

# African Farming

and Food Processing

## Biosecurity

The first line of defence against avian flu

## Cotton

Foliar feeding the fibre crop

## Equipment

A look at the continent's tillage market



Interview with Elad Levi, vice president and head of Middle East & Africa, Netafim. p28





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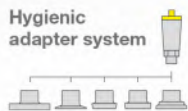
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- Sensor switching
- Process malfunction

Compact design



Hygienic  
adapter system



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smartphone



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Soilath Blender for fertile harvest



Image credit: Adobe Stock



Ross 308 has advantages in both breeder and broiler performance.



Soilath Blender automatically mixes chemical fertilisers and compost to produce a fertiliser according to farmers' need.

## African Farming

and Food Processing

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## Farming Calendar 2022

### APRIL

7-9	AgriTech Expo Zambia <a href="http://www.agritech-expo.com">www.agritech-expo.com</a>	ZAMBIA
12-13	AGRA Innovate West Africa <a href="http://www.informaconnect.com/agra-innovate-lagos/">www.informaconnect.com/agra-innovate-lagos/</a>	NIGERIA
13-14	5th Africa Agri Expo <a href="http://www.africa-agriexpo.com/">www.africa-agriexpo.com/</a>	VIRTUAL

### MAY

16-18	printpack alger 2022 <a href="http://www.printpackalger.com/">www.printpackalger.com/</a>	ALGIERS
16-20	NAMPO Harvest Day <a href="http://www.grainsa.co.za/">www.grainsa.co.za/</a>	SOUTH AFRICA
17-19	Nipoli Expo <a href="http://www.nipoliexpo.com.ng/">www.nipoliexpo.com.ng/</a>	IBADAN
30 May- 1 June	IFTEX Kenya <a href="http://www.hppexhibitions.com/iftex/">www.hppexhibitions.com/iftex/</a>	KENYA
31 May- 2 June	V-Connect Europe <a href="http://www.viveurope.nl/">www.viveurope.nl/</a>	VIRTUAL

### JUNE

9-11	Food & Kitchen Africa <a href="http://www.expogr.com/kenyafood/">www.expogr.com/kenyafood/</a>	KENYA
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### JULY

7-9	Food & Kitchen Ethiopia <a href="http://www.expogr.com/ethiopia/foodexpo/">www.expogr.com/ethiopia/foodexpo/</a>	ADDIS ABABA
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*Readers should verify dates and location with sponsoring organisations, as this information is sometimes subject to change.*

## Tanzania to gain by expanding women's access to opportunities: World Bank analysis

TANZANIA STANDS TO benefit enormously from expanding women's economic opportunities, especially in terms of access to land and productive assets, according to the World Bank economic analysis for the country.

The 17th Tanzania Economic Update, "Empowering Women: Expanding Access to Assets and Economic Opportunities," shows that bridging the gender gap in agricultural productivity in Tanzania could lift approximately 80,000 citizens out of poverty every year while increasing annual agricultural output by 2.7% and boosting annual gross domestic product growth by 0.86%.

The update shows that Tanzania has made important progress in several areas. The female labour-force participation rate rose from 67% in 2000 to 80% in 2019.

## South Africa records 33% increase in blueberry shipments to Germany

SOUTH AFRICA HAS shipped a third more blueberries than anticipated to Germany this season as it looks to grow its position in the market. Around 4,000 tonnes of blueberries were shipped to Germany this season, a 1,000 tonne increase on forecasts on the back of the country's biggest-ever crop. That figure represents 20% of total South African blueberry exports, according to industry body Berries South Africa (Berries ZA).

"This has been a highly successful season for us in Germany as we have sought to communicate the availability, quality, flavour and sustainability credentials of South African blueberries," said Berries ZA manager Elzette Schutte.

Advertising in key publications has been backed by targeted public relations activity focused on telling the story of South African blueberries through the trade media.

## Post-MV Wakashio oil spill: beneficiaries receive starter kits, booklets on farming

AT LEAST 1,200 beneficiaries from the South East and Eastern regions of Mauritius have received starter kits under the Capacity Building and Start Up assistance of the Humanitarian Emergency Assistance Programme at the Maison des Pêcheurs in Mahebourg.

The assistance programme is funded by the United Nations Development Programme (UNDP). Attorney-general and minister of Agro-Industry and Food Security Maneesh Gobin recalled that the oil spill caused by the wreckage of the bulk carrier vessel MV Wakashio in July 2020 brought much damage to the marine system leading to a complete stop of all marine economic activities. "Urgent actions were put in place to mitigate the impact, including the tripartite Funding and Implementation Agreement, which was signed by the African Development Bank, the Government of Mauritius, and the UNDP for Humanitarian Emergency Assistance Programme," he added.

The symbolic handing over ceremony, organised by the Ministry of Agro-Industry and Food Security in collaboration with the Food and Agricultural Research and Extension Institute (FAREI), comprised the handing over of training certificates to the beneficiaries and the launching of two booklets on household farming, composting, and egg production.

Gobin highlighted that his ministry is providing several incentives to encourage self-sufficiency in some agricultural products.

UN resident coordinator Christine Umutoni said this distribution of startup packs and training in food production supported by FAREI and UNDP are an important component of assistance to the victims of the



Booklets on household farming, composting and egg production were also launched.

Wakashio crisis. "They are one of the many methods that the UN is using to support Mauritius strengthen its food system that will impact many families and contribute towards the achievement of several Sustainable Development Goals," she said.



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## New UNMISS-funded veterinary clinic a boon for livestock owners in Melut

LIVESTOCK OWNERS AND local authorities in Melut, Upper Nile, are overjoyed after the United Nations Mission in South Sudan (UNMISS) handed over a newly-built veterinary clinic.

"We really needed this facility because we have been overrun with complaints from local herders and community members about the lack of available treatment for animals," said county commissioner Deng Agok, who received the official handover from the UN Peacekeeping mission's protection, transition and reintegration section. Bodhok Ayang Aney Kur, governor of Upper Nile, reiterated his vow to supply the clinic with medicines and vaccinations.

## 'Barren to arable': Dake Rechsand makes its mark at the Food for Future Summit

DAKE RECHSAND, THE Dubai-based company specialising in sustainable solutions for water conservation and desert farming, made its mark at the inaugural Food for Future Summit on 23-24 February, 2022. Dake Rechsand's Breathable Sand is a low-cost, water-retentive and air-permeable medium made from typical desert sand. The water-retentive medium reduces irrigation requirement by 80% compared to conventional techniques, while enabling high yield due to its air permeability.

The Breathable Sand has found application in desert farming, a practice that could potentially drive the region's food security.

## Smith Power to launch double rotor rake from Kubota

SMITH POWER EQUIPMENT has announced the introduction of the Kubota RA2072, a new double rotor rake that is set to usher in a new era in swathing.

The Kubota RA2072 is designed to group crops into swaths, thus enabling machines such as balers, harvesters or loading wagons to pick up the crop. Expected to arrive in South Africa in February 2022, the rotor rake is a significant upgrade of the single rotor counterparts already available locally

from Smith Power. Erik Roelofs, international product manager at Smith Power, explained that a major selling point is the maximum working width of 7.2m, which is significantly higher than the 3.5 or 4.3m offered by the single rotor rakes.

"A single rotor rake can be used to create big swaths by raking in both driving directions, where this method is preferred. However, good driving skills are required to form constant swaths," said Roelofs.



Image Credit: Kubota

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## Sub-Saharan Africa in the spotlight at Macfrut

OPPORTUNITIES FOR THE fruit and vegetable sector in Africa will be the focus at the 39th edition of Macfrut, a three-day international trade fair for the fruit and vegetable sector.

The event, which will be held from 4-6 May, 2022 at the Rimini Expo Centre in Italy, will be hosting Africa Days, a number of initiatives aimed at exploring development opportunities for the fruit and vegetable sector in Africa. It will be organised in collaboration with the Italian Ministry for Foreign Affairs and International Cooperation, Italian Agency for Development Cooperation, ICE-Agenzia - Italian Trade Agency, United Nations Industrial Development Organisation and in partnership with Confindustria Assafrica & Mediterraneo.

## LEMKEN to invest in new facility for hoeing technology

LEMKEN WILL INVEST US\$20.41mn in a new machinery plant to be built in Dinteloord (North Brabant).

This new plant will be connected to the Nieuw Prinsenland Agro Food Cluster as an additional benefit. The factory is scheduled to open its doors at the end of 2023 and will employ at least 30 members of staff.

In 2018, the agricultural technology company added hoeing technology, a promising field for the future, to its product range for professional arable farming. Since then, Steketee, the Dutch machine factory that LEMKEN acquired for this purpose, has grown rapidly, benefiting from the global shift towards mechanical, camera-controlled weed control.

## Ministry of Mauritius and FAO collaborate to develop fisheries sector

AN INCEPTION WORKSHOP focusing on the theme 'Support to the Development of a Policy and Strategic Plan for the Blue Economy Sector in Mauritius', has been launched by the minister of Blue economy, Marine resources, Fisheries and Shipping, Sudheer Maudhoo, at Le Labourdonnais Hotel, in Port-Louis.

The workshop, which is a joint collaboration between the Ministry and the Food and Agriculture Organisation of the United Nations (FAO), aims at devising a Blue Economy Policy and Strategy to support and strengthen the institutional arrangements to further develop the fisheries sector.

In this context, through the Technical Cooperation Programme, the FAO is providing assistance to Mauritius to develop a Policy and Strategic Plan for the blue economy sector. By adopting a collaborative and consultative process, this project is expected to consolidate the existing sectors and promote the development of emerging ones.

Maudhoo expressed gratitude to FAO for its technical support and said that it will help spearhead their blue economic sector's growth. As a Small Island Developing State, the Mauritian territory is expected to contribute significantly to the country's wealth, he stressed. He underlined that Mauritius is blessed with an Exclusive Economic Zone of 2.3 million km<sup>2</sup>, adding



The collaboration aims to strengthen the institutional arrangements to further develop the fisheries sector.

that measures need to be taken to tap into this asset.

According to Minister Maudhoo, the development of the blue economy is poised to open huge potential for boosting economic growth, create employment, bring forth structural transformation, boost exports, and reduce imports.

He further spoke of the fisheries and aquaculture sector, which he qualified as an important sub-sector of the economy, representing a contribution of 1.4% of the GDP and providing employment to a large section of the population. In addition, he said

that the fisheries sector makes a vital contribution to the coastal communities, and ensures supply of fresh production in local market.

The minister underpinned the need to give consideration to untapped areas, including seaweed culture and sea cucumber culture, to open new avenues for diversification.

He also dwelt on the various measures that have been taken at the level of his Ministry for the development of the blue economy such as financial incentives provided to purchase equipment and to carry out fishing-related activities and the allocation of some 500 fishermen cards around the country.

