its project planning. The study used multi-temporal Landsat satellite images, remote sensing and GIS techniques to map these invasive trees. Late summer (February to April) images for five different assessment years (1970, 1990, 2002, 2004 and 2007) were used to map the spatial distribution and densities of prosopis over 37 years.

The extent of prosopis cover in the Northern Cape reached 1.473 million ha or 4% of the total land area during 2007. The condensed invaded area for all density classes combined was calculated to be 357 278ha. According to the study of the ARC, prosopis was already highly dispersed in 1974 (127 821ha), with most of the invasion occurring in the riparian areas (4.13%) and only 0.25% outside riparian areas. The rate of increase in canopy cover varied between riparian and lowlands, the most rapid rate of change being 13% in the riparian zone compared to only 0.25% in the lowlands. The ratio of change in the riparian area compared to the lowlands has, however, turned around since 1990 with the most change now occurring on the lowlands. Prosopis patches greater than 25ha were relatively uncommon in 1974. The number of patches increased substantially between 1974 and 2007 in all density classes, demonstrating continued patch recruitment. Prosopis is an aggressive invader, increasing from 127 821ha to 1 473 953ha over the past 30 years, spreading rapidly over the landscape of the Northern Cape once it gets established, preferring riparian zones and alluvial lowlands rather than steeper rocky areas.

The data collected by the ARC is extensively used by the WfW programme to develop Management Unit Clearing Plans, which are long-term plans, usually 10-15 years, that dictate what areas should be cleared in what year. This information is then used to prioritise farms within the catchments that need intensive treatment. Although the methodology used in this study mainly focused on the invasion of prosopis in the Northern Cape, it would be worthwhile to evaluate the same procedure in the neighbouring arid and semi-arid regions of Namibia and Botswana where prosopis is also a big threat to the local economy and ecology. To achieve long-term success with control programmes, invasive alien plant species need to be targeted with effective and integrated methods. Good baseline data forms the basis of any study or management programme, whether it is in a model trying to estimate the economic impact, determining carbon sequestration, monitoring habitat destruction or measuring water use. Information like this can lead to the implementation of best practice management procedures to perform strategic follow-up surveillances and control programmes as well as early detection of new infestations over the entire distribution area of prosopis.

For more information contact:
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Farm Quip South Africa

Farm Quip South Africa consists of a team of experienced farmers and agricultural professionals from both Argentina and South Africa. The main objective of Farm Quip SA is to provide sound advice, proven technologies and tools for the efficient implementation of the No-Till system and crop production.

Argentina has for more than 30 years applied, developed and maintained these till system. Argentina is a leader in the application of these till system as well as in the manufacture of agricultural machinery, specifically designed for application in these till system to enhance the efficiency of the system and crop production in general.

For this reason, Farm Quip SA works closely with various prestigious Argentine manufacturers of agricultural equipment and Agricultural engineers to advise prospective and current no till farmers on the benefits and best practices of the no-till concept and system. The team of professionals also assist in the designing of various implements and accordingly provides advice and assistance to suit the requirements of each farmer.

In addition, our South African members, also farmers with years of experience in agricultural production, are the key in developing and tailoring the service of Farm Quip SA according to the needs of the South African farmer.

In no-till system the soil is not touched from harvest to planting. This method has positive effects on environmental issues, such as erosion and surface run-off control. The lack of soil disturbance also helps to maintain good soil structure. Not having any tillage practices saves the farmer time and money. Farm Quip SA has developed and provides a range of innovative farming equipment that increases the positive results of the no-till system.

Farm Quip SA Products

Planters

Apache 1500 Air drill

Air drill for bib grain, grass and soybean, with a gravity fertilizer box with a total capacity of 2200 liters. Seeds go down by means of gravity. It is a grain and fertilizer meter with fluted roller and hydraulic motor turbine.

Apache 27 800+ Planter ;Apache 54000 Planter;
Apache 451 Planter
Conveyor grain planters each boasting impressive features and specifications.

Sprayers

Apache Cherokee 2225
Eaton 4208 gearbox, with 5 gears directly driven from the cab by a manual lever shift. 2/3" steel piping spraying system. Equipped with eyelet nozzles at 0.25 m and angle nozzles at 0.5m . Monitoring system with low and high tank level with automatic shut-off filling and spraying shut-off when the tank is empty.

