

African Farming

and Food Processing

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Tractors

Positive market outlook

Fertilisers and Nutrients

Driving future growth

Dairy

Innovation boosts productivity



Post-harvest technologies. p27



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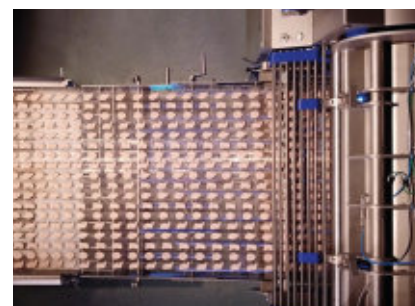
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Smart farming
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Image Credit: Adobe Stock/Oticki



RevoPortioner 1000 increases speed and volume. pg7



Climate FieldView helps collect field data. pg28

African Farming and Food Processing

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Farming Calendar 2021

JUNE

16-18 Agritec Africa NAIROBI
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SEPTEMBER

22-25 Iran agrofood TEHRAN
www.iran-agrofood.com

23-25 agrofood & plastprintpack Ethiopia ADDIS ABABA
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OCTOBER

26-28 agrofood & platprintpack Nigeria LAGOS
www.agrofood-nigeria.com

NOVEMBER

23-25 VIV MEA ABU DHABI
www.vivmea.nl

DECEMBER

08-14 IATF KIGALI
www.intrafricantradefair.com

Readers should verify dates and location with sponsoring organisations, as this information is sometimes subject to change.

CDC Group commits US\$100mn to ETG

CDC GROUP, THE UK's development finance institution and impact investor, has announced a US\$100mn debt commitment to ETG, an agricultural conglomerate connecting smallholder farmers to global markets through its operations in 48 countries worldwide.

This will support the growth of ETG's food and agriculture business, and it will help ETG strengthen food value chains by expanding its logistic networks, boosting agriculture yields and the production of staple foods such as grains, rice and cocoa.

As part of the funding facility, CDC will support ETG's ongoing efforts towards implementation and alignment with international environmental and social standards with enhanced focus on supply chain risk management, safeguarding work and procedures.

New Holland Agriculture wins three medals

NEW HOLLAND AGRICULTURE'S innovation in combine harvesting has been recognised with a silver and bronze medal at the SIMA Innovation awards.

The company was awarded the medals in recognition for its innovations in combine harvesting technology. The silver medal was awarded in the "From Harvest to Storage" category for nutria sense TM, the in-harvest nutrient analysis system which collects agronomic data enabling the farmer to make informed decisions in order to maximise their sales. The bronze medal was awarded in the "Parts, Services and Onboard Electronics" category to the cleaning system pressure sensors.

At the 2021 edition of the Edison Awards, New Holland Agriculture was awarded the gold medal for its ground-breaking loop master knotting technology featured on its big baler 1290 high density and big baler plus range. Named after and inspired by Thomas Alva Edison, the annual Edison Awards recognise excellence in new product and service development, marketing, human-centred design and innovation.

CIMMYT and John Innes Centre announce collaboration on wheat research

THE INTERNATIONAL MAIZE and Wheat Improvement Centre (CIMMYT) and the John Innes Centre (JIC) have announced a strategic collaboration for joint research, knowledge sharing and communications, to further develop the future of wheat.

The new collaboration, building on a history of successful joint research achievements, aims to harness state-of-the-art technology to find solutions for the world's wheat farmers and consumers.

Kevin Pixley, deputy director general for research, CIMMYT, said, "I am pleased to formalise our longstanding partnership in wheat research with this agreement. Our combined scientific strengths will enhance our impacts on farmers and consumers, and ultimately contribute to global outcomes, such as the sustainable development goal of zero hunger."

Dale Sanders, director of the John Innes Centre, commented, "Recognising and formalising this long-standing partnership will enable researchers from both institutes to focus on the future, where the sustainable development of resilient crops will benefit a great many people around the world."

Thematic areas for collaboration

Scientists from CIMMYT and JIC will work jointly to apply cutting-edge approaches to wheat improvement that include developing and deploying new molecular markers for yield, resilience and nutritional traits in wheat to facilitate deploying genomic breeding approaches using data on the plant's genetic makeup to improve breeding speed and accuracy.



Image Credit: Adobe Stock

Scientists from CIMMYT and JIC will work jointly to apply cutting-edge approaches to wheat improvement.

Bringing innovations to farmers

An important goal of the collaboration between CIMMYT and JIC is to expand the impact of the joint research breakthroughs through knowledge sharing and capacity development. Stakeholder-targeted communications will help expand the reach and impact of these activities.

Irritec Group opens new branch in Senegal in partnership with SCOVA Impianti

THE IRRITEC GROUP, a company that works in the field of precision irrigation, has announced a new branch in Senegal, as part of its plan to develop and consolidate its presence in western Africa.

Specialising in the production of drip irrigation systems, the Irritec Group uses advanced technological solutions to optimise environmental resources and production processes, with exceptional quality.

Irritec Senegal is the result of collaboration between the Irritec Group and SCOVA Impianti, an Italy-based company, active in Senegal since 2016. SCOVA Impianti has been a specialist in the design, supply and installation of all types of pumping stations for the past 50 years, taking water from artesian wells, rivers or basins. Both the companies have come together in a strategic partnership to promote high quality products and provide knowledge and experience to Senegalese farmers.

"I would like to thank our partners and everybody involved in the project for this important achievement. With the new headquarters of Irritec Senegal, we will offer an even more integrated service to support local agriculture and strengthen our presence in the African irrigation market," said Carmelo Giuffrè, founder and CEO of the Irritec Group.

"Thanks to the many synergies between our two companies and in particular to our shared dedication to pursuing sustainability within agriculture and to improving the quality of cultivation, we can look forward to working together to develop new opportunities and to help agricultural enterprise thrive," added Marco Vanzini, CEO of SCOVA Impianti.

The Irritec Senegal headquarters, with its own warehouse, will



Image Credit: Irritec

Local agronomists can gain further insights into the field of precision irrigation by taking part in courses and on-site training at the Irritec Academy.

serve the entire territory of western Africa, from the design and implementation of precision irrigation projects, to after-sales assistance. Through the new branch in Senegal, Irritec will not just supply complete precision irrigation systems, but also provide assistance for installation and after-sales processes.

Local agronomists can also gain further insights into the field of precision irrigation by taking part in courses and on-site training at the Irritec Academy, which includes the Agri-Lab, an Irritec pilot project programme dedicated to the promotion of efficient irrigation.



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Ifria partners with InspiraFarms, combining cold chain logistics expertise

IFRIA COLD CHAIN Development Company (Ifria) and InspiraFarms have entered into a regional strategic partnership, combining Ifria's cold chain logistics expertise with InspiraFarms' on-farm cold chain and food handling technology and solutions.

More than 40% of food produced in Africa spoils before it reaches a consumer, approaching 60% for fresh produce in sub-Saharan and North Africa, according to a state of food and agriculture report, compiled by the Food and Agriculture Organisation (FAO) in 2019. This is a result of the lack of cold chain solutions near farms. Therefore, the need for integrated and



Image Credit: InspiraFarms

Cold chain logistics can reduce crop losses, improve quality of produce, enable agricultural exports and increase revenues for farmers and agribusinesses.

developed cold chain logistics is critical as it reduces crop losses, improves quality of produce, enables agricultural exports, increases farmers' and agribusinesses'

revenues through market access and allows them to be competitive in international markets.

The Ifria-InspiraFarms partnership brings together deep knowledge in the cold chain business, technology development as well as economic and financial deployment skills in African countries. The partnership's main objective is to enable market access for farmers and agribusinesses through the development of cold chain opportunities in West and North Africa.

Julian Mitchell, CEO of InspiraFarms, commented, "The Ifria-InspiraFarms partnership is a powerful combination. Ifria's management team years' of experience and understanding of complex cold chain logistics at different levels of the supply chain is uniquely complimentary to how InspiraFarms works. We believe this helps push the growth of cold chain and the penetration of sustainable cooling technologies, prioritising the first-mile of distribution of key fresh produce trade markets in Africa and ultimately reducing post-harvest food loss."

Matthew Meredith, executive managing director and co-founder of Ifria, added, "Linking Ifria's large scale hub assets with the InspiraFarms near farm modular solutions and a true integrated cold chain solution will be transformative for agricultural market systems in our targeted African countries. Together, our partnership will enable farm to market cold chain continuity."

The latest partnership was inspired by Ifria's management team and InspiraFarms working together to develop and deliver a modular cold chain solution inside the airport of Cotonou in 2020. The airport terminal's pineapple cooling facility includes pre-cooling and cold storage, with aggregation, processing, pre-cooling and packing areas, as well with a tarmac-side facility for air pallet management. The facility will reinforce the competitiveness of pineapples in the international market.