## EIB partners with First Capital Bank for agriculture financing initiative in Malawi

THE EUROPEAN INVESTMENT Bank (EIB) and European Union confirmed their new cooperation with First Capital Bank to transform access to finance for agricultural businesses across Malawi.

The impact of the new US\$13.8mn EIB financing to First Capital Bank will be enhanced by both specialist best practice agricultural investment technical assistance and the European Union's contribution of US\$5.5mn to support further long-term agricultural financing. This will facilitate an increased contribution by smallholder farmers to national agricultural production and exports.

The new financing initiative has been launched to address specific challenges holding back agricultural investment and is part of the broader 'Kulima - promoting farming in Malawi' programme developed

by the European Union and Government of Malawi.

"Increasing high impact agricultural investment is crucial for Malawi. This new partnership will benefit thousands of small holder farmers across our country and unlock economic opportunities from sustainable agriculture in the years ahead," said Agness Jazza, deputy CEO at First Capital Bank. Thomas Östros, vice-president at European Investment Bank explained that the latest partnership with First Capital Bank will unlock investment by smallholders across Malawi facing challenges of climate change and the COVID-19 pandemic.

"Team Europe is working with Malawian partners to transform opportunities in rural communities," said Aurélie Valtat, chargée d'affaires of the delegation of the European Union to Malawi.





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## Agra Innovate Lagos to unite agricultural community

HEADING INTO ITS eighth year, Agra Innovate is coming to the Landmark Centre in Lagos, Nigeria to connect global suppliers with serious local agricultural sector buyers, professionals and practitioners.

With virtually all aspects of West Africa's food production, processing and manufacturing requiring new technology as they transform into a competitive force, the last decade has seen significant private investment from companies that understand the enormous potential of West Africa's agricultural development. Agra Innovate Lagos is set to bring together the leading players of the region's agricultural sector to explore the opportunities of this market and facilitate deal making across two days of intense networking.

### The event in numbers:

- More than 3,000 agriculture industry visitors
- 100+ innovative exhibitors
- More than 50 free seminars & networking activities
- 50+ seminar speakers
- Unlimited networking and learning opportunities.

Free seminars at Agra Innovate Lagos are designed to provide clear insight into the most exciting opportunities and deliver expert analysis of the agricultural market across multiple value chains. Key themes include soybean, cassava, potatoes, livestock & poultry, aquaculture, animal health, seeds & fertilisers, and more.

To ensure safety for all attendees, Informa has collaborated with association partners including UFI, AEO and SISO; peers such as Reed Exhibitions and Clarion; venues; suppliers; contractors; as well as government and local authorities to develop industry-wide secure standards.

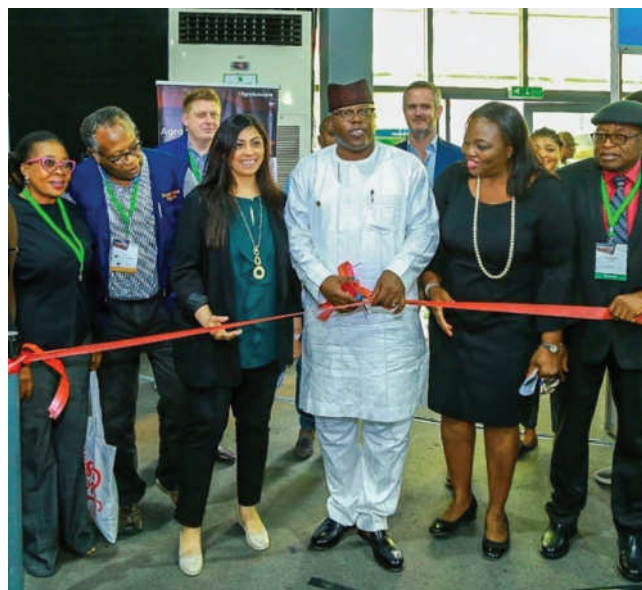


Image Credit: Informa

More than 100 exhibitors are expected at Agra Innovate Lagos.

This will ensure a safe, hygienic, productive and high-quality organised event experience.

Find more information here:

<https://informaconnect.com/agra-innovate-lagos/>

## Stay ahead of the industry at AgriTech Expo Zambia

A PROFESSIONAL, BUSINESS-LED event, AgriTech Expo Zambia services the needs of the entire agri-value chain in Zambia and its neighbouring countries.

Catering to large-scale commercial farmers as well as emerging and small-scale farmers, there is something for everyone at the event which is returning to the GART Research Centre in Chisamba from 7-9 April, 2022.

This will be the seventh edition of the event and organisers are aiming to attract more than 15,000 farming professionals and over 150 exhibitors, all striving to achieve the same goal – driving Zambia's agricultural sector forward.

Farmers attending the show will have the opportunity to engage with one another, conduct business with some of the leading suppliers to the agricultural industry and be educated on all the latest global industry trends to advance into the next generation of food production. More than 60,000 sqm of exhibition space is being utilised for the event and 15 industry feature zones are being opened for attendees.

### New features at the event include:

- A live planting demo and aquaculture zone
- An all-new site layout including an inverted indoor exhibition



Image Credit: AgriTech Expo Zambia

This will be the seventh edition of AgriTech Expo Zambia.

- 28 live crop trials, more than any AgriTech Expo has seen in previous years
- Increased workshops zones, focusing on providing farmers with targeted knowledge covering machinery, livestock, irrigation, finance and crops.

The ultimate goal of the expo is to establish a marketplace for industry professionals, young entrepreneurs, and farmers of all scales to come together in one location and expand their knowledge and networks.

This year, the organiser (Zambia National Farmers Union) has joined together with the German Agricultural Society to bring not only the latest and most relevant technology and innovations in Zambia's agricultural sector but also the latest technical know-how from a network of leading international experts as well.

For more information, visit the website: <https://www.agritech-expo.com/>



## NAMPO Harvest Day to welcome more than 750 exhibitors

GRAIN SA'S NAMPO Harvest Day, one of the largest agricultural exhibitions under private ownership in the southern hemisphere, is returning from the virtual sphere to be held live and in-person from 17-20 May, 2022.

The exhibition has grown exponentially since its debut in 1967 and today it has a permanent venue at the NAMPO Park, just outside of the town of Bothaville, in the Free State province of South Africa. After the trials and tribulations of the last few years, regulars are looking forward to returning to the familiar territory and take in all that the exhibition has to offer.

NAMPO Harvest Day enables producers and role players in the agricultural industry to experience the latest technology and products on offer and provides the opportunity to obtain knowledge from agricultural experts in their various fields by means of debate and panel discussions.

More than 750 exhibitors are expected to showcase at the event, giving attendees the opportunity to survey and make an informed decision on which products will suit their needs best. Grain SA strives to keep NAMPO Harvest Day focused on agriculture and not on entertainment.



The exhibition has grown exponentially since its debut in 1967.

The event has continued to increase the number of exhibitors due to the positive sales reaction experienced at the show, the unique demonstration programme that allows interactive demonstrations on stands, and the fact that all known sectors of the agricultural input suppliers are represented.

Several other industries also exhibit their products, albeit in limited numbers, and over

the past few years, several international exhibitors from countries such as Australia, Sweden, the USA, Britain, Italy, Pakistan, Germany, Brazil and more have participated in the show.

Find more information here:

<https://www.grainsa.co.za/pages/nampo/nampo-home>

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With meagre funds required to begin with, commercial layer poultry production is becoming a profitable option for small scale farmers.

# The road to commercial egg production

**L**AYER POULTRY FARMING – the domestication of chickens for the purpose of egg production – has always been the go-to choice for beginners of poultry farming. Efforts are underway in Africa to encourage and train these new and emerging farmers.

The Food and Agriculture Organisation of the United Nations (FAO) conducted a two-day poultry production training for a group of youths from Tsumkwe in eastern Namibia. According to a statement from the organisers, the training was part of the technical assistance from FAO, which included the provision of a functional poultry structure, poultry feed, vaccines and about 100 Lohmann Brown chicken layers.

Here are the factors that make Layer poultry farming appealing to farmers:

- One can start both small scale and commercial production, depending on the budget.
- Small scale layer production does not require high capital. Even though a good amount of money is required for starting a large scale production, farmers can apply for a bank loan to start this business.
- These birds can be raised in a small place, even in the backyard.
- Although commercial production requires high investment, the ROI is good and farmers can make good profit from their investment.
- Eggs are very popular throughout the world and hence, marketing is not a hurdle. Farmers can even sell them in the local market.
- As commercial layer poultry production is profitable, it can be a great employment source for rural people, especially for unemployed youth.
- Commercial layer poultry production is a great way to ensure food security.

Hendrix Genetics, which has more than 100 years of experience in layer breeding and genetics, offers a regional approach for each market by offering different layer breeds. Some of their well-known breeds that have helped many include Babcock, Bovans, Dekalb, Hisex, ISA and Shaver.

The Babcock White and the Babcock



As commercial layer poultry production is profitable, it can be a great employment source for the rural people.

Brown laying hens are adaptable to multiple climates and housing systems. They are well known and globally recognised for their outstanding livability and egg production.

The Bovans Brown, the Bovans White and the Bovans Black chickens are robust and balanced. The Bovans laying hens thrive in many different poultry housing environments and flock management styles, from barn and aviary housing systems, to (enriched) cages and backyard poultry farming, making it easy to raise for many egg producers.

Efficient, docile, and capable of laying

up to 500 eggs in their lifetime, the Dekalb laying hens are a perfect fit for the modern chicken farmer.

The ISA Brown and the ISA White stand for reliable performance, advancement, and success for the ISA parent stock customers and commercial egg producers.

Shavers are well known for very high numbers of hatching eggs combined with excellent hatchability, resulting in high levels of saleable day-old chicks of great quality.

Hendrix Genetics has expanded its partnership with Chi Farms, an agribusiness company and a member of TGI Group. This will increase the production of layer day-old chicks in Nigeria.

Managing director of Chi Farms, Dr Tunji Olaitan, said their strategic expansion programme will respond to demand forecasts in the short, mid- and long-term by providing both breeder chicks and commercial layer chicks. "We are also committed to developing our pen houses and hatchery capacities. Upgrades on the existing infrastructure in line with continuous technical improvements are being carried out for world-class poultry management," he added.

**Hendrix Genetics has expanded its partnership with Chi Farms to increase the production of layer day-old chicks in Nigeria. It will respond to demand forecasts by providing both breeder and commercial layer chicks.**



Hendrix Genetics Africa area manager, Peter Arts, added, "We are excited to expand the scope of our partnership with Chi Farms to continue to improve breed quality, boost production volume to meet market demands, and offer technical training through our breeding programmes."

Executive director of Chi Farms, Martin Middernacht, said Chi Farms and Hendrix Genetics will jointly invest in a special poultry training centre for local farmers.

"The special training centre is currently under construction. It will consist of demonstration pen houses, equipment and classrooms to provide technical training for customers and partners of Chi Farms and other interested parties," he said.