Headers

Matrero Corn Header 2008
It works in most weather conditions in the country now increase the working hours of each day, without interruption, even in cultivars taller, with high humidity environment with new side augers. Now with the option of leading a long life and plastic tops with stainless steel inserts.

Matrero Sunflower Header 1040
Exclusive system of joint regulation of knuckles and shield.

Matrero MDO100 Row Independent Corn Header
New Matrero MDO-100 corn header, for multiple spacing and direction

Mixers

Apache 800 Mixer
Mixing system with three augers: 2 upper and one bottom, and reinforced tubular reinforces. Capacity 6m3. Transmission system by means of PTO drive shaft with quick disconnect yoke followed by conical sprockets.

Precision Farming

Abaforão Coffin - Agrotax AGS008 Pro - Variable-rate granular application system
AGS008 Pro combines the Global Positioning System (GPS) and the Variable Rate Technologies (VRT) to improve productivity and profitability while conserving and protecting the natural resource base.

Abaforão Coffin - Agrotax - AGS008 Seed Monitor
Sensor for continuous monitoring of up to 72 crop and fertilization rows, two-fold presentation of sowing density by row data. Working record of 9 batches, with the following information displayed on screen for each batch.

Adoption of the no-till farming method has occurred in many countries, was fast-wide due to its many benefits, and South Africa has reaped the rewards of the approach. Farm Quip SA continues to be one of the leading promoters and facilitators.

Ploughing **through**

Agribusiness Standard Bank Head Nico Groenewald talks about agricultural capital and risk management in South Africa

Standard Bank has a significant market within the agricultural environment, increasingly playing up and down the value chain to have an all-inclusive approach to agriculture.

Nico Groenewald

"Traditionally, farming or agriculture was perceived around what happens within the farm gate; we are looking wider than that to make sure we can be of assistance and do business in all sectors, not just on the primary side," says Groenewald.

He explains that Standard Bank's involvement regarding capital equipment and financing is not confined within the farm gate itself where farmers start to expand upstream, capitalising on the shrinking margins that they experience at primary level. "We're also involved downstream and we do it then from an agricultural perspective, not purely from a manufacturing perspective when farmers start to process their own produce."

"One would argue, then, that you move into an industrial or a manufacturing environment; however, we have a different view," says Groenewald. "We say the close link that sits still with the primary agricultural or the production piece, you need to understand that full chain, otherwise you are going to finance or assist in pockets where you might finance to such an extent that you're not adding the value that you could have unlocked if you do it from a holistic approach."

Standard Bank aims to eliminate the middle man, instead encouraging the farmers to become the middle men themselves, believing that in this way farmers can put some money at their bottom line instead of just doing primary production. "When you talk to farmers and you see what they do and the amount of effort that they have to put into agriculture, from a return on capital perspective and purely from a cash return on big capital, perspective is not very high. The returning yield that you receive over and above when you actually go and sell your farm, and then get the return out of the value that increased—if you compare that business to other businesses, other businesses might be more profitable on that line."

One challenge the bank faces is risk assessment and management. In any traditional banking environment, collateral is of primary importance. "Because farming is so capital-intensive, to actually start doing what you want to do—and now suddenly a bank has to finance that huge amount of capital—then you might find yourself in front of a closed door," states Groenewald. "Coming from a traditional banking environment, you would look to collateral as one of the four pillars that you would assess in assessing, but we are starting to look at it differently. To say if we break the risks down in that production process and I can reduce or manage those risks, then we can start at looking at the funding without necessarily having the collateral," he explains, "but that requires a longer road and deeper assessment and understanding of what you are busy with."

The emerging black small-scale farmers are an important focus group for Standard Bank. One key investment area is developing institutional capability for black upcoming farmers. Standard Bank is closely linked with FASA, which currently looks after the majority of the black farmers' interests. FASA ensures the bank can provide support at an institutional level, co-operating and partnering with other institutions where that knowledge already exists, such as the Grain SA's of the world. "I like to think that if I look at where we've come from in the last two years, I think there is huge room for increased traction," comments Groenewald positively.

Tony Sanderson and Shannon Manuel

Mapping the way forward to quality meat products and meat market expansion.

September 16-17, 2014 | Midrand Conference Centre, Johannesburg

The South Africa Meat Conference is an industry event designed for all stakeholders in the meat value chain. In September 2014 in Midrand, Johannesburg more than 200 representatives from the meat industry will convene to share ideas, latest research findings, map the way forward to market expansion and network as peers in the industry: Producers and Processors of Red Meat and Poultry, Abattoirs, Feedlots, Ingredient Products, Cold Chain, Importers and Exporters, Cold & Canned meat companies, Wholesalers and Retailers and representatives from Government will all be in attendance.