The companies have decided to continue this collaboration for facilitating access to international standard cold chain solutions to West and North African agricultural markets by utilising a market system approach to meet the needs of farmers and agribusinesses who do not have access to cold chain solutions.

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- > Positive relationship with local community built over a decade.

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- > World-class experience in commercial agriculture, ideally with presence in Africa;
- > Develop commercial farming companies along agricultural value chain from primary production to marketing & distribution; and
- > We have a long-term commitment to the project and can help source soft funding e.g. for smallholder initiatives.



WHO WE ARE

AgDevCo Ghana Limited is a subsidiary of AgDevCo Limited, an impact investor operating exclusively in the agriculture sector in Africa. Our mission is to build successful African agribusinesses through long-term investment and support to deliver positive impact at scale. For more information about AgDevCo Limited refer to our website.

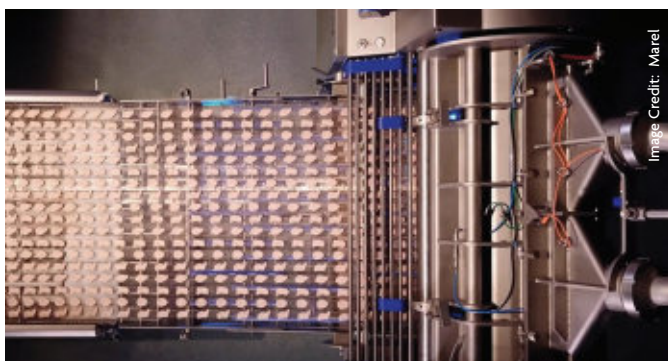
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Marel unveils innovative forming technology



The new forming machine uses an enhanced 1000mm processing width.

CONSUMER DEMAND FOR convenience food products continues to rise, while at the same time, quality and cost remain significant considerations. Marel's new RevoPortioner 1000 uses innovative low pressure forming technology and an enhanced 1000mm processing width to help meet these challenges head on.

The RevoPortioner 1000 is the latest advancement in Marel's successful line of low pressure forming solutions. It continues to build on the proven technology of previous generations of the RevoPortioner and now combines innovative features to give convenience food processors substantial benefits.

A wider 1000mm forming width and higher speed combine to increase output significantly.

Innovative technology ensures products are always consistent in shape and weight across the entire belt width. Improved air release optimises ejection from the forming drum, ensuring texture and integrity are unmatched.

The simplicity of the RevoPortioner 1000 reduces footprint when compared to a two-machine set up producing similar volumes, saving a considerable amount of valuable factory floor space.

The advanced technology and robust design behind the RevoPortioner 1000 ensure an incredibly low level of leakage – less than 0.3%. The high levels of consistency in product shape and weight reduce rework by approximately 50%. In addition, the system uses significantly fewer cooling agents and 40% less compressed air compared to previous solutions with comparable capacities. This significant reduction in waste, energy and resource consumption, contributes to a much more sustainable production process.

Uzima Chicken receives US\$3mn boost

UZIMA CHICKEN, A Rwanda- and Uganda- based poultry company, has received a US\$3mn follow-on investment to increase food security and improve livelihoods for smallholder farmers in East Africa.

The investment from AgDevCo will contribute to the transformation of the poultry industry in Rwanda and Uganda, providing smallholder farmers with high-quality, highly productive birds that can thrive in the local context.

Through the Uzima breed, smallholder farmers and their families will have the opportunity to diversify their incomes and build resilience, while consuming more affordable nutritious animal protein.

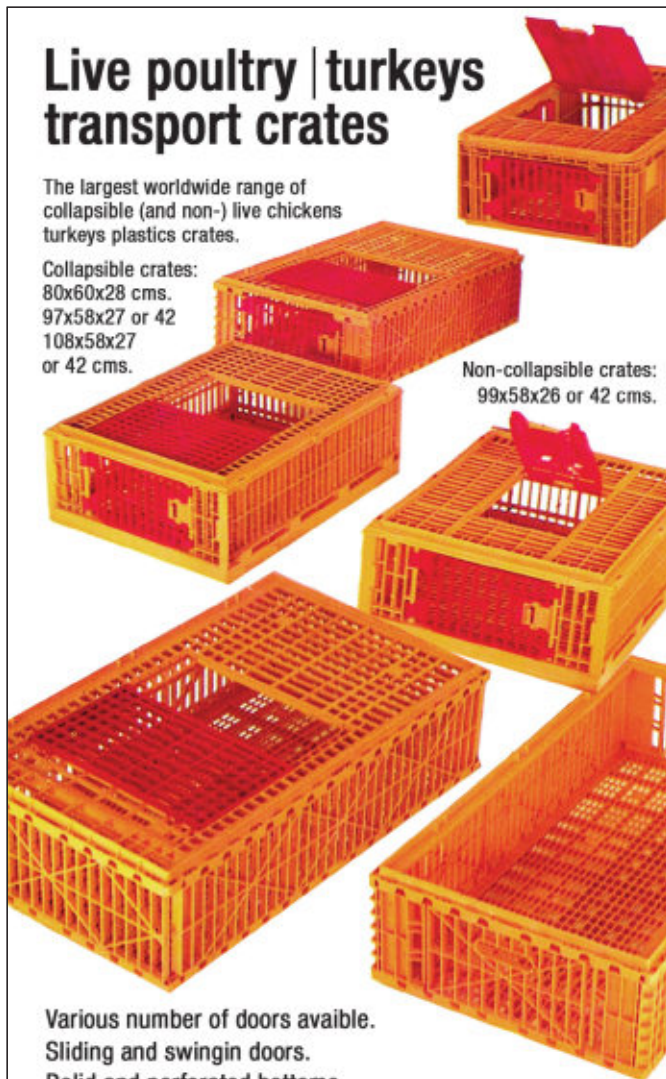
Dr Fadel Ndime, deputy president of Alliance for a Green Revolution in Africa (AGRA) said: "The investment into Uzima Chicken will help the company work towards its mission to make smallholder farmers healthier and wealthier and achieve its vision to ensure each household in Rwanda have at least one chicken per year."

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Teun van de Braak, product manager at Hendrix Genetics Layers explains how PRIMA, the new mobile phone application can help farmers monitor and manage flock health.

Data Insight to boost flock health management

A POULTRY FARM generates plenty of data, based on daily feed intake, growth, and egg production, that can be recorded on the farm. This data can be of great value for flock management, as it tells a lot about the flocks. But managing the data can be a challenge, as it is far more different than managing flock.

In Africa, data is still largely collected with a pen and paper, or not recorded at all. We have developed an application (PRIMA) in which most of the day-to-day generated data at the poultry farm can be stored easily on a mobile phone. This structured way of data collection, and data visualisation allows farmers to be in control of their flock(s) 24/7. PRIMA is available for free, to the entire African egg and poultry industry.

Data collection

Preferably, data should be collected everyday, in a structured way, and entered in PRIMA on that day itself. This allows the

users to better understand what is going on in the poultry house at the moment. When data is collected on a weekly basis, users cease to have the latest data or facts. From the human perspective, one week does not seem so to be so long, but from the birds' perspective, it is significant time, especially when rearing laying hens or keeping broilers. When data is collected in a standardised and structured way, it is easier for the egg producer and the technical experts to understand the actual situation at the farm.

Offline data entry

The PRIMA application allows the farmer to be in control of their flock(s) without the need of an internet connection. Data can be entered and stored offline and they can make use of the remote access function to share information and updates about the flock health with other poultry farmers, and poultry farming experts. This will allow them to help maintain the flock from a distance, and check if it is doing well, in terms of

health and productivity. This digital data sharing function of PRIMA can help them steer in time and save money through the entire production cycle.

Data analysis

PRIMA helps farmers to visualise the data with graphs and tables, plotted against the breed standard. Visualisation will help better understand how the flock is performing, and responding to management. A warning pops up if an unexpected drop in egg production or feed consumption occurs, but also when mortality increases. PRIMA offers timely insight into the day-to-day happenings of the flock health.

Since the data is stored in a structured way, it allows users to compare easily between flocks/houses. The data is getting more substantial these days, but one should also understand the biological implications of this data. One must observe the flock's behaviour daily, as not all behaviour that the flock exhibits can be captured in data. **B**

Download PRIMA for free

The PRIMA app can be used to record day-to-day data collected from the farm, as well as to make an analysis on the basis of the breed standard. It can also be used to share information with other poultry farmers or experts.

Image Credit: Hendrix Genetics

GI-OVO: improving egg transportation for African markets

How have you positioned the brand to serve African markets?