**The Babcock White and the Babcock Brown laying hens are adaptable to multiple climates and housing systems. They are well known and globally recognised for their outstanding livability and egg production.**



Image Credit: Adobe Stock

Hendrix Genetics has expanded its partnership with Chi Farms to increase the production of layer day-old chicks in Nigeria.

#### **Towards self-sufficiency**

Meanwhile, layer poultry farming has also helped Rwanda become self-sufficient. To prevent the spread of bird flu in Rwanda, the government has sustained its halt on the import of poultry products, especially chicks. However, this has helped the country. Following the ban on imports, 1.2 million day-old chicks are being produced locally every month.

Earlier, Rwanda used to import day-old

layers chicks from the Netherlands, Belgium and Turkey, according to Fabrice Ndayisenga, head of Animal Resource Research and Technology Transfer Department at Rwanda Agriculture Board (RAB). The Board told *The New Times* that the country was now concentrating on bolstering the domestic industry in order to wean itself off foreign supplies. "Local supply is increasing, and we are even exporting," Ndayisenga said. **B**

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With some African countries reporting cases of avian influenza, biosecurity measures to mitigate this have become the need of the hour.

## Keeping flock away from the flu



Image Credit: Adobe Stock

The South African Poultry Association has made significant investments in the training and development of poultry farmers, especially in terms of disease identification, with an emphasis on biosecurity audits and training.

**W**HILE ZIMBABWE IS on high alert for avian influenza, Namibia, Botswana and South Africa have already reported bird flu cases. Awareness is also being raised among Africa's poultry industry value chain players through all media platforms on the urgent need to strengthen their biosecurity measures. Poultry producers have been instructed to report unusually high illnesses and deaths of birds to the nearest Government veterinary offices.

Zimbabwe's chief director of the Department of Veterinary Services, Dr Josphat Nyika announced that the country is only importing mechanically deboned meats from High Pathogenic Avian Influenza (HPAI) free countries as surveillance for the viral disease continues in poultry, including wild birds in the country.

Biosecurity is seen as the first line of defence in the fight against poultry diseases. It involves various measures to prevent birds from getting into contact with disease-carrying agents, which can be anything from people to other animals, feed and even farm equipment.

**While producers might mostly focus on on-farm biosecurity efforts, there are measures they can take to encourage feed mills to play a greater role in helping limit Salmonella in the production chain.**

Farming equipment, poultry feeding and drinking equipment, should be cleaned on the premises to prevent a build-up of bacteria and diseases spreading from one bird to another. Anything that is taken off-site has to be disinfected before it is allowed back on site.

One of the trickiest parts here is to prevent vehicles from bringing disease onto the farm. To reduce this risk, vehicles should be sprayed down and disinfected before allowed onto the farm and their movements should also be usually restricted to specific areas on the farms.

Feed is another risk as it might contain mould which can produce toxins. To reduce this risk, farmers should ensure they supply their birds with good quality feed. While speaking to *Poultry Health Today*, Genevieve Huard, doctor of veterinary medicine, Hendrix said it is often forgotten that feed can become contaminated at various stages in the production process.

While producers might mostly focus on the on-farm biosecurity efforts, there are measures they can take to encourage feed mills to play a greater role in helping limit Salmonella in the production chain. "The first step is to begin with clean feed ingredients, which relies on taking regular samples and treating ingredients whenever necessary."

While feed mill biosecurity is an important factor, on-farm biosecurity – including where feed bins are placed and how feed is transported – is also important, Huard added.

"When we fill up the feed bins, it often creates some dust," she said. "That dust will attract pests like birds or small mammals, and



that creates traffic on the farm.

If you have your feed bins by your barn entrance, and you have to walk there every day to come in and out, then it might be a good idea to have the feed bins in the location that you don't walk as often, or that you can prevent cross-contamination."

Some organisations and companies have been putting in efforts to create awareness and are taking measures to battle diseases in poultry. Here are a few:

1. The World Poultry Foundation in the US has developed a series of online training videos aimed to help rural African poultry farmers to improve or expand their operations. The new series of training videos cover management of feed, water, brooding, vaccination, record-keeping, biosecurity and poultry housing. CEO of World Poultry Foundation, Randall Ennis said these are the key areas where challenges exist among many new and emerging farmers across the continent.

"We found they were able to significantly improve their outputs and profits once they had access to information on best practices," Ennis added.

The series is grouped into four categories:


- Production: feed, water, litter, zone of comfort (brooding)
- Management: vaccination, managing for success (record-keeping)
- Housing: poultry housing, preparing the house, and biosecurity
- Small-scale producer: household nutrition, and backyard management

2. The South African Poultry Association (SAPA) has made significant investments in the training and development of emerging and existing farmers, especially in terms of disease identification, management training, financial training, with an emphasis on biosecurity audits and training. In 2021, biosecurity training reached 1,000 developing farmers to prepare them to better manage the biosecurity risk of specifically avian influenza. SAPA stated that it continues to offer remote assistance to more than 1,400 farmers even now.

3. NEOGEN Corporation has announced a partnership with Hendrix Genetics, a multi-species animal breeding, genetics, and technology company. NEOGEN Corporation develops and markets comprehensive solutions dedicated to food and animal safety.

## The World Poultry Foundation in the US has developed a series of online training videos aimed to help rural African poultry farmers to improve or expand their operations.

Through this partnership, NEOGEN will help the implementation of genomic selection into Hendrix's Sustainable Access to Poultry Parent Stock in Africa (SAPPSA) programme. This addition will help accelerate the company's existing recurrent test programme by genotyping the elite animals across the breeding programme. This will ensure the cultivated SASSO breeds are adapted to the local needs and environmental pressures of sub-Saharan Africa, including heat, feed, various diseases, and different housing systems.

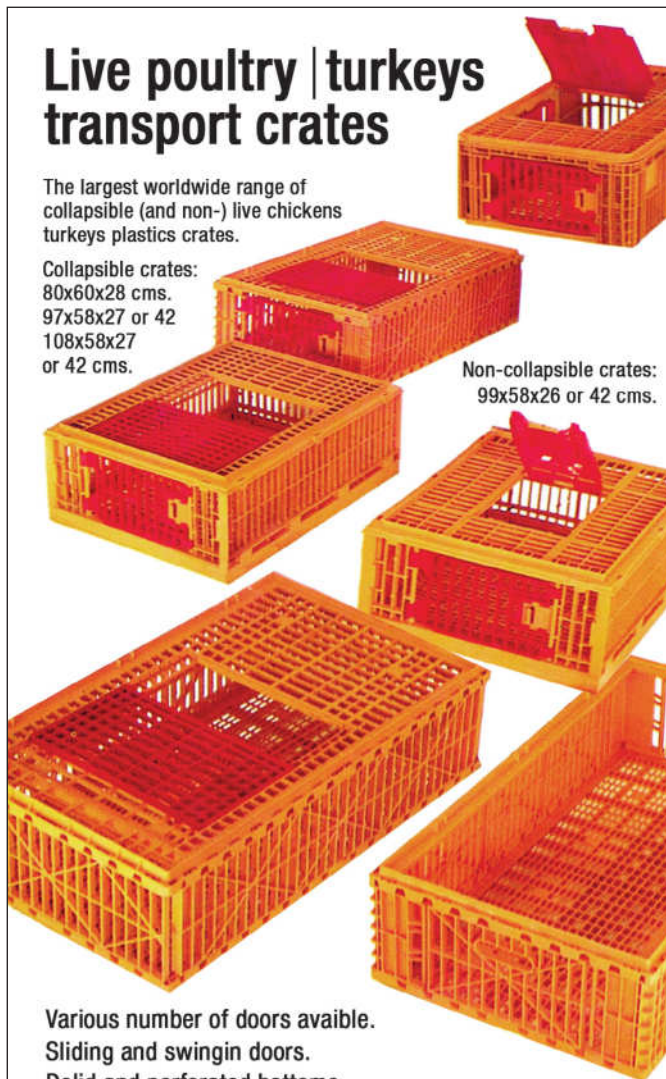
"By helping to incorporate genotyping into Hendrix Genetics' excellent breeding programme, we can ensure that the correct birds for the environment are chosen. We will be able to support the sustainable development of farming practices while helping educate on the best practices for nutrition, housing, and poultry biosecurity," Marylinn Munson, vice president of Genomics at NEOGEN, said while speaking to *The Poultry Site*. 

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Bulent Tanyildizi, international commercial manager, MEA at Aviagen discusses why Ross 308 is the continuously growing and dynamic region's choice when it comes to broilers.

# The broiler of choice in sub-Saharan Africa

## In your opinion, why should customers in the sub-Saharan Africa region choose to buy Ross?

Ross 308 meets the demands of customers who require a bird that performs well consistently and has the versatility, robustness and cardiovascular strength to meet a broad range of end-product requirements and environments. The Ross 308 is the leading broiler worldwide, with its unparalleled and renowned performance in both open and closed-housing environments. Our customers across the sub-Saharan Africa (SSA) region choose Ross because it lives up to the requirements they are looking for, specifically in feed conversion ratio (FCR) and yield. This, in turn maximises their profit, making Ross the breed of choice in the region and providing customers with the best return on their investment.

## Tell us a little more about the advantages of the Ross breed?

Across the SSA region, Ross 308 has advantages in both breeder and broiler performance. For example, its exceptional performance and steady gains in hatching egg (HE) output and hatchability have delivered on an average, additional 15–20 chicks over the competitor. In some cases, the difference is even greater. So, for a customer processing 1 million broilers a week, this means 35,000 less parent stock are required to produce the same number of broilers, which is a big saving in itself. This also means that less breeder feed is required, which is another saving, especially since feed costs are high nowadays. If we check the numbers, it would mean 2,000 tonnes less breeder feed equates to a saving of approximately US\$900,000 on feed alone.

Faster growth rate, better liveability and carcass yield deliver the most meat per kg at the lowest cost of production. Based on TMEA



Ross also provides the best literature portfolio which includes parent stock and broiler management.