This conference is designed to enhance the production, processing, and marketing of sustainable, nutritious, humanely-raised, and delicious meat from farms and processors by providing educational and networking opportunities for meat producers, processors and consumers.

About the organisers

AfriClan® is a leading communications and business knowledge specialist; we provide unrivalled services to businesses in the areas of research, events management, business optimisation and advisory. We assist international and domestic organisations achieve sustainable success.

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Bridging the gap

Pieter Mulder talks about his time at DAFF, and about commercial farming and food security

Pieter Mulder served as the Deputy Minister of the Department of Agriculture, Forestry and Fisheries (DAFF) in the Cabinet of Jacob Zuma from May 2009 to May 2014.

"I was really a translator between commercial agriculture and ANC policy, trying to translate for both sides," he explains. "On the one hand, I was trying to tell farmers what the department's intentions were, and on the other, trying to translate to government what the implications of minimum wage would be."

It is imperative to bridge the gap in communication between farmers and government. "One of my biggest issues is that you cannot make decisions at government level based on rumours, myths or propaganda," says Mulder. "It must be taken on facts, and that was one of my biggest frustrations in the beginning, that we talk about these myths. I said, well, that's a myth; can you prove that you know land ownership or how farmers treat their farmworkers? Do you have any examples of technology, on mechanisation and all these issues that you can see at Nampo in practice?"

Mulder believes that within his time as deputy minister, he has certainly had an influence on the agricultural sector. "If you check before 2009, food security was not much of a priority for government—they never spoke about it," he says.

While South Africa is largely deemed a food-secure nation at a national level, the same cannot be said about household rural areas. A large percentage of the nation continues to be plagued by food insecurity, necessitating strategic involvement on a governmental level.

A question of food security

Mulder says that even at this moment in time, the Food and Nutrition Security Advisory Council under the deputy president is not addressing the important role of commercial farmers and the contribution they make to food security.

"[Economic Development Minister, Ebrahim] Patel, the other day, admitted 95% of our food is being produced by the commercial farmers. That's statistics he gets from me in the internal debates that we had on farming etc.," he explains.

"So in that sense, I think maybe we sensitised them, and the big argument is they want stability, they want still to govern and you can't bargain with farmers—because there are 37 000 commercial farmers—but you can bargain with food security because if people get hungry, then they're in trouble.

"I like to use the example in Cabinet and tell them: Watch what happened in Mozambique. When the bread price went up, suddenly you had people running in the streets. Don't let it happen here. Who can avoid that? Commercial farmers. They're important, so let's look after them."

And they certainly are. Commercial agriculture plays an important role in developing and undeveloped countries, as most of these countries rely on agriculture for their economic development, South Africa being no exception.

Commercial farmers who are producing need to stay producing, as we can't afford it in the food chain to lose them. Currently under way in South Africa, we are entering a new agricultural era, that of the black aspirant farmer.

"I've stated on record more than once that without any doubt, we need more black, successful commercial farmers," Mulder says.

It is speculated that perhaps DAFF would be more effective if it operated as three different entities.

"I have a problem with Fisheries," Mulder admits. "It was a very artificial marriage in the sense that a lot of that is environmental issues. It was very difficult how you divide these issues into what's environment and what's food, so maybe there's common sense—we'll have to see."

Dispelling myths

"At the end of the day, you must focus on food production and make it easier for farmers to fill—that's your job. Don't interfere on every farm because that's the problem when you're talking about myths.

"I talked to the president about that," Mulder explains. "I said: you confuse the farmers, there's a lot of uncertainty out there. The president's reaction was: yes, but you must distinguish between policy and open debate within the ANC. It's very difficult for a farmer, even for me, to distinguish what is open debate. These new land proposals? Is it open debate or is it policy? And then you get your Afrikaans farmers not trusting anything anymore. They look at all these sorts of conspiracy theories because they're not sure what's going to happen, and they start believing in myths as well".

Tony Sanderson and Shannon Manuel

Pieter Mulder

Investing in the public benefit

The launch of the Southern Farms Employee Share Trust represents a groundbreaking investment into agriculture by the Public Investment Corporation

The Northern Cape was recently the scene of a truly remarkable story of grassroots empowerment and transformation emerging from the agriculture sector.