In Africa, we are selling our EggsCargoSystem® with the help of partners as well as dealers and agents. It helps in transporting eggs from the farm to grading and processing, with less than 3% crack. Less breakage means more profit for the companies. We have already made some successful sales in the countries in Africa and hoping for more.

What are the latest innovations of GI-OVO? Is the company planning some new initiatives?

We are working on the transportation of day old chicken which is mainly popular in Europe. The project concerns the method of early feeding which means birds from hatcheries and farms have access to drinking water and feed from the moment they are born.

CEEP is one of the latest innovations concerning circular



Jacco Wagelaar, general manager, GI-OVO.

economies. Nowadays, egg packaging is almost always used once. After use, they throw away the packaging, which is not very

sustainable. With CEEP, people bring back the packaging to the store, pick their own eggs and recycle the packing.

How do you keep the eggs safe for consumption?

To avoid contamination as much as possible, we add an additive called biocide in our plastic, which reduces the chances of contamination to almost zero. We prevent the instances of contamination at farms and hatcheries, to processing and grading plants, and the spread of diseases and bacteria in general.

What distinguishes your company from others?

Our global presence, in terms of marketing, sales and production. We always try to be as close as possible to our customers. We are focused on the egg industry - for chicken - duck - geese and turkey. Our unique transport systems are one of the safest ways of transporting eggs, ensuring less cracks, which in turn means less waste, and more profit!

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Researchers from Universidad De Sancti Spiritus José Martí Pérez studied the effect of combining antibiotics with adjuvant therapy to cure respiratory diseases in poultry.

Combating infectious coryza

DR VICENTE A. Méndez García, Juan C. Rodríguez Fernández, Kemel Hidalgo Rojas, and Leticia Suárez Madrigal from Universidad De Sancti Spiritus José Martí Pérez, faculty of agricultural and livestock sciences, department of veterinary medicine and animal husbandry, Cuba, studied the effect of combining Polistar and Viusid Vet treatment to tackle an outbreak of infectious coryza among White Leghorn hens.

The use of antibiotics have always been recommended, together with adjuvant therapy, to alter the integrity and functionality of tissues and organs in poultry, and optimise complete and rapid recovery from diseases. Other elements that can regulate the immune system and restore the bodily functions are also required, so that the birds can recover their productivity.

Given the potential of Viusid Vet, which contains antioxidants, vitamins, trace elements and glycyrrhizinic acid, with antiviral and immune modulatory properties, it was decided to evaluate its effect on respiratory disease outbreak when used together with Polistar (enrofloxacin), which is made in Spain by Laboratorios Polichem.

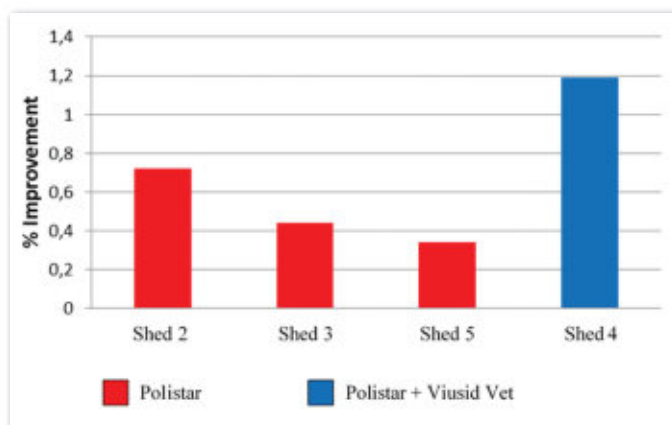


Image Credit: CATALYSIS

Materials and methods

In the province of Sancti Spiritus, a total of 36,042 White Leghorn L33 hens were included in the study, all from the same batch, with three to four months of egg-laying. They were given water by means of nipple drinkers. A daily amount of 107.8g of the feed, which contained 16% crude protein, was given to all the hens.

In total, four sheds of hens were included in the clinical trial; they were all given Polistar S.L.U., in a dose of 0.5 ml/l of water for six days. The hens from one shed were also administered Viusid Vet powder in a ratio of 1 g/kg of feed, for 15 days. The shed was chosen for the combined treatment since the hens were in the worst state of health 10 days before the treatment started; 200 of the hens died in this shed, and there were 124 deaths, 98 and 106 respectively in the other three sheds.

Shed	TX.	N		Viability (%)		Improvement at the end of the clinical trial (%)
		Before	After	Before	After	
2	P	8896	8618	98.47	99.19	0.72 b
3	P	9027	8754	98.75	99.23	0.44 b
4	P+V	8911	8503	97.72	98.89	1.19 a
5	P	9208	8985	98.91	99.25	0.34 b

TX = Treatment; P = Polistar; P+V = Polistar and Viusid Vet

Different letters in the same column for $p \leq 0.05$.

Image Credit: CATALYSIS

Results

After the fourth day of treatment with antibiotic(P) + Viusid Vet(V) combination, the number of deaths dropped significantly.

Conclusions

Despite the resulting high mortality rate, the White Leghorn laying hens that had been infected by a complicated respiratory disease did recover after the treatment, in combination with Viusid Vet. No adverse effects were observed when both products were administered. Viusid vet can be used as an adjuvant therapy in similar morbid processes. **E**

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Digitising broiler production

BIG DUTCHMAN'S CHICKENBOY analysis robot offers 24/7 bird monitoring, and the chance to measure climate parameters in broiler houses.

Even after years of experience, it is not easy for broiler producers to answer some pertinent questions regarding the flock, such as the health of the current flock compared to the previous ones, as it is humanly impossible to collect the minute details 24/7 and in three dimensions. It is even more difficult to analyse them.

Equipped with various sensors and cameras, the ChickenBoy robot offers a permanent solution to this problem. Suspended from a rail system under the ceiling, it keeps track of the minute-to-minute activities in the barn. A powerful processing unit analyses the data, partially with complex AI algorithms, and prepares a graphical representation for the customer.

The cockpit comprises multiple two-dimensional maps of the barn that visualise the current air quality, based on parameters such as the temperature, air speed, humidity, and the concentration of harmful gases (co2 and nh3). The measured data can also be viewed in diagrams that indicate the progress of the batch.

"We want to provide the farmer with an adequate digital cockpit that shows information about the broiler house in a clear and easy-to-understand manner," said Dr Heiner Lehr, CEO of Faromatics, the robot's manufacturer.



ChickenBoy analyses data collected from the barn on a day-to-day basis, and shows a graphical representation for understanding problems and deficits in the environment.

The greatest strength of ChickenBoy is its intelligent image evaluation, in case the robot finds dead birds and leaking nipple drinkers. The robot comes with a deep-learning functionality that detects the spread of possible intestinal diseases in the flock early on, based on permanent excrement rating. The robot also provides images as well as audio and video tracks of the current situation in the barn.

"With ChickenBoy, digitisation has now truly found its way into broiler houses," said Christian Woltering, Big Dutchman sales manager for broiler production in Germany.

"Across the board, the customers who installed the first robots during a pilot phase were very happy with the system. All of them were able to use the collected data to further optimise their production regarding climate and bird health."

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isa-poultry.com



layinghens.hendrix-genetics.com

Mwangi Mumero assesses the growth of the dairy sector in Kenya, and how innovations are boosting productivity.

The growth of dairying in Kenya

A HIGHLY EDUCATED, discerning urban population in Kenya has increased the demand for proteins, notably milk, eggs and fish. The rise in the middle class – having higher disposable incomes – has also boosted milk demand in the country. To most Kenyans, a cup of tea or coffee is only considered complete when accompanied by milk.

Kenya's urbanisation rate stood at 27.5% last year with an annual increase of 4.23%, according to the CIA World Factbook.

Increased consumer demand for quality and safe milk products as well as regional integration and cross border trade within East Africa have boosted investments in Kenya's dairy sector, as have diversification in consumption such as yoghurt and cheese as well as the uptake by industrial consumers in baking, confectionary and fast food sectors.

Data from the Ministry of Agriculture indicates that milk demand outstrips supply.

"The national monthly demand for milk stands at 54mn litres, hence a deficit of 12 mn. Kenya has one of the biggest dairy sectors in Africa, producing 5.2bn litres per annum and consumes everything it produces," said Peter Munya, cabinet minister for agriculture.

Research conducted by the Nairobi-based International Livestock Research Institute (ILRI) indicates that Kenyans consume more than 145 litres per person annually. Although this is one of the highest rates in sub-Saharan Africa, it is still below the UN'S FAO recommended per capita of 220 litres.

More than 75% of the 3.4bn litres produced in Kenya annually is marketed informally through various channels, according to the Kenya Dairy Board (KDB), the market regulator. Of the 25% processed milk, 44% is marketed through Brookside Dairies, the biggest dairy creameries in the East Africa region.