Image Credit: Adobe Stock

field results, the Ross 308 broiler performance shows a minimum of:

- 1 pt better FCR, which equates to a savings of US\$415,000
- 1% better livability which equates to a savings of US\$482,000
- 0.2% better eviscerated yield which equates to an additional profit of US\$200,000

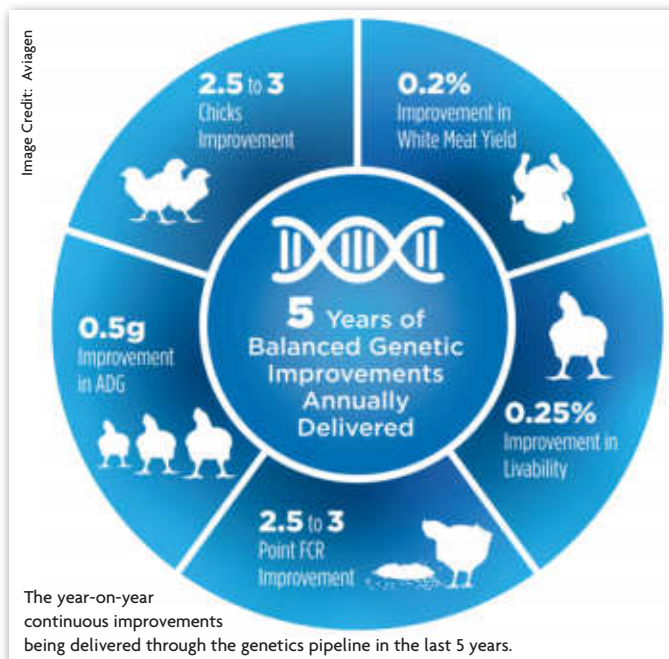
These above figures are annual and based on 1 million broilers per week at a kill weight of 1.8 kg.

Continuous improvements are being delivered through the genetics pipeline. In the last five years there have been developments like 0.2% improvement in white meat yield, 0.5g improvement in ADG and more (in chart below).

## How do you and your team support your customers across the region?

We have a talented multi-cultural customer support team that lives and works in the region and speaks the local language. Hence, we have a good understanding of the challenges our customers face. We have the support of international specialists and the Aviagen R&D department so our customers have their trust in the brand.

Ross also provides the best literature portfolio which includes parent stock and broiler management and training handbooks, performance objectives and nutrition specifications. Specific advice is also provided through the 'How To' series, Best Practices, and Hatchery Tip publications and all information is available on the Aviagen website. Aviagen also recently released its global flock management app for Ross customers that offers easy access to PS and broiler data, along with useful monitoring tools, such as a date finder, EPEF calculator and a scoring tool. We have also recently launched our podcast series 'The Eggspert View', which provides information on our key technical topics and key information from around the region. Subscribe now to our podcast on Spotify. 



Scan the QR code above to download our Ross app



Extreme temperatures and unfavourable living conditions can be a cause of stress to animals. To tackle this, forward planning of farm infrastructure, good ventilation and cooling is necessary.

## Giving animals the right environment to thrive

**A** GOOD MANAGEMENT programme involves environment, housing, and care that permit animals to grow and maintain good health.

Managing animals in high temperatures requires good planning and extreme heat causes significant stress on them. To tackle this, forward planning of farm infrastructure to provide good ventilation and cooling, is necessary.

LUBING's Top-Climate-System has been developed for an effective humidifying, cooling and dust binding of air. The company is known for its livestock and poultry equipment. The Top-Climate-System works according to the principle of the direct evaporative cooling. Through high pressure nozzles, water is injected into the pig house air with a pressure of 70 bars as fog. The fog evaporates immediately and causes the cooling of the house air by extracting heat. This cooling effect saves energy because the ventilation rate can be throttled. It can be used for the rise of the humidity to the optimum value during heating periods and after the arrival of young animals.

The Top-Climate-System for pigs allows an effective air conditioning and the system cooperates successfully with any kind of ventilation system, be it a comb house or a single house. It operates separately in every single compartment with only one pump unit, so different house areas can be cooled, moistened and soaked.

**The Top-Climate-System works according to the principle of the direct evaporative cooling. Through high pressure nozzles, water is injected into the pig house air with a pressure of 70 bar as fog. The fog evaporates immediately and causes the cooling of the house air.**

### Evaporative cooling technology

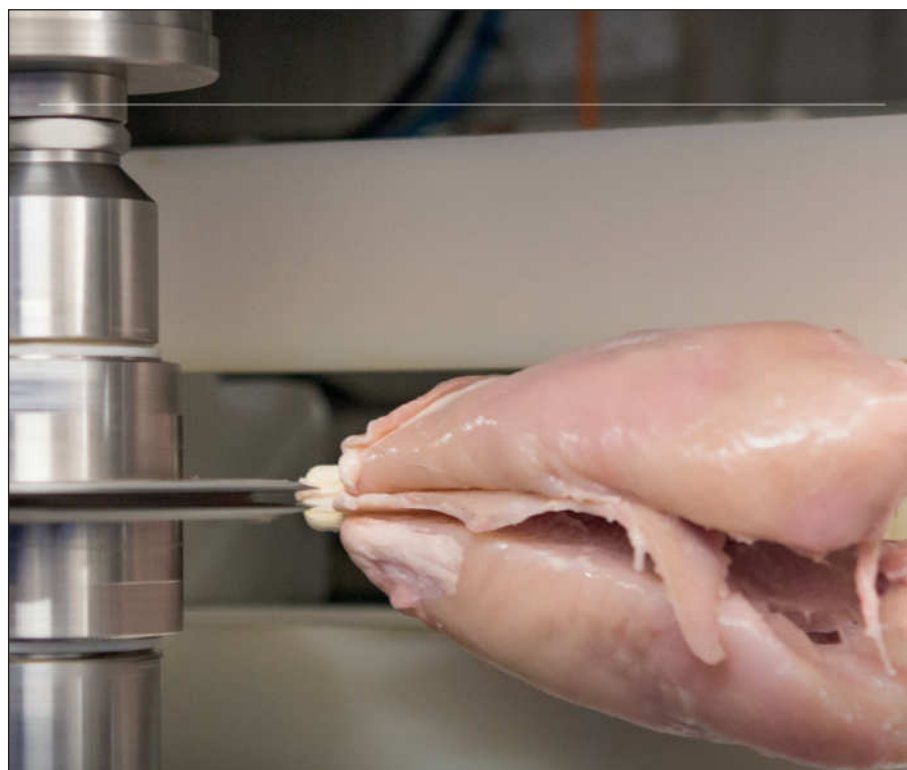
Another product by LUBING that helps in maintaining cooling is the Pad-Climate-

System. Use of plastic pads in pad climate systems has proven its durability and efficiency compared to paper pads. The



With its particle size of 1.8 x 3-4 mm, Mepron can be mixed homogeneously into feed.

Image Credit: LUBING



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evaporative cooling pad system is used in systems where highly efficient cooling is required.

Water is circulated through the system by a pump station and supplied to the top of the cooling pad through a water distribution pipe and the deflector. The water flows down the corrugated surface of the evaporative cooling pad. Part of the water is evaporated by the warm and dry air that passes through the pad.

The rest of the water aids in washing the pad, and is drained back to the pump station through a water gutter system. The heat that is needed for the evaporation is taken from the air itself. The air that leaves the pad is therefore cooled and humidified simultaneously, without any external energy supply for the evaporation process. Some of the benefits of LUBING's patented plastic pads, as stated by the company are:

- Easy to clean, due to the use of welded and highly resistant polymer plates
- Lowest pressure loss - significantly reduced energy consumption
- High UV resistance for years
- Chemical resistance
- Excellent cooling performance due to special arrangement of solid surfaces and grid structures

#### Winter management solutions

Not just high temperature but extremely low temperature during

**With WEDA's new plastic boards, the hygiene standards under ecological husbandry conditions can be achieved easily.**

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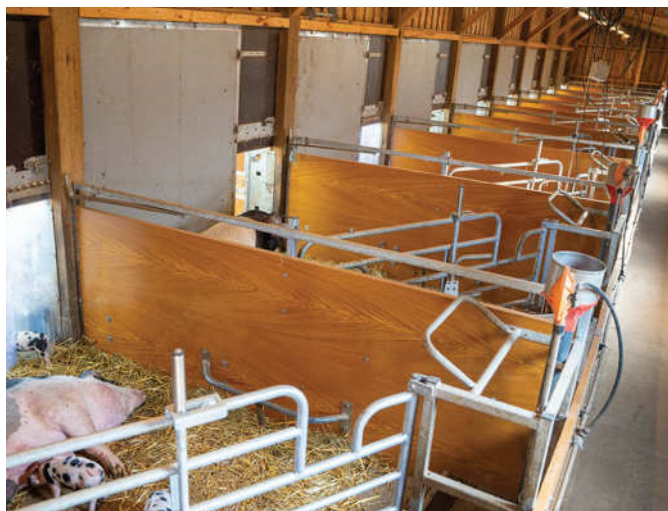


Image Credit: WEDA

WEDA's pen walls are made of PVC and the surface is UV-resistant, which makes the material ideal for open stables with outdoor runs.

winters can also affect livestock performance. Roxell, a manufacturer of automated animal feeding, drinking, nesting and heating systems, offers the Shen Turbo space heater with open combustion for pig houses. It has good air volume output and corresponding temperature increase. The high-quality cast iron burner delivers a very powerful heat output. Farmers don't need as many devices or as much fuel to heat the same volume so evenly compared to competitor products. It is easy to maintain and energy-efficient too. With a 250,000 BTU/h output, the Shen Turbo 250 performs very well where there is a constant need for heating or in large spaces. Alternatively, the Shen Turbo 100 is a more compact but nonetheless powerful version for pig breeders or climates with a less frequent need for heating.

Another solution, the Siroc Turbo cannon heater for pigs and poultry, runs on gas or oil and also creates a horizontal flow of warm air. This appliance is direct-fired, which means that the fumes are not carried away.

Frank Hartmann, marketing manager at Roxell said, "In early 2021, Roxell launched three new convection heaters. This expansion arose due to a partnership with Holland Heater. Now we are continuing to gauge the needs of our end customers with regard to house heating and enhancing our range with the innovative offering from Holland Heater."

#### Optimising space

In the absence of proper housing solutions for animals, there is a possibility of aggression, specifically in grouped pigs. It can also cause stress, growth checks, suppressed immunity, injury and even death. In pig farming, therefore, there is an increasing demand for housing concepts that focus on the health of animals.

WEDA Dammann & Westerkamp has introduced its hygienic pen walls and modules in a natural wooden look. Till now, pens in the conventional sector have been equipped with the usual blue or grey hard PVC boards. In organic farming, on the other hand, operators have often used wood. "Real wood, however, has the downside of dirt and bacteria settling on the fabric. With our new plastic boards in wooden look, the hygiene standards under ecological husbandry conditions can be achieved quite easily because nothing sticks after cleaning," said WEDA development manager Ralf Meyer.

Meyer informed that the surface of these pen walls is UV-resistant. "This makes the material ideal for open stables with outdoor runs. The additional costs are also low. These pen walls made of PVC were developed especially for WEDA and are available in individual, adaptable sizes," he added. **E**



Due to its coating technology that uses ethyl cellulose, Mepron creates a continuous flow of methionine to the small intestine of dairy cows, which mimics the natural digestive process.

## Meeting methionine requirement

**M**EPRON IS A concentrated, time-based release mini-pellet that features a solid core of DL-methionine, an essential amino acid. Due to its coating technology that uses ethyl cellulose, Mepron creates a continuous flow of methionine to the small intestine which mimics the natural digestive process.