The Public Investment Corporation (PIC), on behalf of the Government Employees Pension Fund (GEPF), launched the Southern Farms Employee Share Trust in Upington in August. In attendance were dignitaries, suppliers, stakeholders and investors in the Northern Cape. A true model for empowerment, the transaction was concluded late last year in a groundbreaking move by the GEPF through its investment arm, the PIC, to invest in primary agriculture.

Realising a vision

This vision was made possible when, almost 20 years ago, Southern Farms' founder Chris Steenkamp identified a piece of land he believed was ideal for producing seedless table grapes.

Located on the banks of the lower Orange River, which borders South Africa and Namibia, the 650 hectares of land were full of ample, arable soil, with access to large volumes of water. Following Steenkamp's discovery, the first vines were planted in early 1995 and the first crop was harvested in November 1996. The high-quality product successfully reached the UK market by sea, in time to be sold before Christmas.

Today, Southern Farms is producing 1.3 million cartons of seedless grapes and, according to Michelle Steenkamp, the company's Marketing Manager, its success can be directly linked to its shareholders. "They installed the core fundamentals of the farm, which today remain the backbone of our decision making and success," she says.

Employee shareholding

The formation of the Employee Share Trust sees both the PIC and the employees of

Southern Farms each having a 20% shareholding in the business.

"It has always been my dream to recognise each and every person in our employee group for their hard work that has made this dream a reality," says Steenkamp.

An emotionally charged event, the launch also served as a graduation from the training process undertaken in recent months by Southern Farms.

"As a commitment to realising true empowerment, the employees have embarked on a journey of training and mentoring since March this year, provided by a team of specialists, to ensure they understand their roles and responsibilities as well as their benefit as beneficiaries of the trust and how this can empower them for the future," Steenkamp confirms.

"The GEPF invested in Southern Farms to show our commitment to job creation and development within the agriculture sector" said Adrian Bertrand, the Environmental, Social & Governance Manager at GEPF.

A world-class operation

The event included a tour of the world-class operation that meets all the global standards to produce for its UK and European export markets.

Implementation partner to the project, Dionne Kerr of Siyakha Consulting, says: "New housing, new plantations and plans for growth ahead made this an exciting showcase of how government, private sector, employees and international markets can all come together to achieve the objectives of transformation through collaboration. Announcing that the first dividends will be paid to employees now means that the real benefits will start to flow just in time for harvesting."

For more information, contact Dionne Kerr at dionne@siyakha.co.za or contact 011 706 9006

Funding secured for food security research

A pioneering initiative is set to benefit the fruit industry in the Western Cape, with a R3-million dedicated research fund

In a South African first, the Western Cape Department of Agriculture has launched a R3-million dedicated research fund to boost exports and bolster land reform around the province's alternative crops.

Alan Winde, Western Cape MEC for Economic Opportunities, said the Provincial Government would partner with the fruit industry to explore smaller industries, with projected high returns for job creation and growth.

The fund was launched in August at Elsenburg, the headquarters of the Department of Agriculture.

High market value

Alternative, smaller crops include berries, fynbos, honeybush and pomegranates. These crops have high market value and are export-orientated.

The amount of R3 million is the funding allocation for this financial year.

MEC Winde said the fund would pioneer funding models between the Western Cape Government and the industry.

A steering committee including the Department of Agriculture and Hortgro—the industry body representing the horticultural sector—will select the projects.

Better together

"This fund is a great example of 'Better Together'. I believe that through partnerships, we can grow our smaller industries. This is the kick start that many farmers will need. In addition, to remain competitive, our agricultural industry needs to embrace innovation. I am looking forward to the new products which will be developed in conjunction with the industry. In this way, we will be well placed to grow exports," said Winde.

He added that the fund would reinforce the Western Cape's positioning as the gateway to Africa.

"We are expanding our knowledge and capability. It's a benefit for our economy and for Africa. We could see this fund attracting more foreign students to conduct research here. The world is looking at this continent very differently, and this fund is going to play a role in drawing people here," said MEC Winde.