In 2014, French food conglomerate Danone bought a 40% stake of Brookside Africa Limited, aiming to get a foothold on



A milk cooler for a dairy co-operative society in Muranga county in Kenya.

Image Credit: Mwangi Mumero

the expanding dairy sector in East Africa. Brookside Africa Limited is Brookside Dairies' Holding company and is associated with the Kenyatta Family.

"Danone Group plans to focus on India and Africa in the next decade. They have a lot of potential," noted Danone in a statement released during the acquisition.

Brookside has the largest milk collection network in East Africa, dealing with around 160,000 farmers in Kenya and 100,000 in Uganda, from whom it collects 1.5mn litres and 500,000 litres of raw product per day respectively. Other milk processors in Kenya include the New Kenya Co-operative Creameries (K.C.C) and Githunguri Dairies, among others.

An estimated 800,000 smallholder dairy farmers in Kenya with an average 2-3 acres of land produce most of the milk in the country, and there are an estimated 4.5mn dairy cows in the country.

With land shrinking especially near cities, intensive rearing systems such as zero-grazing units have become popular with smallholders. In this system, cows are permanently housed, with fodder, water and other requirements on site.

These smallholder farmers produce around 10-30 litres of milk a day which is then marketed through their local co-

operative societies. A few of these farmers produce around 100 litres of milk daily. The societies then bulk the milk and transport it to the dairy factories.

Boosting productivity

New technologies have been developed to improve efficiencies in the production, storage, processing, transportation and marketing of milk and its products. Investments and innovations to boost milk production start at the farm level, with farmers adopting technologies to suit their needs.

Among the many recent innovations are the phone-enabled apps that help farmers to manage their operations. iCow, a voice-based WAP-enabled application allows farmers to get vital information essential for animal breeding and feeding methods. Farmers register their cows free of charge through the iCow portal and get regular SMSs on breeding and production pattern of the livestock.

"We found out that most dairy farmers do not get the most out of their livestock because they depend on rudimentary livestock management methods," observed Sue Kahumbu, the creative director Green Dreams, the company behind the application.

Kenya has one of the biggest dairy sectors in Africa, and consumes everything it produces.

iCow's objective is to increase farmer productivity through access to knowledge and experts and to encourage the development of a younger generation of farmers.

A recently-launched insemination app developed by Kenya's Safaricom and Chinese technology giant Huawei, notifies farmers on the ideal time to inseminate their animals – curbing problematic heat detection issues. The sensor is lodged in the cows' bodies and allows farmers to track the animals' menstrual cycle via a digital database and organise the time for insemination.

"Lots of trials for dairy cows have been done in the country. This device is valuable in monitoring heat cycles in dairy cows, especially where the numbers are large," observed Stone He, Huawei Kenya chief executive officer.

Among other innovations at farm level is the use of hand-operated milking machines which farmers can purchase to boost their milking activities.

At the co-operative society level, new innovations such as milk coolers have attracted huge investments as organisations look to cut their post-milk losses and preserve quality.

For instance, the 1,660 member Kahuro Livestock Breeders Co-operative Society (KLBCS) in Kenya's Muranga county has expanded its operations with the installation of a 5,000-litre capacity cooler, by the government.

"Most of our farmers are smallholder farmers and it became necessary to pool the milk and negotiate with New KCC on pricing. Bulking allows us to negotiate better prices for our members," asserted Lucy Mwangi, the society's manager during an interview at their offices at Kahuro Township.

The Bill & Melinda Gates Foundation has funded the construction of milk coolers in Bomet and Nandi counties.

Across Kenya however, most farmers' organisations have to source their equipment from commercial entities dealing with milk coolers and other vital equipment, such as EuroDairy Equipment Ltd, Desley Holdings-Food & Dairy Equipment Suppliers, Finken Engineering and Davis & Shirtliff among others.

Recently, Davis & Shirtliff, a Kenyan company dealing with water and energy, together with the University of Hohenheim, with support from the German International Cooperation Agency (GIZ) have come up

with a new solar-powered milk cooling system to benefit rural based dairy farmers.

With rising returns from milk sales, farmers across Kenya are also investing heavily to increase production through new technologies, artificial insemination (AI) and proper feedings, as well as to boost their herds.

Banks and other financial organisations, such as Equity Bank, have also been providing loans to farmers to assist their expansion.

Services providers such as American Breeders Service (ABS), World Wide Sires (WWS) and Heifer International have provided sexed semen for dairy farmers.

Research bodies have helped develop new varieties of fodder crops to help boost feeding. For instance, the International Centre for Tropical Agriculture and Alliance of Bioversity International have been training 1,000 farmers in Busia, Kakamega, Bungoma and Siaya Counties on the use of Brachiaria fodder, a protein-rich and climate resilient grass for livestock.

While the International Centre for Research in Agroforestry (ICRAF) has worked with farmers to increase the use of leguminous fodders such as Calliandra and Leucaena as viable alternatives to commercial concentrates. **B**

Make a smooth transition

The transition period challenges your cows' immune systems in many ways. As a result, the essential amino acid, methionine, is more essential than ever to the wellbeing of your herd during the production cycle. Good to know Mepron® delivers 60% metabolizable methionine – making it the most efficient methionine source for ruminants. Take advantage of Mepron® to support a smooth – and profitable – transition.

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Mepron is the rumen-protected source of methionine for ruminants which helps cows achieve amino acid balance.

Evonik's Mepron ensures cow health and performance

THE TRANSITION FROM a pregnant, 'dry' cow to a fully productive, milking phase is the most demanding time in the life of a cow. After going through immense changes in metabolic profiles, hormone levels, and the physical demands of pregnancy and childbirth, this is a period when the cow may be prone to several health problems.

Supplying essential nutrients will provide it with adequate nutrition, and prevent imbalances from occurring, including over supply or a waste of energy, which occurs due to the excretion and elimination of the excesses.

It is widely accepted that the essential amino acid methionine is the first-limiting amino acid in most diets for high-performing dairy cows. Without any form of methionine supplement, the addition of other amino acids or even energy to the cow's feed will have no beneficial impact on the cow's performance or health.



Excess protein in cow's feed may cause urea levels to rise, resulting in foot problems.

Image Credit: Adobe Stock

Mepron delivers methionine exactly where it is needed – the small intestine. It can be used to maximise milk production, to promote essential growth and the maintenance of glutathione, a crucial intercellular anti-oxidant. Taken together, these can help to ensure cow health and keep away health challenges such as mastitis.

Papers published in the Journal of Dairy Science confirm that feeding Mepron significantly increased dry matter intake, milk yield, milk fat and protein yields.

Fernanda Batistel, in a paper titled "Ethyl-cellulose rumen-protected methionine enhances performance during the periparturient period and early lactation in Holstein dairy cows" (2017), that feeding Mepron significantly increased energy corrected milk yield by 4.1 kg/day during the fresh period (1-30 days in milk) and by 4.8 kg/day thereafter.

L. Han in the paper titled "Methionine supply alters mammary gland antioxidant gene networks via phosphorylation of nuclear factor erythroid 2-like 2 (NFE2L2) protein in dairy cows during the periparturient period" (2018), showed that Mepron supplementation increased the antioxidant response in the mammary tissue. A consistent

positive effect of methionine supply, is the reduced impact of the systemic inflammation and oxidative stress on the cow's health.

The use of Mepron also allows better overall nutrient balancing, and the opportunity to reduce protein content in the diet. Cows, like all other livestock, have no requirement for protein, rather they have a requirement for specific amino acids contained in feed protein.

Excess protein in the diet leads to high levels of urea in both blood and milk and high levels of urea have been linked to numerous problems, including reduced reproductive success and foot problems. Additionally, the excretion of excess nitrogen from feed protein is an energy cost; meaning less energy is available for production of milk, or calf growth.

To reduce farmings' negative impact on the environment and prevent eutrophication and acid rain production from taking place, it becomes essential to regulate the amount of protein administered in cow's feed.

Mepron together with Evonik's expertise in ruminant nutrition, can help users achieve the true potential of their cows, and keep the environment safe and habitable at the same time. **E**



Image Credit: Evonik

Mepron, if stored in a cool and dry place, between 5°C and 30°C in an original unopened packaging, with 20 - 75 % relative humidity, can last upto three years.

Heifer International and the Rwanda Ministry of Agriculture have announced a partnership to invest more than US\$10mn in livestock and training for 23,400 smallholder farming households.

Rwanda: Heifer International to invest in livestock farmers

IN RWANDA, ONE fifth of the population is food insecure. The average income per household is approximately US\$3.11 per day, all across the northern, southern, and western provinces of Rwanda, where the Partnership for Resilient and Inclusive Small Livestock Markets (PRISM) is scheduled to be implemented.