It allows for a steady, consistent uptake of methionine by the liver. Mepron contains 85% DL-methionine, of which at least 80% bypasses the rumen.

Of that fraction, more than 90% are digestible and absorbed along the intestine. Mepron delivers the highest amount of metabolisable methionine (60%) among all commercially available methionine sources for dairy cows.

Most protein sources are low in methionine. Therefore, rations for high-yielding dairy cows meeting the methionine requirement are typically high in protein. Then, all other amino acids are usually in surplus which leads to imbalances and inefficient protein use. Good methionine sources like fishmeal are either not allowed or very expensive. The challenge is to meet all nutrient requirements including methionine, to optimise nutrient utilisation, and to minimise feed costs.

### The solution

Mepron delivers the nutrient methionine in a highly concentrated form. One gram of metabolisable methionine from Mepron is cheaper than from any feed protein.

### The approach

Calculate your existing ration with AMINOCow which considers all 10 essential amino acids. First ensure the optimal supply of all major nutrients such as forage NDF, glucose precursors, rumen degradable protein, and energy. Then look at the amino acids. If all amino acids except methionine are in surplus, some of the expensive protein can be removed and the space used for energy or forage, depending on what component improves the ration. One can meet the metabolisable methionine requirement by using Mepron. Typical inclusion rates are 8-15 gm per cow per day.

### Results

Depending on the actual feed material prices, your ration costs will be reduced in most cases by US\$0.05-0.20 per cow per day. Mepron is the most cost-effective methionine source for dairy rations. Due to the balanced amino acid supply, less surplus nitrogen has to be removed as urea relieving liver metabolism and sparing additional energy needs. With an optimised nutrient supply, performance improvements such as higher milk yield or milk protein, stabilised milk fat content, improved fertility and general health of the herd have often been observed.

A meta-analysis of 18 studies published in peer-reviewed journals has proven that cows on Mepron rations performed better than control groups in milk yield, milk protein percentage and yield as well as milk fat yield (Patton 2010, Journal of Dairy Science, Vol 93, p. 2105-2118).



Mepron delivers the nutrient methionine in a highly concentrated form.

Image credit: Evonik

### Handling & mixing

With its particle size of 1.8 x 3-4 mm, Mepron can be mixed homogeneously into feed. The rate of rumen protection is not affected when mixed with potentially abrasive components, handled at extremely high ambient temperature or subjected to low pH (silage). The mechanical stress during transport with common conveyors and on-farm equipment has no effect on Mepron's rumen protection rate. Pelletising of mixtures containing Mepron is not recommended because the high pressure destroys the coating. **E**



### LUBING PAD CLIMATE SYSTEM FOR EVAPORATIVE COOLING

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Though some farmers in Africa rely on organic fertilisers, the need to implement the use of chemical fertilisers is becoming vital.

Fertilisers play a crucial role in improving productivity and allowing smallholder farmers to grow-to-sell and export while protecting the environment.

# Fertilisers, the much-needed boost to crops

Image Credit: Adobe Stock

**O**PTIMISED USE OF mineral fertilisers, combined with amendments in integrated crop management, is the foundation to achieving food system goals — increased production of nutritious food, increased farmer profitability and improved sustainability.

The IFA Strategic Forum, which was held by the International Fertilizer Association, facilitated the exchange of ideas among key stakeholders in Africa to develop new partnerships. The event explored how the fertiliser industry and its partners can help in supporting farmers and strengthen food systems to unlock Africa's huge potential to sustainably feed itself and others amid climate change and COVID-19.

Speakers shared their visions for the future of Africa's food systems. His excellency Hailemariam Dessalegn, former prime minister of Ethiopia and chairman of the Alliance for a Green Revolution in Africa, stressed the need for increased access to fertilisers to improve soil health. "African soils are becoming extremely degraded. Well managed soils offer resilience to climate change and adaptation. Fertiliser use in Africa is currently too low to counter nutrient mining."

Beth Bechdol, deputy director general of the FAO, also stressed the importance of improving plant nutrition. "In Africa, climate change, infertile soils and a lack of nutrient supply are challenges to closing the yield gap. Plant nutrition plays a crucial role in creating more sustainable systems," said Bechdol, who noted the key role of the fertiliser sector for providing nutrients.

Improving fertiliser access on the continent was the focus of Session 1, which looked ahead to the crucial second Africa Fertilizer and Soil Health Summit planned for 2023. Participants highlighted the low levels of fertiliser use on the continent, which accounted for 3.5% of global use in 2019. Challenges that were noted included the high cost of logistics, poor access to finance, farmers not knowing how to use fertilisers properly and distribution channels being under threat due to pandemic-related issues. Despite these obstacles, the session emphasised the crucial role of fertilisers for improving productivity and allowing smallholder farmers to grow-to-sell and export while protecting the environment.

**The Africa Fertilizer Map is the first-ever visualisation tool that contains the continent's fertiliser data provided by different associations.**

## Mapping data

The Africa Fertilizer Map is the first-ever visualisation tool that contains the continent's fertiliser data provided by different associations — primarily AfricanFertilizer.org (AFO) and the International Fertilizer Association (IFA) — and inputs from others, the African Plant Nutrition Institute (APNI), International Fertilizer Development Center (IFDC), African Union (AUC), Alliance for a Green Revolution in Africa (AGRA).

Antonella Harrison from Astrategy Limited developed the Africa Fertilizer Map

in partnership with AFRIQOM. "Besides displaying imports/exports, manufacturing and blending plants and projects, consumption figures, we focussed on the impact of initiatives geared to the development of African agriculture, like the 4R Solutions Project led by APNI in Kenya, Ethiopia, Ghana and Senegal; the role of AFAP Agro-dealers and government fertiliser subsidies," she added.

## Turning towards alternatives

In Kenya, farmers are looking at an organic fertiliser Bokashi, which is restoring depleted soils. It is made by fermenting organic material to quickly create a nutrient-rich compost. According to reports by Mongabay, after attending a workshop run by the Resources Oriented Development Initiative (RODI Kenya), farmers put the techniques offered by the workshop to use in three gardens around their home in Tharaka Nithi.

According to Patrick Gicheru, a leading soil scientist who directs the Kenya Agricultural and Livestock Research Organization (KALRO) in Embu county, south of Tharaka Nithi, farmers across the country are working with soils that lack important nutrients. The most common reason for depleted soils is overuse. When a field is planted repeatedly without being left fallow, farmers effectively extract vital nutrients with each harvest without replacing them. Adding chemical fertiliser is one way to replace nutrients, but according to scientists, such fertilisers can harm soil microbes, which are key to replenishing nutrients. **E**



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Dr Terry Mabett speaks with technical sales manager for Africa, Omex Agrifluids, Dr Ben Odunlami and managing director Peter Prentis about the nutrient requirements of cotton and how these are fulfilled by foliar feeding.

# Foliar feeding the fibre crop of Africa



A complete programme of foliar feeding is required throughout the crop cycle of cotton.

Image Credit: Omex

**D**ESPITE THE RISE of synthetics, cotton is still the natural fibre that is supplied to half the world's textile industry. Hence, it is no surprise that cotton has an important position in African agriculture and the wider African economy.

Cotton is an important export, providing Africa's fast-growing textile industry with resources. It is a crucial cash crop which supports subsistence farming of food crops. But it is not all smooth sailing because the crop is bombarded with insect pests, right from when the first seedling leaves push through the soil till the bolls (the rounded seed capsule of the crop) split and cotton lint is gathered.

The importance of cotton crop's nutrition extends beyond proper plant growth and development. The length and strength of lint fibre can get adversely affected by nutritional imbalance, which, in turn can make or break its marketability. Then, there is a complex situation around crop nutrition and plant health, which is not always easy to separate. Providing the right nutrients at the right time is crucial for plant health and crop resilience to insect attack. However, nutrient imbalance, can, by the same token, increase plant and crop vulnerability and susceptibility to attack by specific pests.

**Nitrogen is not needed in large amounts until the squaring stage (flower bud formation) but high nutrient leaching during this period can deplete base nitrogen.**

## Complementary feeding through cotton foliage

Cotton is invariably cultivated in monoculture, with an accompanying drain on soil nutrients from harvested cotton seed, lint and crop debris cleared before planting the next crop.

Macro-nutrients – nitrogen, phosphorous and potassium – are traditionally replenished before or while planting with solid base fertiliser, although they are insufficient to meet requirements throughout the crop cycle. This may be due to a drain on a particular macronutrient later in crop development, which is the case for potassium at the post-peak flowering stage in cotton. More generally, it is also because a large proportion of a nutrient is locked up in the soil and therefore unavailable for uptake, a frequently prevailing situation for phosphorous. Phosphorous is required 'on-tap' and in substantial amounts for early and rapid root formation and secure seedling establishment.

Nitrogen is not needed in large amounts until the squaring stage – flower bud formation which is five to seven weeks after planting – but high nutrient leaching during this period can deplete base nitrogen, especially where planting coincides with the rainy season.

Requirements for meso-nutrients like magnesium and micronutrients come in at specific times in the crop cycle and foliar feeding is the only practical way of meeting these nutrient needs in cotton.

## Foliar feeding the Omex way

Farmers and even agronomists do not generally associate cotton with foliar feeding. However, this is certainly not the case at Omex Agrifluids in the United Kingdom, which designs and develops soluble nutrient delivery systems (formulations) and products for cotton.



Image Credit: Omex



Focusing on distinct developmental stages is the most appropriate way to assess the nutrient needs of cotton.

Technical sales manager for Africa, Omex Agrifluids and its managing director Peter Prentis spoke about the nutrient requirements of cotton and how these are fulfilled by foliar feeding (complementary to base fertilisation). Their remit for product development and marketing – Ben in sub-Saharan Africa and Peter across Asia and the Middle East – allows them to service a considerable chunk of the world's cotton cultivation. Drawing from their experience, they elaborated the salient points about cotton, with regard to crop nutrition.

Speaking at the company's headquarters, research laboratories and manufacturing facilities in Kings Lynn, County of Norfolk in the East Anglian region of England, they said that a pivotal point is the long tap root system of cotton. It provides secure anchorage for what will become not only a large plant carrying a considerable load in bolls but also one with problems for access to nutrients. Dr Odunlami said, "The consequences of this are low root densities in the surface soil layers where a majority of nutrients are present and deficits in uptake, especially for specific micronutrients or trace elements."

"It is not so much a problem of nutrient unavailability but more a question of root system access to the pool of soil nutrients. This is the underlying reason why cotton requires correctly balanced applications of foliar nutrients at key stages of growth throughout the crop cycle to overcome potential deficiencies and attain full potential in both yield and lint fibre quality," added Prentis. "The nutrients may well exist in the soil but root access is a problem, which is why foliar feeding is required," said Dr Odunlami.