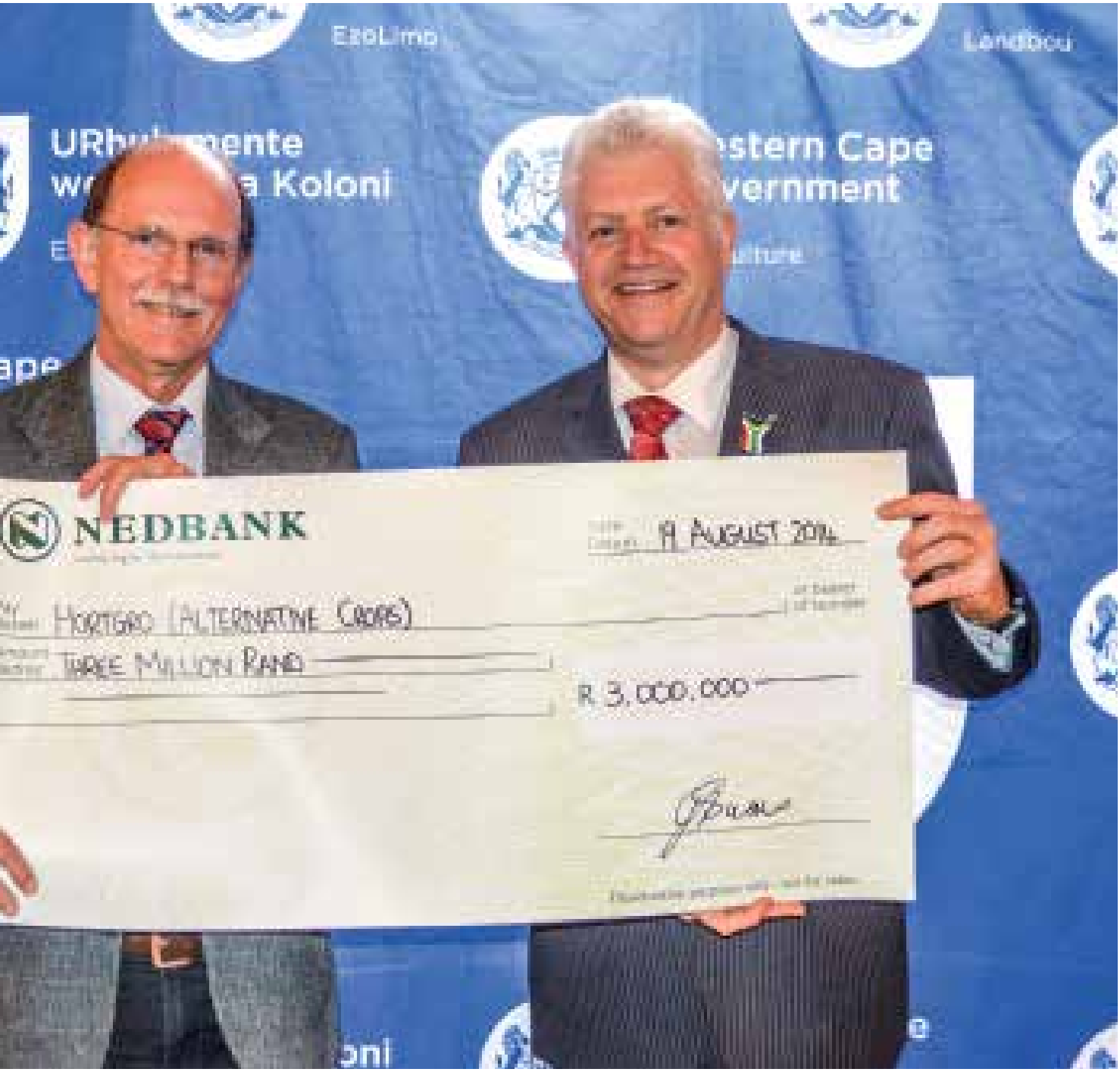
Land reform

Land reform was another focus area of the fund. "Land reform, nationally, is one of this country's biggest risks. We are starting to fix those problems. This fund is looking at new possibilities of economic involvement for more residents," said Winde.