Heifer International aims to support farmers and help them earn a decent living, an amount which is needed to live a dignified life. PRISM will focus on prioritising three groups, women heads of households, malnourished children and young adolescent girls, in order to sustainably improve the livelihoods of the most vulnerable populations. Women will represent at least 50% and youth at least 30% of those engaged by PRISM, who will receive opportunities to access funds through the project.

Adesuwa Ifedi, senior vice-president of Africa programmes, Heifer International, said, "Heifer International has supported communities across Rwanda for more than 20 years, to build sustainable food and farming businesses, and reduce hunger and

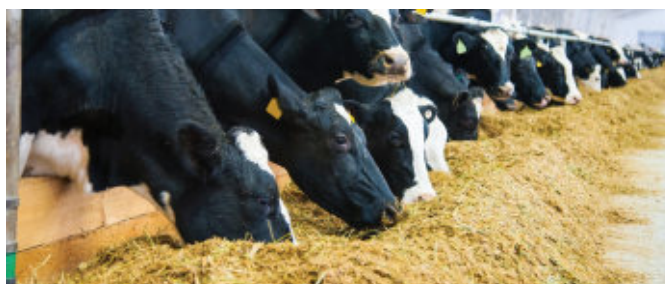



Image Credit: Adobe stock

Partnership for PRISM will reach 23,400 food insecure households in 15 districts.

poverty. Through our training model, farmers will develop the financial, farming and leadership skills they need to care for their animals and sharpen their business acumen. This will help them improve farm production and productivity, as well as develop stronger connections to formal markets, building sustainable agribusinesses and increasing profits." 

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Microtech Series:

Microtech series are feed phytase products of VTR, which increase the utilization of phosphorous from plant ingredients. Microtech series reduce the supplementation of inorganic phosphorous, such as Mono- and Di-calcium phosphates from feed formulation.

YIDUOZYME Xylanase Series:

YIDUOZYME X series are xylanase products for the hydrolysis of xylan, thus reducing intestinal chyme viscosity and releasing more nutrients from cereals.

YIDUOZYME Protease Series:

YIDUOZYME X-3002 is a concentrated compound protease product of VTR, which is designed according to animal digestive characteristics. It fully meets the requirements of different feed producers. This product improves protein digestibility, reduces anti-nutritional factors and decreases feed cost.

Now we hope to further develop the African market and look for distributors in African countries, please connect us by our email: vtr@vtrbio.com and our website: www.yiduoli.com. We are looking forward to cooperating with you.

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Microtech increases energy levels and nutrient digestibility in pigs

MICROTECH IS A preparation of 6 phytase which makes phytate-bound phosphorus, that naturally occur in plant feed, and is available to animals. This product can be used as a partial substitute for inorganic phosphate supplementation in the feed and reduce excretion of phosphorus with manure.

The product has been sold in many countries so far, and the efficiency of Microtech has been evaluated and proved by many commercial farms, research institutes and universities.

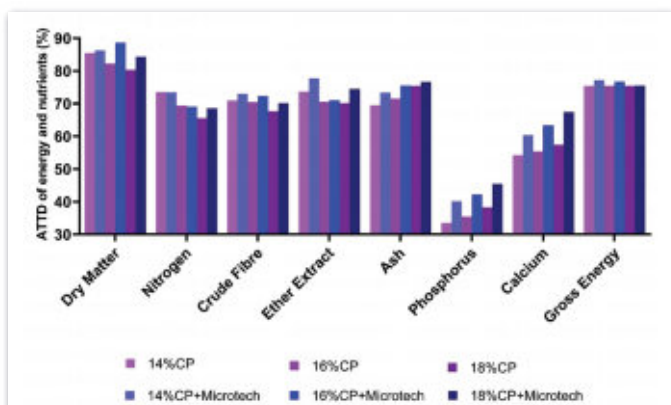
Some research programmes used Microtech for independent scientific study. Once such scientific research, conducted recently, and published in *Livestock Science*, provides further details about the use of Microtech.

The research was funded in the UK by the Department for International Development (DFID), under the Climate Impacts Research Capacity and Leadership Enhancement (CIRCLE)



Image Credit: Adobe Stock

Animals find it difficult to digest phytate-bound phosphorus found in plant feed.



Apparent total tract (A) and ileal (B) digestibility of energy and nutrients in growing pigs fed with reduced crude protein diets supplemented with or without Microtech. (Fig. 1)

programme. As part of the programme, an international research team from Ghana, Nigeria and the United Kingdom aimed to evaluate the effect of phytase on the energy levels and the nutrient digestibility of growing pigs, fed with a different crude level protein diet that is balanced with limiting AA (Lys, Met, Thr and Trp).

In this trial, phytase from VTR Biotech was used in the form of Microtech 5000. In addition to increasing the P availability, Microtech also increases ATTD and AID of nutrients and energy with different levels of crude protein (Figure 1). AID of Ala, Cys, Gly, Ser and Tyr were recorded with pigs fed with 18% CP diet supplemented with Microtech, and it improved AID of all the essential amino acids.

Guangdong VTR Bio-Tech has been focusing on the industrial application of bio-medicine and bio-agriculture since its inception, in 1991. Bio-enzyme preparation, biomedicine, and animal nutrition and health are three of its main industries.

Rainfall helps Ethiopian sheep adapt to the climate

A STUDY LED by the research team at Roslin Institute and Centre for Tropical Livestock Genetics and Health (CTLGH), sought to investigate how the environment impacted the DNA of sheep living in different parts of Ethiopia.

The team analysed the genomes of 94 sheep from 12 different areas of Ethiopia, and examined them alongside the detailed climatic information of each of the geographic regions.

They studied the altitude, temperature and rainfall in each of the regions, and measured how many times these genetic variations occurred in sheep, living under each type of environmental conditions.

After comparing the genomes of the sheep, researchers found that there were more than three million small differences in specific segments of their DNA;



Precipitation levels cause genetic variations

and the genetic variations in sheep DNA were more likely linked with the precipitation levels, than the temperature or altitude of the place.

There was a strong association between the frequency of these genetic variations and the precipitation levels, which suggested that rainfall is a driving factor for genetic adaptation in Ethiopian sheep.

USAID launches consortium to improve animal health

USAID HAS PUT together a consortium comprising Cargill, Ausvet, Heifer International and International Poultry Council, to improve livestock management, and combat the threat of zoonotic diseases to human and animal health.

The five-year programme, titled 'Transformational Strategies for Farm Output Risk Mitigation' (TRANSFORM), will cost US\$33mn; and aims to use technology and innovation to sustainably improve animal health, and strengthen the animal agriculture production systems in Asia and Africa.

As a farm-based initiative, TRANSFORM will prioritise efforts to significantly decrease the risks of antimicrobial resistance (AMR) and zoonoses; diseases that spread from animals to humans, through food borne pathogens, such as anthrax, Avian and swine influenza.

Cargill, Ausvet, Heifer International and the IPC will increase the capacity of government, agri-businesses and farmers to prevent, identify and respond to health threats caused by animals.

The initiative will also help smallholder farmers, who are particularly vulnerable to transboundary animal diseases, as livestock is their main source of food and income.

Starting in 2022, Cargill will conduct nutrition and immune health trials on dairy, poultry, shrimp and swine operations in four countries across Asia and Africa, to better understand how animal nutrition can help reduce the threats of zoonotic diseases to human health.

Heifer International will work with smallholder farmers in India and Kenya to improve bio security and animal health management and help with increasing the farmers' incomes.

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VIUSID VET

ANTIVIRAL HEPATOPROTECTOR AND IMMUNOMODULATOR..

Acts on the animal growth **reinforcing their immune system** because it protects the liver and diminish the oxidative stress in the animal.

Wonderful as **antiviral** and ideal for immune deficiency processes, as powerful hepatoprotector increases the animal appetite and controls oxidative stress due to over feeding in farms.

VIUSID VET DETOX

DECREASES MICOTOXINS PROBLEMS.

The content of **probiotics** helps to restore the intestinal mucosae and in this way **increases immunity and prevents infections**.

The sodium butyrate content helps to diminish the toxicity promoted by the action of the fungus in feed.