### Well-defined crop cycle

The well-defined cotton crop cycle makes nutritional considerations and requirements that are much easier to define and deliver. Agronomists can identify the exact stage at which a specific nutrient is required and supply it in soluble form and in good time by foliar feeding. Focusing on distinct developmental stages is the most appropriate way to assess the nutrient needs of cotton.

Dr Odunlami has drawn up 'Omex Programme for Cotton in Africa', specifying products, recommended rates and application timing, synchronised with specific stages of crop development.

### Early post-emergence plant growth

The early growth stage in cotton covers the period of the seedlings pushing through the soil till the plants are at the 'squaring' stage (flower bud stage), at 35 to 49 days after planting. This is an uncertain time for the seedlings because like all other young plants, they require an uninterrupted supply of phosphorous – a highly

immobile nutrient – for early root development and swift and secure establishment. Prentis informed that despite a high phosphorous content, many soils show low availability of the chemical, especially under alkaline conditions. "Phosphorous deficiency causes reduced seedling vigour, poor plant establishment and root development which eventually translates into delayed fruiting and plant maturity," added Dr Odunlami.

However, cotton has to struggle with other problems – insect pests to be exact, including sucking pests which descend on the tiny plants during their first few days in the sunlight. Aphids, jassids (leafhoppers), thrips and whiteflies are among the sucking insects which exploit these young and highly tender seedlings, especially in irrigated cotton. Tiny seedlings carrying just two or three leaves don't need many pest insects per leaf before the damage becomes terminal. Cotton cultivated under rain-fed conditions is less susceptible to insect pests. Rainfall washes a high proportion of insects off the plants which end up growing more rapidly.

**Omex Bio20 is a highly concentrated liquid emulsion product containing macronutrients, including phosphorous, along with a full complement of chelated micronutrients.**

### Omex Bio20 gets cotton off to a flying start

When asked if foliar-applied soluble product providing a full complement of immediately available essential nutrients (including phosphorous), is an answer to the early growth stage, Dr Odunlami

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said, “We have designed and developed Omex Bio20 to deliver the required stimulation and boost for young cotton plants at this time and to get the cotton crop off to a flying start.”

Omex Bio20 is a highly concentrated liquid emulsion product containing macronutrients, including phosphorous at 20.00% w/v (weight by volume), along with a full complement of chelated micronutrients. However, the unique and key ingredient of Omex Bio20 is an organic material derived from a specific marine alga (seaweed) with proven and established bio stimulant effects to promote root development.

Omex Bio20 can be used at any stage in the crop cycle but Prentis pointed out this novel product is most highly valued and critical at this early growth stage when stressful conditions caused by abiotic (drought) and biotic (pests and diseases) factors hit the young and tender cotton plants hard.

Recommendations for Omex Bio20 within the Omex Programme for Cotton are one to two foliar sprays given to young plants early in the crop cycle (the first at 25 days after seedling emergence) at 2-3 litres (l)/product per hectare (ha). “The enhanced root biomass thus achieved, facilitates an increased uptake of water and nutrients,” informed Dr Odunlami.

Sound seedling establishment allowing prompt and early top growth is essential to mitigate any early-season invasion by insect pests.

#### Calcium and Boron in a single product

First flower buds start to show around 45 days after planting with flowers opening 15 to 20 days later. However, if fruiting (boll formation and ripening) has to achieve full potential, farmers need to meet the crop’s requirements for two key nutrients during this pre-flowering period – calcium and boron.

Calcium is a well-established meso-nutrient (secondary nutrient) while boron is the least understood and appreciated micro-nutrient. Functionally, they are under the same category of ‘maintenance nutrients’ and a deficiency of these can cause a range of symptoms related to impaired flower bud development and shedding of squares (flower buds).

Cotton farmers outside Africa are generally forced to use two separate products, one containing calcium and the other boron, but African cotton farmers, with access to the ‘Omex Programme for Cotton in Africa’, have the benefit of a single product called CalMaxB. The two vital nutrients for cotton, Calcium and Boron, are present in CalMaxB at 23.00% w/v and 1.53% w/v respectively. Other components are nitrogen (16.80% w/v), magnesium (2.40% w/v), manganese (0.10% w/v), iron (0.10% w/v), copper (0.05% w/v), zinc (0.05% w/v) and molybdenum (0.001% w/v).

Compared to other crops, cotton has a very high requirement for boron. “Boron is required for normal flower development and to maintain the boll load. It allows cotton to develop and retain more flower buds (squares) while also enhancing floral pollination and fruit (boll) set, while adequate calcium nutrition minimises shedding of squares and immature bolls. Boron deficiency causes flower distortion, flower drop and later, boll shedding,” added Dr Odunlami.

Calcium is required once the reproductive phase of crop development is underway in a crucial strengthening and resilience capacity. However, the calcium nutrient has traditionally suffered serious, soil-related, supply problems due to inherent immobility with a consequent negative impact on the availability to the cotton plant via the root system.

Prentis explained that CalmaxB is a ‘double-barrelled’ and ‘two-in-one’ answer to the requirement of calcium and boron in the cotton plant. “Recommended applications are 1.0 l/ha when the first flower buds show and thereafter at 20-day interval through the squaring, flowering and boll formation periods of crop development,” he added.



A strict programme of foliar feeding has helped this cotton crop successfully make it through the vegetative phase.

Image Credit: Omex

#### Post-flowering cotton

Flowering period starts with the first sign of squares at five to seven weeks after planting and continues for up to 10 weeks thereafter. This is the most crucial period when the harvest is essentially secured in yield and lint quality. This is the time when lint quality and ultimate grade of cotton – measured in fibre length, strength and fineness – is established and secured, and depends largely on a readily available and accessible supply of nutrients. It is too late to wait until the bolls split and the white fluffy lint is exposed at 18 to 20 weeks, as this is the time when nutrient status underpins and secures the success or failure of the cotton harvest gathered in some 25 weeks post sowing. “All nutrients are important but some are more vital than the others during the critical post flowering and boll formation period when the template for lint quality is laid down,” said Dr Odunlami.

#### Prime time for Potassium


“Potassium is the prime nutrient on our agenda at this post-peak flowering stage because this is the time when demand for the so-called ‘gatekeeper’ nutrient regularly outstrips ability of the soil to supply it,” Prentis informed. Potassium has a well-established and continuous role in water relations, including stomatal movements and cell homeostasis, while late-season shortfalls of potassium can lead to severe defoliation, boll shedding and severe reductions in lint fibre quality.

“The rapid and reassuring answer to potassium deficiency in African cotton is Omex K41, a highly concentrated water soluble emulsion product containing potassium (39.0% w/v) and nitrogen (11.10% w/v),” added Dr Odunlami.

Potassium deficiency is generally characterised by light mottling of the leaves around the margins and between the veins. Leaf tips and margins curl downwards with leaves ultimately assuming a rusty-red colour, becoming brittle and falling off prematurely with catastrophic consequences for yield and lint quality.

Omex recommends that growers start using Omex K41 at the end of the flowering period with an initial application of 0.5 l/ha, followed by two further applications (1.0 l/ha), at 20 days and 40 days thereafter. “This covers cotton from the beginning to the end of boll development and boll ripening,” Dr Odunlami said. This ‘programme of potassium’ will accelerate and even-out boll splitting with benefits in ease of harvesting and yield,” Prentis informed.

#### Seastar- F for a regular boost to cotton

Last but not least is Omex Seastar-F, a concentrated solution of seaweed extract containing nutrients (N, P and K), iodine, mannitol, laminarin and amino acids, and crucially biostimulatory and bioactive compounds such as cytokinin and gibberellin. Six applications at 1.0 l/ha of Omex Seastar-F, starting one week after seedling emergence and repeated at 21 day intervals thereafter, heightens resilience to stress-related, abiotic and biotic factors including high temperature, drought and disease. 



Agritech corporation Corteva Agriscience has come up with a new high-performing, herbicide-resistant seed trait that effectively helps protect crops from damaging above-ground insects.

## Protecting the continent's corn

**S**OUTH AFRICA HAS produced 16.315 million tonnes of maize in its 2020/2021 season, compared with 15.300 million tonnes harvested in the previous season, the government's Crop Estimates Committee stated.

However, climate change and pests have hit the crop hard in Africa. A new study showed that climate change has significantly reduced crop yields in the continent, with wheat and maize being among those negatively affected in the sub-Saharan region.

The UN's Intergovernmental Panel on Climate Change released its Working Group II report, *Climate Change 2022: Impacts, Adaptation and Vulnerability*. The report shows that in Africa, climate change has reduced agricultural productivity growth by more than a third since 1961. In sub-Saharan Africa, staple crops like maize have already seen reductions due to climate change, explained Christopher Trisos, one of the report's African authors and senior researcher at the African Climate and Development Initiative at the University of Cape Town.

American agritech corporation Corteva Agriscience has come up with a solution for the situation and has announced the official introduction of its PowerCore technology to South Africa's maize farmers. It is a new high-performing, herbicide-resistant seed trait that effectively helps protect crops from damaging above-ground insects, such as the maize stalk borer and spotted maize stem borer.

The company's leading seed brands, Pannar and Pioneer, will be offering PowerCore technology as part of new, high-yielding genetics within their respective maize portfolios.

"Maize is a staple for many across the country and is critical that local farmers are given the tools they need to help protect their yields," said Tony Esmeraldo, business director, Corteva



Image Credit: Adobe Stock

Maize is a staple for many across the country and is critical that local farmers are given the tools they need to help protect their yields.

Agriscience, while speaking at this year's Grain SA Congress. "Local trials have demonstrated the efficacy of PowerCore technology and the trait also has a proven track record in similar climates in both Brazil and Argentina. We are extremely proud to share the latest advancement in Corteva Agriscience's innovative pest control solutions with in-country farmers, to help them address one of the largest problems they face on a daily basis."

PowerCore technology uses combined modes of action to combat primary and secondary pests that can cause significant crop damage and subsequent production losses. The trait comprises three different *Bacillus thuringiensis* (Bt) proteins, each targeting insects differently. **B**

**Corteva Agriscience's leading seed brands, Pannar and Pioneer, will be offering PowerCore technology as part of new, high-yielding genetics within their respective maize portfolios.**

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Tillage, which involves digging, stirring, and overturning soil, prepares the land to grow crops. African Farming looks at a slew of new and upcoming models in the tillage equipment market.



The Precision Disk 550T air drill offers a tank capacity of up to 140 bushels to help operators maximise tendering and seeding productivity.

## Digging deep into tillage sector

**T**HE FOUNDATION OF farming lies in the choice of seed and preparing the land for it. African soil resources have a high potential to enhance agricultural productivity, if well-managed and restored. Tillage is the preparation of land to grow crops, which involves digging, stirring, and overturning soil.

Precision farming technology facilitates the efficient use of agricultural equipment such as tillage equipment, which in turn, improves the overall quantity and quality of yields. Thus, the demand for precision agriculture is an opportunity for original equipment manufacturers providing agricultural equipment to farmers. Reports by Fact.MR show that this trend has been fuelling the tillage equipment market in near future.