Dappie Smit, of Hortgro, and MEC Alan Winde

Funding criteria

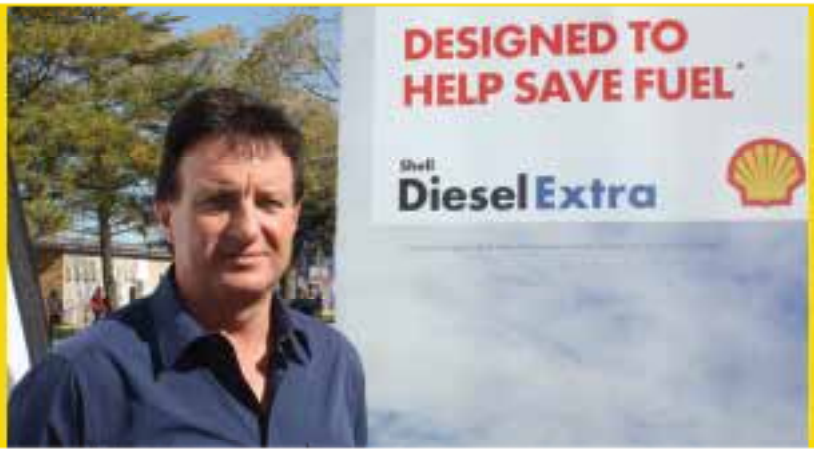
Criteria for a project to access the fund



include the following :

- It has to contribute to food security and toward realising the objectives of the Agricultural Policy Action Plan.
- The project must have the potential to create and sustain jobs.
- The project must have the potential to become economically viable and sustainable, and must be quantified in terms of industry benchmarks/norms/assumptions within a detailed business plan/proposal.
- The project must lead to increased services and infrastructure.
- The project must lead to increased exports.
- The project must be Western Cape-based and address the priorities of the province's agricultural sector.
- The project must increase growth in production and business opportunities.

For more information on the fund, contact Dr Ilse Trautmann on 021 808 5012 or ilset@elsenburg.com



Take care when filling up

"Don't think diesel is just diesel,"

says Gerhard Oosthuizen
manager for diesel at Shell SA.

Diesel isn't just diesel, says Gerhard Oosthuizen, manager for diesel at Shell SA. "Don't think of diesel as a commodity with monetary value or a mere input cost. The right diesel can be an asset helping the farmer to grow his enterprise."

Although all fuel companies start out with the same diesel that has a specific density and composition, the difference lies in what happens after that. With Shell's advanced technology they don't just put additives into the basic diesel, explains Gerhard. The chemical composition is altered in order to obtain the most from high performance engines with an average diesel saving of 3%.

The secret to economical diesel consumption and a healthy engine is that no deposits will form on the injector that injects diesel through a small hole into the combustion chamber. The diesel should move through smoothly and then ignite completely due to high pressure and force the piston down the cylinder. That is what diesel does.

Modern engines common rail injection places diesel under a lot of pressure and feeds all cylinders with electronic measurement at exactly the right moment – it is very important that diesel shouldn't have to find its way through deposits.

The combustion chamber must contain enough diesel in time for the amount of air, which is nowadays also forced in with turbo chargers. Everything must be finely balanced for the best possible performance. Shell Diesel Extra has it all of this and so much more. Farmers using Shell Diesel Extra can count on these six advantages:

Long-term fuel savings

Shell Diesel Extra's fuel-economy formula has been specially developed to prevent deposits from building up in injectors. This means that every drop of diesel is used efficiently. During extended tests it was found that the use of Shell Diesel Extra can mean an average saving of up to 3%.

Maintains engine performance

By preventing deposits an engine can function more efficiently. Agricultural machines perform hard and intense work. Clean burning diesel helps to increase power delivery and performance.

Prevents corrosion

Corrosion can cause major problems for heavy duty engines and corrosion of fuel pumps, pipes and injectors can force an engine to a standstill. Standing time on a farm is money lost and with Shell Diesel Extra a farmer can take preventative action.

Starting in cold weather

A cold winters' morning can cause a struggling start for a diesel engine, but Shell Diesel Extra has been specially developed to improve combustion even under the coldest circumstances. It reduces the burden on batteries and starters.

Less foam when filling up

Normal diesel will foam and when the tank is being filled, much time is wasted waiting for the foam to settle. When petrol attendants are in a hurry, they often splash and waste diesel. Shell Diesel Extra doesn't foam, saving you time and money.

Less smoke and CO2 release

There are strict requirements regarding the reduction of our carbon footprint and because Shell Diesel Extra has clean burning characteristics, there are less poisonous gases in the air and less black smoke polluting the environment. Clean burning diesel also contributes to a much longer engine life.

Take care where you fill up or contact one of Shell SA's top distributors that specialise in bringing Shell Diesel Extra to your farm. Contact Rèonè van der Westhuizen on 082 463 4344 or send an email to vanderwesthuizen@shell.com to locate your closest distributor.

This article was originally published in ProAgri.

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