RENALOF VET

MANAGEMENT OF DIURESIS AND KIDNEY STONES

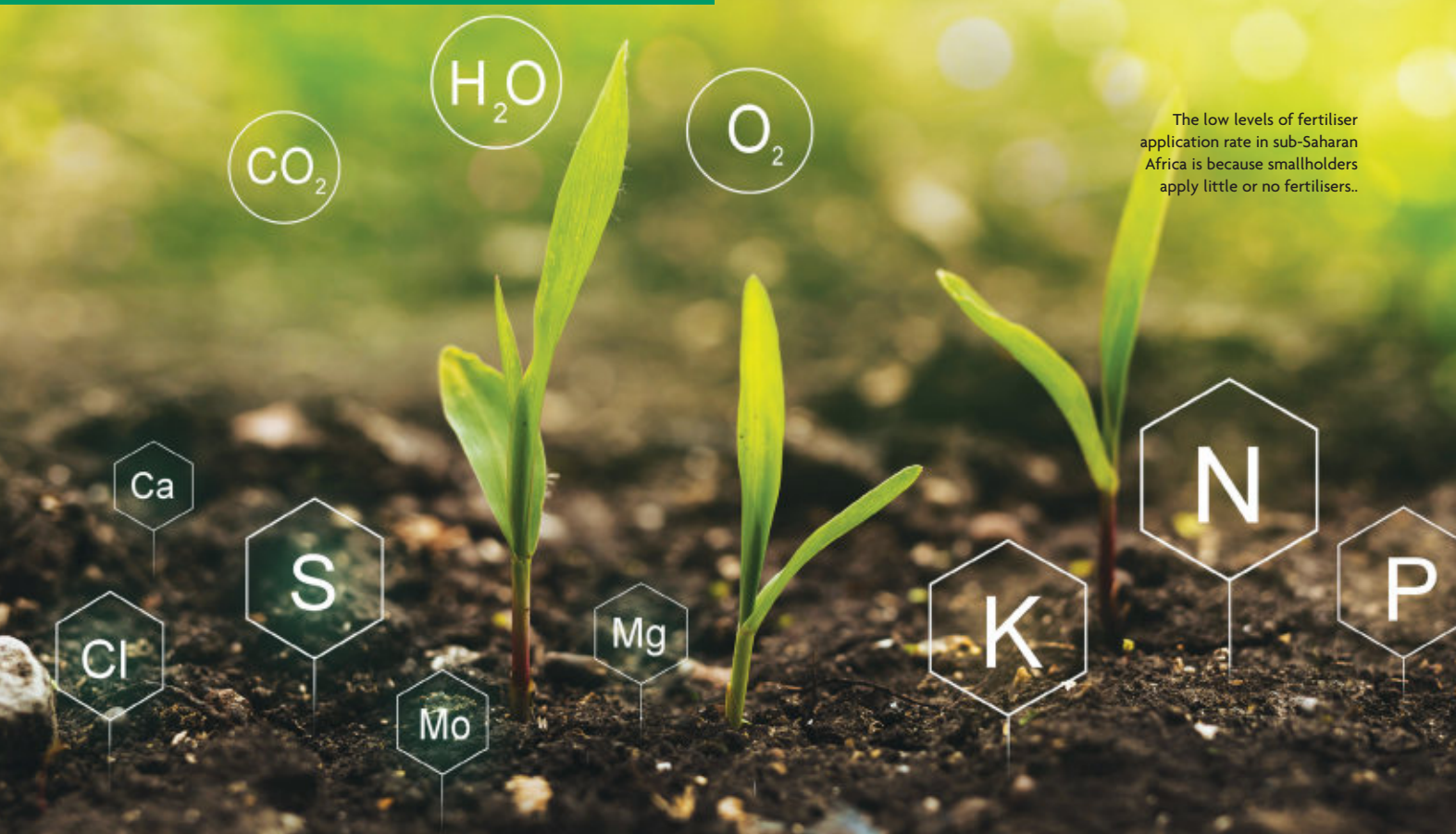
Based in grass root extract, is able to **diminish the formation of renal Calculi** and regulates diuresis and oxidative stress in the nephron.

ASBRIP VET

FOR RESPIRATORY PROCESSES

Based in essential oils of **eucalyptus and mint**, is a wonderful **relief for the respiratory processes** that farm animals suffer.

*the products can be used by all farm animals



The low levels of fertiliser application rate in sub-Saharan Africa is because smallholders apply little or no fertilisers..

Several initiatives are driving the growth of future fertiliser growth in Africa. Nawa Mutumweno tells us more.

Fertilisers – nourishing African agriculture

Image Credit: Adobe Stock

"FERTILISERS ALLOW FARMERS to produce more and sell the surplus to make profit. Hence fertilisers cannot be seen in isolation but should be part of the agribusiness system where the output market, both in quantity and price, increases demand for seed and fertilisers," Dr Amit Roy, former president and CEO, IFDC, wrote in his Foreword to the book 'Feeding Africa's soils', produced by AGRA in 2019.

According to the Alliance for a Green Revolution in Africa (AGRA), while some areas (mainly in the East African highlands) are very fertile, soils over much of the continent are fragile, lacking essential nutrients and organic matter.

Closing the gap between the current farm yield and the yield potential on existing croplands as well as increasing cropping intensity and sustainable expansion of irrigated production areas will be essential, the African Fertiliser Agribusiness Partnership (AFAP) says.

Overview of African fertiliser market

The average fertiliser application rate in sub-Saharan Africa is expected to increase to 22kg per hectare from the current low level of around 16kg/ha by 2022, according to AFAP.

These low levels are because smallholder farmers, who make up the majority of farmers in the region and who farm most of the land, apply little or no inorganic fertiliser, resulting in soils undergoing continual nutrient mining.

The African Union has made commitments for agricultural growth across the continent, including measures to improve

farmers' access to fertilisers and other yield-enhancing inputs.

According to the International Fertiliser Association (IFA), fertilisers' supply on the continent has increased by more than 8% annually over the last decade, and stood at 3.7mn tonnes of nutrients in 2016.

Africa will be a key driver of future fertiliser growth, with sub-Saharan Africa's consumption expected to increase 5% annually to reach 5.9mn tonnes nutrients in 2022, boosted by Nigeria and Ethiopia, and rising to represent 3% of the global consumption.

Initiatives

Several developments are paving the way to improve the use of fertilisers. Dangote Fertilisers in Nigeria is set to train farmers in the south-east geopolitical zone of the country on better ways of farming to obtain bumper yields.

A representative, Ekene Obiefuna, in his presentation at the 2021 Enugu International Trade Fair said that with the

The African Union has made commitments for agricultural growth, including measures to improve farmers' access to fertilisers and other yield-

training on the best ways of applying fertilisers, farming will become very lucrative and attract more people to embrace it as a means of livelihood.

Dangote Fertilisers' capacity is 3mn tonnes of urea per year. Construction of a 500, 000 tonnes per year NPK blending facility is underway and is scheduled for completion this October.

Zambian Fertilisers, operating in the Lusaka South Multi-Facility Economic Zone (LSMFEZ) produces blended fertilisers which are crop and soil specific, enriched with lime and organic matter. It has a capacity of 8 tonnes per hour and currently produces 8, 000 tonnes of fertiliser annually.

Other players in the Zambian market are the state-owned Nitrogen Chemicals of Zambia (NCZ) which produces around 100, 000 tonnes of Compound D and 40,000 tonnes of ammonium nitrate; and Yara which produces 67, 500 tonnes annually.

In Kenya, Toyota Tsusho started producing multi-nutrient blends in Eldoret targeted for maize, barley and potatoes in Rift Valley and Western Kenya in 2016 while in Uganda, Grain Pulse installed a blending plant in 2017.



Image Credit: Adobe Stock
For Africa, demand of fertilisers is projected to rise by 37% from 2016 to 2021, or 2.2mn tonnes of nutrients to reach 8.1mn tonnes of nutrients, according to the International Fertiliser Association.

Innovations

Fertiliser Optimisation Tool: The Africa Soil Health Consortium is a partnership of development organisations working on issues relating to soil health. It has developed a Microsoft Excel tool that can tell extension workers how much fertiliser of a type, a farmer should apply for each type of crop.

Nutrient Expert: Developed by the International Plant Nutrition Institute, this is a computer-based support tool that enables farm advisors to formulate nutrient manage-

ment guidelines for maize and other crops. It suggests a meaningful yield goal for a specific location and proposes the best nutrient management strategy to attain it.

Soil-SMaRT: IFDC's Soil-SMaRT is a systematic approach process to diagnose nutrient deficiencies and other soil constraints and to develop and validate fertiliser recommendations. SMaRT stands for Soil Mapping Recommendations and Transfer.

Prospects

Demand for fertiliser is projected to grow by 8% annually to reach 5.5mn tonnes of nutrients, or 2.8% of world demand by 2021. Nigeria and Ethiopia are expected to contribute 28% and 18% respectively of this increase. For Africa as a whole, demand is projected to rise by 37% from 2016 to 2021, or 2.2 million tonnes of nutrients to reach 8.1 million tonnes of nutrients, according to the International Fertiliser Association.