Here's a look at the recent additions to the tillage equipment market.

### Attaining increased seeding

Case IH has launched the Precision Disk 550 air drill, which is designed to boost yield potential in a variety of crop and tillage practices.

It has a greater tank capacity, a superior parallel-link row unit and new productivity-enhancing features. The model will help producers get the most out of every seed.

"We continue to hear from growers that they need added capacity to get more seeding done in a day. Case IH engineered the Precision Disk 550 air drill to meet this demand, with agronomically designed

features to boost producers' bottom lines," said Trent Nowosad, Case IH marketing manager for seeding equipment.

A range of gauge wheel widths and styles accommodate different field and crop conditions.

"With this new row unit, every single detail is designed to optimise seed placement and deliver unmatched stand establishment," Nowosad added. The Case IH parallel-link row unit design is known for ensuring consistent coulter depth and accurate seed placement. An exclusive variable down-pressure spring holds each row unit in contact with the ground, while a forward-facing seed tube helps minimise seed bounce. Plus, operators can adjust to changing field conditions on the go with standard in-cab hydraulic down pressure control.

### New Holland's Boomer range offers an array of models covering a wide variety of applications that require supreme versatility and manoeuvrability in a small tractor.

The Precision Disk 550T air drill offers a tank capacity of up to 140 bushels to help operators maximise tendering and seeding productivity. A low-profile, rail-guided tank lid ensures effective seal and easy access.

To help reduce plugging in muddy conditions, gauge wheel options are now modified into an open-spoke design. The 4.5-inch option matches conventional tillage conditions, while a 3-inch option is built to handle tougher, no-till conditions. Additionally, a new seed trench scraper is available to cleanly cut the seed trench.

To protect meters, a standard seed meter rain shield helps minimise contact with dust and debris for easy cleaning and maintenance.

### Aiding meliorative tillage

LEMKEN, a manufacturer and supplier of agricultural implements and farm equipment, has developed the concept of a Carbon Farming Plough in collaboration with the Leibniz Centre for Agricultural Landscape Research (ZALF).

The ZALF research work on yield and climate effects of partial deep tillage are funded by the German Federal Ministry of Food and Agriculture. LEMKEN will use this research to create an implement for carbon enrichment in arable soils that is ready for series production.

This plough will be used for meliorative tillage – breaking up compaction and improving the soil as a result. The implement features bodies which plough at alternating depths to create wells below the tillage level in every other furrow, which are then filled with humus-rich topsoil. Analyses of historical trials conducted by the ZALF have shown that more than half

Image Credit: Case IH



of the humus introduced in this manner is retained to secure the long-term storage of CO<sub>2</sub> in the soil.

The lower soil layers with little humus which are ploughed up in the process are mixed with the topsoil and form new humus-rich topsoil within a few years, as carbon is introduced from crops. Overall, the humus content of soils tilled in this manner therefore increases, and soil fertility improves. At the same time, this sustainable soil improvement creates up a new business model in the form of carbon farming.

Breaking up compacted soils while also introducing humus-rich topsoil into wells allows plant roots to grow into deeper soil levels and access the water and nutrients retained there. This approach can increase yields by up to 5% even in the first year.

Among others are the new Stage V-compliant Boomer tractor line introduced by New Holland Agriculture. Edoardo Ronco, product marketing manager Europe, Compact Tractors, said, "The Boomer range offers an extensive array of models covering a wide variety of applications that require supreme versatility and manoeuvrability in a small tractor – from part-time farmers to horticulture and



The Carbon Farming Plough will be used to break up compaction and consequently improve the soil.


Image Credit: LEMKEN

greenhouse cultivation."

The Boomer range has been extended with two new Class 3 models, the 47 hp Boomer 45 and the 57 hp Boomer 55, so that it covers the power segment close to 60 hp. The more powerful offering further increases the Boomer's versatility, as they can take on with greater ease the most demanding operations typical of this range – from mowing to transport and other duties such as light tillage, sweeping and snow clearance.

NEXAT GmbH, the German agriculture machinery manufacturer's NEXAT Systemtraktor bagged the Gold Award at

the AGRITECHNICA Innovation Awards.

It is a multi-purpose carrier vehicle that can be used for tillage, sowing, crop protection and harvesting. "Due to the system, 95% of the total arable area is never overrun again with NEXAT. As a result, the maximum yield potential unfolds while maximum soil and environmental protection is possible. Particularly remarkable is the prospect of sustainable soil improvement through continuous humus build-up, significant CO<sub>2</sub> savings (carbon farming), and the sustainable protection of valuable arable land from erosion by wind and water," the company stated. 

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 **BALDAN**

Elad Levi, vice president and head of Middle East & Africa, Netafim discusses with Tulana Nayak the benefits of drip irrigation and what lies ahead.

# Irrigating Africa optimally



Image Credit: Netafim

**P**ROGRESSIVE FARMERS HAVE begun to adopt modern techniques such as precision irrigation that do not rely on rain. Elad Levi, vice president and head of Middle East & Africa, Netafim, elaborates on their precision irrigation solutions that ensure longevity of crops in the face of climate change.

## What are the economic and environmental benefits of drip irrigation?

Drip Irrigation, which was pioneered by Netafim in Israel's desert more than 50 years ago, is the most efficient water and nutrient delivery system for growing crops. It delivers water and nutrients directly to the plant's root zone, in the right amounts and at the right time, to grow optimally. It contributes towards increased agricultural productivity which will reduce production costs while using the same or less inputs.

For example, drip irrigation benefits both farmers and crops in several ways. Farmers who use it have a higher ROI than other

irrigation methods, higher consistent quality yields, water savings, and 100% land utilisation as the drip method irrigates uniformly in any topography and soil type. It also works on low water pressure, resulting in energy savings, uses fertilisers more efficiently and is not dependent on the weather, providing greater stability and lower risks for farmers.

It is also better for crops as it distributes a balanced and consistent supply of water, as well as frequent nutrients in small doses, which are needed for growth. This means that the crops receive doses of water and nutrients tailored to the specific plant's needs so that there is no saturation and good soil aeration. By preventing foliage from getting wet, the system also protects against fungal diseases.

One major long-term benefit of drip is its ability to drive climate resiliency, bringing stability to the farming community while producing sustained harvests to ensure food security. This is because drip enables farmers around the world to meet the growing demand for food without using up our limited resources, and helps us preserve our planet for future generations.

Climate-smart irrigation methods such as drip reduce greenhouse gas emissions from agriculture production systems when compared to other traditional irrigation methods, minimising negative effects such as soil erosion, soil crusting, salinisation, and agricultural runoff.

## Why is precision irrigation important for farmers in the face of climate change?

Precision irrigation, a unique sustainable agricultural approach which includes drip irrigation, is vital because it enables farmers to grow on any topography, field shape, or size and in any climate. It turns land, unfit for growing with traditional irrigation, into arable farmland and gives plants optimal growing conditions, which drives higher outputs and enables multiple crop-cycles per year. It allows farmers to increase their water usage efficiency by more than 50%, boosts yield production and precision and allows better use of recycled water.

This has become more important in recent years due to climate change, which has introduced several issues concerning water availability in Africa and other parts of the world. Farming depends largely on rainfall, open wells, rivers, and surface irrigation methods but this is becoming more challenging due to climate change and drought. Climate change will likely reduce crop yields in Africa, and has been visible and experienced in recent years due to drought and increased temperatures which affects crop growing phenology and adds environmental stresses on crops.

To mitigate growing water stress, African countries are striving to switch to irrigated agriculture. Here, when the water is precious, hi-efficient precision irrigation farming plays a big role. Climate change imposes shifts in the farming industry with

**The Netafim team, along with International Finance Corporation, was able to set the wheels in motion for fundamental and widespread change via the Niger Irrigation Project.**



more farmers around the world embracing the necessity of utilising environmentally friendly agricultural practices, such as drip irrigation, as a solution to the rising temperatures and less available water.

### **How is Netafim helping farmers in Africa? Please share some success stories?**

Netafim is leading water and irrigation opportunities in Africa by reaching individual growers, smallholders, corporate farms, communities, NGOs and federal government & irrigation ministries. It provides advanced agriculture solutions including feasibility survey, irrigation designs, water delivery infrastructure, in-field smart irrigation solutions to all sectors of growers and crops, as well as crop & project planning consulting and advisory.

One success story of which we are proud was with a community in Niger, which like much of the globe, is experiencing the effects of climate change – but to an extreme. With its temperature rising 1.5 times faster than the global median and averaging 45 degrees Celsius, farmers across Niger struggle to grow food in scorched, sandy soil, resulting in an unprecedented high rate of chronic malnutrition among young children.

The Netafim team, along with the IFC (International Finance Corporation), was able to set the wheels in motion for fundamental and widespread change via the Niger Irrigation Project, a pilot programme intended to strengthen the country's resilience to climate changes through the sustainable development of drip irrigation.

As part of the pilot, Netafim installed family-size drip irrigation systems, some of which were powered entirely by solar energy pumps that drip water and nutrients to the base of the plant, significantly reducing water consumption and improving the quality of the crops. Netafim trained more than 900 hundred farmers in the use

of the technology. This resulted in greater knowledge, increased yields, higher income and more control.

Netafim has also worked extensively in 12 countries across sub-Saharan Africa in countries such as Senegal, Ethiopia, Mali Kenya and South Africa.

### **Did the pandemic change anything in the irrigation sector?**

The Covid-19 pandemic made the world understand the importance of food security and farming. Restrictions on imports, transport and other logistical issues forced more countries to produce more of their own food. As a result, agricultural production is getting greater attention from governments, corporate farms and medium to smallholder farms. As the demand and cost of agricultural produce increased, farms were able to invest more in technology leading to many more farms adopting irrigation technologies.

### **Please share and elaborate on the new and upcoming irrigation solutions from Netafim.**

Meeting the food needs of the growing population and to improve rural livelihoods with minimum environmental disturbance, Netafim is developing a solar drip irrigation solution. The product is yet to launch officially but is a concrete example of the dedication that Netafim has towards developing sustainable technologies.

Our acquisition last year of Gakon, a turnkey greenhouse projects provider, broadens our controlled environment offering, enabling much larger scale projects of this nature for any type of crop to be grown anywhere in the world. Our aim is to be able to provide the necessary technology to ensure sustainable agriculture to meet the interest in locally grown fresh produce amid increasing concern over food security due to increasing populations. On a practical level, this



Elad Levi, vice president and head of Middle East & Africa, Netafim.


means that Netafim will provide growers with a comprehensive offering of the best greenhouse technologies, structures, irrigation, fertigation, and crop growing expertise as well as other agriculture-related services to enable farmers to maximise productivity and efficiency in all climate conditions.