With the African Continental Free Trade Area and the current proliferation of fertiliser production and blending plants around Africa, countries should take advantage of economies of scale, complementarity and vertical integration to reach fertiliser security and self-sufficiency. **B**

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Halaal'21@ATW is Africa's hybrid event that provides the tools, insights and contacts for buyers and sellers to share their commercial strategies in the South African and African halaal economy.

Championing South Africa's halaal economy

DMG EVENTS AND Pure Grit Project and Exhibition Management have entered into a partnership to further promote the emerging stature of the global Halaal market in Southern Africa.

Both the organisations will present a trade and networking platform for producers of South African and African Halaal products, alongside dmg events' long-standing Africa Trade Week (ATW) which is scheduled to take place between 23 August and 25 August in Johannesburg.

The networking platform will allow the producers to expand their market-share globally.

The Africa Trade Week (ATW) encompasses three leading trade shows - Africa's Big 7, SAITEX and The Hotel & Hospitality Show, and brings together a range of leading South African and pan-African buyers, who attend the event to source products and services from a global manufacturing/services base. In response to the current environment, the 2021 edition will allow both in-person and online exhibition spaces, meetings and content.

The Halaal segment of Africa Trade Week 2021, which will be presented as Halaal'21 @ ATW, and will give digital access to the live event, for the brand to gain popularity and grow into a stand-alone show from 2022.

The team at Pure Grit Project and Exhibition Management is led by Zaida Enver Zaida, who has had a long-standing experience of bringing buyers and sellers together continentally.

Her portfolio, which spans



South Africa has a comprehensive halaal certification programme and around half of all retail food and beverage products are halaal certified.

over ten years, includes management contracts of large trade shows for entities such as South African Tourism, WESGRO and Tanzania Tourism.

"We are excited to be working with global operators dmg events on this initiative, which will no doubt present a unique and excellent platform for qualified buyers to meet with the best of what the South African and African Halaal market has to offer," said Zaida Ever, CEO of Pure Grit Project and Exhibition Management (Pty) Ltd., who is herself committed to developing and growing trade within the Halaal space.

In 2019 Pure Grit was appointed as the event management company for WESGRO's Africa Halal Week. The event enjoyed impressive growth of 40% as well as expanded geographical participation, attracting delegations from Saudi Arabia, the UAE, Singapore, Malaysia, the USA

and a number of countries from within the continent.

"With our ATW cluster offering 20 years of history and dubbed as the destination for South African and African buyers (including agents and distributors representing some of Africa's largest hotel chains, global retailers to small independent stores), Africa Trade Week is well placed to showcase both South African and African Halaal manufacturers and producers of food, beverage, cosmetics and hospitality products. We are proud to be collaborating with a passionate and credible team like Pure Grit whose network and understanding of the continental sector will give the Halaal economy the spotlight it deserves," said Devi Paulsen-Abbott, Vice-president of dmg events.

South Africa outlook

Halaal products and services have now evolved from an 'exclusive, select' marketplace

to a global movement. Many continental Halaal-conscious consumers are now opting for food and beverages specifically, that are Halaal certified, particularly amid growing health and hygiene concerns.

South Africa is set to become a leading producer of Halaal products worldwide. Being the largest exporter of Halaal product into Africa and recognised as the leading gateway supplier to African Halaal markets, South Africa will be a material contributor to the global Halaal Economy, which is estimated to be worth US\$3.2tn by 2024, according to the Dubai Airport Freezone (DAFZA) 2021 Report.

South Africa boasts a comprehensive Halaal certification programme and about half of all retail food and beverage products are Halaal certified. A number of big projects concerning Africa's Halaal industry is already underway which promise to further boost the halaal economy. **E**

Image Credit: dmg events

Second edition of BioAg World Congress 2021 highlights soil health

THE SECOND EDITION of BioAg World Congress 2021 saw the participation of more than 35 recognised speakers, seven panels of experts and numerous innovative exhibitors. The BAW 2021 agenda consisted of six sessions, concerning four main BioAg segments – biopesticides, biostimulants, biofertilisers, and bionutritionals.

The 3D virtual sessions took an in-depth look at industry developments, roles of the food chain to influence biosolution adoption, soil health and water management, challenges and opportunities on regulation, go-to-market, science-backed innovations, investment in bioag, and insight into growth areas such as precision AgTech.

While the problems of soil health featured majorly in the sessions, there were sessions on biologicals, a session on young innovators called What Young Innovators Need to be Prepared for Modern Digital and Sustainable Ag, and others on crop programming and vertical farming in relation to precision tools.

Every year BioAg World Congress 2021 presents the BioAgro Achiever Award and BioAgro Disruptor Award. The BioAgro Achiever Award aims to recognise visionaries who have transformed their great ideas into



Image Credit: Adobe Stock

The BioAgro Achiever Award aims to recognise visionaries, who have transformed their ideas into valuable biosolutions for sustainable and productive agriculture.

valuable biosolutions for sustainable and productive agriculture, and who have impacted the development of the biostimulant, biocontroller or biofertiliser industries. The BioAgro Disruptor Award is given to the best commercial innovation, chosen from among different criteria. The three finalists have the opportunity to present their innovation during the congress.

Bulhnova has won the BioAgro Disruptor Award, for its solution based on PGPR microorganisms that replaces conventional fertilisation, and opens up new possibilities for a more sustainable and productive agriculture. The award was presented virtually by Dr Pamela Marrone, CEO and founder of Marrone Bio Innovations, CEO and partner of Primary BioAg Innovations and Global BioAg Linkages.

EIMA International to go ahead in October

EIMA INTERNATIONAL, THE agricultural machinery exhibition, will take place from 19-23 October 2021 at the Bologna Exhibition Centre, Italy. It will be the first international event of the agro-mechanical sector to reopen its doors following the cancellation of events due to the health emergency, with exhibition activities set to resume in Italy as of 15 June by government decree.

With almost 1,600 exhibiting companies already booked, 30% of which are from abroad, the exhibition will be an important rendezvous for businesspeople, farmers and mechanisation technicians.

The Bologna Exhibition Centre is ready to welcome exhibitors and visitors in an upgraded venue. Most importantly, control and health and safety systems will ensure the distancing of visitors, expected from all over the world, thanks also to the "green corridors" set up by the Ministry of Foreign Affairs, the organisers confirmed.

The measures include rationalised routes for flow management; IT support and apps to monitor the distribution of the public in the halls; health and control facilities; and

systems for the on-line purchase of tickets and for booking business meetings.

EIMA 2021 will be one of the first major exhibition events to adopt the Pass for "certified" visitors – currently being studied at the European level – representing as far as possible a protected place, the symbol of an agricultural and industrial economy that is finally getting back on track.

The exhibition is divided into 14 product sectors and will feature solutions that guarantee environmental compatibility, which is now a priority in the new EU agricultural policy. Particular attention will be paid to new models that have won the Technical Innovation Award and especially to those awarded the "Blue" sustainability prize.

EIMA International is planning to dedicate a specific space to the EIMA Componenti exhibition, where 520 specialised manufacturers, 144 of whom are foreign, have already confirmed their participation (in addition to the companies making components for spraying and those for irrigation located in the "Idrotech" exhibition).

From transmissions to engines, from electronic control units to on-board

computers, from axles to the smallest mechanical gears, there will be more than 350 product categories at the show.

FederUnacoma is working together with the Ministry of Foreign Affairs and International Cooperation and the ICE Agency to plan the arrival of foreign operators according to the protocols and the "green corridors" established for the safe participation of visitors and businesspeople.

From 5 September, and until the start of the exhibition, the organisers will periodically send all participating companies a note with information on the possibility of entry into Italy from specific countries, the length of time operators will be able to stay in Italy, and any kind of initiative aimed at facilitating the safe presence of exhibitors and visitors.

The exhibition tickets will be available online from 15 June, and 5 July is the deadline for updating the information in the official catalogue of EIMA International.

The EIMA International exhibition 2022 is scheduled to take place from 9 to 13 November

For further information see the website at <https://www.eima.it/en/index.php>

Despite the economic slowdown the global market of agricultural machinery saw plenty of new launches, virtual exhibitions and award ceremonies, as well as a peak in orders in the last quarter of 2020.

From downturn to upswing: a roller coaster ride for tractors

WHILE THE GLOBAL economy reeled under the socio-economic shockwaves brought about by the pandemic, the agricultural machinery sector saw some fortuitous gains, as well as awards in plenty.

Companies such as CNH Industrial and John Deere revealed their plans for expansion across Africa. CNH Industrial has purchased four divisions of Capital Equipment Group (CEG), previously owned by Invicta Holdings Limited.