As part of our mission to ensure a sustainable food future, we have also started a new initiative that makes precision irrigation technologies more accessible to people who have never used them before, such as smallholders. We are doing this by providing a DIY-style instruction manual, which uses an easy-to-understand layout of images and videos which shows a user how to install and use our systems. We believe that more farmers using precision or drip irrigation means that more crops will be grown in a sustainable manner and help smallholders to grow more with less.

Lastly, we're also progressing our digital farming capabilities, making it easier to automate and optimise farming decisions centered on irrigation, empowering them to act on data-driven insights. Despite the current challenges regarding food security, we believe that through the use of precision irrigation, we can become less dependent on weather and social conditions to ensure enough food is grown sustainably. **E**





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Although technology comes with its fair share of challenges of affordability and a lack of widespread acceptance, it is highly poised to be Africa's answer to achieving food security.

# Internet of Things to pave the way



Image Credit: Adobe Stock

SoilMeter by FarmSens is designed for in-site measurement of preconfigured soil conditions.

**A**FRICA HAS SEEN major growth, in terms of population, and according to a research firm Statista, it is poised to reach 2.5 billion by 2050. With a growing population, come challenges discernible to the continent, which already faces issues such as food production and food security.

Stakeholders and industry experts opine technology is the way to move forward. It brings key modern-world aspects such as precision and efficiency into the picture,

**MyFarmWeb collects data using multiple sensors placed across designated farmlands and uses data collated centrally, which can be accessed through a web page or a mobile app.**

from which the continent can certainly benefit. One of the technologies largely in focus in modern day technological revolutions is the Internet of Things (IoT).

As the Australian State body Agriculture Victoria stated, the Internet of Things (IoT) is about making "dumb" things "smart" by connecting them to each other and to the internet. It enables the sensing and control of objects that are remote, facilitating opportunities for direct integration between the physical aspects and computing systems.

In agriculture, this simply means that IoT can enable a farmer to remotely monitor produce in a timely fashion and take precise decisions to achieve the end result.

Taking climate change and discrepancies in water supply into consideration, monitoring systems are starting to play a vital role in maintaining farms around the world.

IoT is enabling farmers to access agricultural data such as maps and allied information on their computers or rather more

conveniently, at their fingertips with the help of mobile phones. IoT-based farming technology provider MyFarmWeb collects data using multiple sensors placed across designated farmlands and uses data collated centrally, which can be accessed through a web page or a mobile app.

## Data at the fingertips

According to MyFarmWeb, the system is an interactive cloud-based platform, accessed through a browser or a mobile app, for storing, visualising and comparing all types of maps, geographic and IoT-generated agricultural data, which can be crucial for making decisions that can hugely impact the quality of food production.

The app also gives farmers access to farm generated maps and point data for single-layer analysis and is focused on in-field orientated decision making through the GPS function.

The company claims that the mobile



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platform even gives access to IoT driven data from almost anywhere and also boasts off-line capability for pre-synced information in areas with limited connectivity.

The whole MyFarmWeb system comes in a bundle, also featuring the MyFarmWeb Capture, a cloud-based mobile data collection and visualisation application that can be used to gather infield precision samples on a GPS-enabled mobile or tablet device. The capture application lets farmers, agents, field technicians and scouts collect and interpolate soil, leaf and water sample data, therefore enabling precise decision making, which directly impacts the crop output.

### Affordable IoT

Ghanian tech-startup FarmSens is solving the affordability hurdle for smallholder farms who wish to jump on the technology bandwagon. The company's affordable technologies let farmers make smarter and better decisions along the agricultural value chain while minimising waste and increasing productivity.

The company's SoilMeter is designed for in-site measurement of preconfigured soil conditions. The device comes in the form of a detachable probe and a meter. The data from the sensors in the probe are sent to the meter for visualisation and storage. The device is said to communicate via Bluetooth and Wi-Fi with FarmSens mobile applications for data logging.

While IoT and technology in agriculture as a whole, are gaining steady popularity, it still seems to not have achieved a mass uptake, especially by smallholder and private family farms. Rural encapsulation seems to be a far stretch as the matter of

affordability continues to be an issue. Slow rollout of technology to local communities might prove to be beneficial in the long run with a strong local representation needed to spread the message, farm by farm.

### Weather monitoring made easy

Origin Digital, an agriculture technology company and Aspia Space, an advanced satellite imagery provider have announced 'ClearSky', a world-first service with an aim to revolutionise the way satellite imagery is used in precision agriculture by farmers around the world.

According to Origin Digital, the new 'ClearSky' service, launching imminently in the UK, feeds radar data into a deep neural network to derive the view of a field that a satellite would see if there were no clouds blocking its camera.

This innovation means that farmers using ClearSky are guaranteed to receive an image every six days showing crop development, regardless of the weather. This is in contrast to traditional, weather-dependent imagery which can often have gaps of several weeks between cloud-free views.

Madhumita Mund Rao, head of data at Origin Digital, said, "This is a hugely exciting development because it adds the ingredient of dependable regularity that's missing in traditional imagery services. This reliability will give UK farmers a substantial new advantage in sustainably optimising their yield and input use."

"At any given time an average of 67% of the Earth is covered by clouds, so precision agriculture systems that rely on getting clear satellite imagery at the right time have historically struggled to deliver on their high

**Farmers using ClearSky are guaranteed to receive an image every six days showing crop development, regardless of the weather. This is in contrast to traditional, weather-dependent imagery which can often have gaps of several weeks between cloud-free views.**

potential value. ClearSky eliminates that struggle by guaranteeing the consistent regularity these systems need to deliver results, enabling farmers to fully optimise their fertiliser use for example and helping both their wallets and the planet," she added.

Analysis by Origin Digital shows that the widely used European Space Agency 'Sentinel 2' satellites produced 13 clear images per UK farm on average in 2021. In contrast, the ClearSky technology developed by Aspia Space uses revolutionary techniques to produce more than 60 cloud-free images per year, which can be used alongside the clear images captured by Sentinel 2 and other providers.

Aspia Space co-founder Jim Geach said, "Aspia's technology unlocks Earth observation imaging data and intelligence that would have otherwise been lost. ClearSky uses radar inputs, which penetrate cloud but are challenging to interpret, to derive imagery across the visible and short wave infrared spectrum. This means that even in the presence of 100% cloud cover, we can deliver regular, reliable, and consistent cloud-free images that are easily understood and can be analysed in exactly the same way as regular optical imagery."

"ClearSky was developed using the idea that the way radio and microwaves behave when they hit surface features – such as crops – is correlated, albeit in a highly complex way, with the way that optical light waves interact with those same features. Using AI to unpick this correlation means that ClearSky can predict cloud-free imagery with no optical inputs without a loss of accuracy over long periods of time without clear optical images. That makes it a true game-changer," he continued.

Following the UK launch, Origin Digital and Aspia Space are said to be deepening their collaboration to localise and export the benefits of ClearSky to farmers around the world, as well as developing further potential applications that bring innovative data insights to UK agriculture. 



A ClearSky image showing crop growth and areas that need attention, via Origin Digital's Contour platform.



The equipment automatically mixes chemical fertilisers and compost, producing combined fertiliser with nutrients according to farmers' preference.

## Soilath Blender for fertile harvest

**M**OST FARMERS LOOK for a fertiliser that is safe to use and contains the right nutrients for their crops. Compost does not only serve as a good source of fertiliser, but also improves the quality of soil.

However, one concern with compost is that the nutrients are not stable and can vary depending on the material used, climate, composting duration, types of animal feeds. etc. Hence, sometimes farmers apply compost or chemical fertiliser twice to compensate for the excess or deficient nutrients on the soil, and this could be inefficient and hard work. Soilath Blender, a mixed fertiliser production plant, was developed to solve this problem.

This equipment is designed to automatically mix chemical fertilisers and compost to produce a fertiliser with nutrients that farmers need. The capacity of this equipment is 500 to 1,500 kg per 15 minutes per batch, therefore it is adaptable from small to large quantity production.



Image Credit: Kohshin Engineering

The capacity of the equipment is 500 to 1,500 kg per 15 minutes per batch.

Its operation is also simple, by simply setting the nutrient data of compost as well as the fertiliser components required by the farmer, the system automatically calculates the deficient components and supplies the other necessary components automatically to produce a well blended fertiliser with the desired nutrients. **B**



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## Technical innovations to get a boost at EIMA

EIMA INTERNATIONAL IS now back on track for the 2022 edition and will be held in Bologna from 9-13 November.

This year's edition, the 45th in the history of the international exhibition of agricultural machinery, returns the exhibition to its usual schedule, marking the restoration of the biennial rhythm that will continue with the 2024 edition. Expectations are high for this event, which was presented at Fieragricola in Verona by FederUnacoma, the association of agricultural machinery manufacturers. It is the direct organiser of this exhibition that ranks among the world's top events in terms of number of exhibitors, number of visitors, level of internationality and quality of technologies on show. To date, 835 manufacturers have already formally applied to take part in the event, with a

demand for space that has already reached 80,000 sqm.

Simona Rapastella, director general of FederUnacoma, said that this is a brilliant start, which leads them to expect a final number of exhibitors and a committed surface area in line with the results recorded in the pre-pandemic EIMA editions. "Never like in recent years, conditioned by the limitations imposed on public events, has the trade fair sector questioned the possibility that exhibitors and visitors may have developed new needs and new expectations. For this reason, we have subjected EIMA to capillary monitoring, trying to highlight its strengths and possible critical points," Rapastella added.

FederUnacoma's monitoring data, combined with those of specialised companies such as GRS or official bodies such as UFI (International Exhibition Union), confirm a trend towards a reduction in trade fair participation to the benefit of a few events that have a strong international character and act as catalysts for the sector. Field surveys also show a growing expectation for the level of services, especially for operators who see the trade fair as a specific place for business relations. "These are elements that are already peculiar to EIMA International," noted Rapastella, "which we have tried to strengthen with the confirmation of the extensive 'business-to-business' programme for foreign delegations. This is organised in collaboration with ICE, with the incoming programme 'Special Guest' which provides benefits for foreign business operators, with a special initiative involving the diplomatic network."

Technical innovations will get a new impetus with a preview event open to the national and international press, to be held in September, featuring detailed technical explanations. In order to enhance and spread innovations, the external show area for tractors will be confirmed where it would be possible to see the most innovative technologies in motion.

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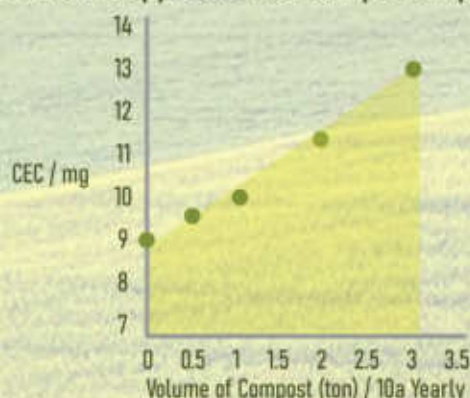
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