The distributors include Northmec: South Africa's sole distributor of Case IH equipment and implements; NHSA- a spare parts distributor in Southern Africa mainly focused on agriculture; CSE – sole distributor of CASE tractor loader backhoes and skid steer loaders; and landboupart- a distributor of spare parts and implements.

According to FederUnacoma, Italian Agricultural Machinery Manufacturers Federation, COVID-19 has impacted the investments for the purchase of new vehicles. The year 2020 saw a resurgence in the last two months of the fourth quarter, but the growth for tractors with loading bed remained stationary.

Frederic Martin, chairman AXEMA and chairman of SIMA revealed that the order intake is expected to be positive, and may exceed that of 2019. "In terms of output, we saw factories closing for weeks and months, for logistical supply problems etc. However, by the end of the year, manufacturers were unable to keep up with the rhythm of orders coming in and finished 2020 with a sizeable order book."

Awards and Accolades

This season saw some innovative and high functioning vehicles get recognition at awards held virtually.

The New Holland combine harvesters won two medals at the SIMA Innovation Awards 2021. Industry specialists and technical experts awarded a silver medal, in the "From Harvest to Storage" category to NutriSense™, the in-harvest nutrient analysis system and bronze medal in the "Parts, Services and Onboard Electronics" category for the cleaning system pressure sensors.

Carlo Lambro, New Holland brand president, stated, "The two innovations awarded address two important issues they face with the harvest, helping them to make informed decisions – one with agronomic data they can use to market their crops most profitably, the other enables them to take proactive actions to reduce grain losses as they are harvesting."

NutriSense™ NIR sensor nutrient analysis technology allows the collection of agronomic data which enables farmers to make informed decisions and maximise their sales. The integration of the Near Infrared (NIR) sensor enables the analysis, recording and mapping of crop composition during harvest. The new technology also offers farmers to get the most from the sale of their crops, as the price is linked to the harvest quality. Mapping of the protein level in the grain, helps them gauge the status of nitrogen exported by the plant, and modulate the nitrogen supply accordingly. The NIR sensor on New Holland forage harvesters has also been



Image Credit: Adobe Stock

Agricultural machinery has taken on a trend towards sustainability; one that increases productivity but not carbon emissions.

certified by DLG for its accuracy in determining moisture in corn.

CLAAS AXION 960 CEMOS was selected as Sustainable Tractor of the Year 2021, by an international jury of agricultural journalists, for its unique CEMOS or the tractors dialogue system.

CLAAS introduced the latest Stage V AXION 900 large tractor series in September last year, which comes with an option to retrofit a CLAAS CTIC tyre inflation system, and the self-learning CEMOS for tractors dialogue system.

Sustainability and Innovations

New Holland Agriculture's most recent launch, the methane-powered tractor takes the company's 'clean energy leader' strategy forward.

The tractor will enter the New Holland range by the end of the year, and will be available to all customers in Europe and other markets across the world.

Carlo Lambro, New Holland brand president, stated, "We developed the Energy-Independent Farm model, showing how a closed-loop between agricultural production and energy generation can make farming CO₂-neutral, or even carbon negative – with significant benefits for our customers. This year we are taking a further step into turning this into a reality, as our methane-powered tractor enters the New Holland range."

Some more clean energy leader strategy innovations include the Italian Barolo wine producer Fontanafredda, which is powered by bio-methane and aims to achieve carbon-free vineyard operations. New Holland and FPT Industrial are testing the new tractor, which is derived from a standard New Holland TK model and powered by the new FPT Industrial F28 engine, which was crowned Diesel of the Year in 2020. The new tractor is an important step towards the decarbonisation of the grape growing chain.

In another partnership, New Holland has developed with Italian implements producer Nobili, an innovative concept for the electrification of implements for vineyards and orchards. It combines the New Holland T4.110V with an e-source external generator, compliant with AEF High Voltage guidelines.

In an industry first, the generator driven by the tractor's PTO will power the new e-Sprayer and e-Mulcher. This groundbreaking innovation won the Technical Innovation 2020/21 Award at EIMA International.

LEMKEN has received the certification for its iQblue connect feature for Tractor Implement Management (TIM) from the Independent Agricultural Industry Electronics Foundation (AEF) for implement control.

The smart iQblue connect retrofitting kit from LEMKEN offers the unique opportunity to use the benefits of TIM control for smart tillage. Combined with the ISOBUS interface on the tractor, iQblue connect allows data to be exchanged between the tractor and implement. As a result, the implement is able to control certain tractor functions automatically, for example the ground speed or spool valves.

Farmers can use a single iQblue connect module, with a range of implements. The module is connected to the tractor via its ISOBUS interface and features GPS and a mobile data connection for communication.

For ploughs, LEMKEN offers GPS-based working width control. An important prerequisite for using iQblue connect is that the tractor has to have TIM functionality with AEF certification iQblue connect, which is compatible with implements by other manufacturers. The product will be available from October 2021.

AGCO Corporation, a specialist in the design, manufacture and distribution of agricultural machinery and precision ag technology, has announced its farmer-first strategy, designed to maximise value creation for its major stakeholders

Eric Hansotia, AGCO's chairman, president and CEO introduced AGCO's new purpose and vision statements, saying AGCO intends to deliver "Farmer-focused solutions to sustainably feed our world" and its Vision is to be the "Trusted partner for industry-leading, smart farming solutions."

AGCO will partner with dealers to engage and support farmers throughout the lifecycle from purchase to replacement. Four environmental and social pillars that create value for stakeholders and strengthen the reputation of the agriculture industry: advancing soil health and soil-carbon sequestration, decarbonising our operations and products, elevating employee health, safety and wellbeing, and prioritising animal welfare in food production.

AGCO, is also conducting agronomic research trials and field demonstrations in 2021 to help farmers successfully add soil carbon sequestration to their farming operations.

The rapidly evolving carbon credit market is a potential revenue channel for farmers in which they can also contribute to the solution for climate change alongside feeding the world's growing population.

New ventures and features

AGCO Corporation has launched its Challenger MT800 series track tractors with new engine and transmission combinations, an enhanced track and chassis system, more hydraulic and hitch options and a redesigned operator-friendly cab.

The model can easily carry out tasks such as deep ripping, subsoiling, installing tile or high-speed planting. Producers can choose from among four models in the MT800 Series, all of which run reliable and proven engines by MAN.

The MT800 series offers a suspended undercarriage and the widest offering of track belt choices. The longer wheelbase provides ideal track-to-ground contact, improving flotation and minimising soil disturbance and compaction

Numerous ballasting options, including front and chassis weights, are available to improve machine balance; headland quality and drawbar pull capacity.

An optional load-levelling system, SmartRide+, integrates



Technology and app-driven machinery is the future of agriculture.

Image Credit: Adobe Stock

hydraulic cylinders within the springs, allowing the tractor's pitch to be controlled. It helps maintain the correct implement and linkage geometry, with an improved ride because suspension travel is optimised.

Challenger Guide smart farming guidance package options allow an operator to connect the MT800 Series tractor to a multitude of systems available on the market

Starting June this year, Tata International will be distributing John Deere agricultural equipment, as it has acquired the full distribution rights of John Deere products from Afgri Equipment in Zambia.

Two and half years ago, Tata International signed an agreement with Afgri Ghana to buy the distribution rights for John Deere agricultural equipment and the success of selling the full line of John Deere products in Ghana and other African countries has resulted in a new strategic decision to invest in Zambia. **1**

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Case IH Maxxum tractors are available with various transmission options that support farming operations across Africa.

1000 Maxxums and counting: why this multi-purpose tractor is a hit

OVER THE LAST five years, Case IH has seen a steady increase in the sale of Maxxum tractors in Africa. The popularity of Case IH Maxxum tractors continues to soar in Africa, as the brand announces that more than 1,000 units have been sold to the continent since 2016.

With models ranging from 112 to 141 horsepower, the Maxxum is a multi-purpose tractor that fits in well with many of the farming operations required in Africa.

Marcin Ruppert, Case IH marketing manager for Africa and Middle East, said the Maxxum's popularity continues to grow year-on-year, especially as a great land preparation tractor, due to its reliability and robustness. "Since 2016 we've sold over 1,000 Maxxum tractors in Africa, and each year the number gets higher," he said. "In 2020, even with the challenges presented by the pandemic, we saw our highest sales of Maxxum tractors on record – and that's testament to the suitability of Maxxum tractors for African conditions."

"The Case IH brand is well-known and trusted, and Maxxum tractors offer the expected level of reliability and productivity built in a simple, affordable package that provides the power, fuel economy and features that African farmers want, without fuss or over-engineered technology," he added.

Designed for maximum operator comfort and productivity, the Maxxum's Surround Vision cab provides panoramic views and ergonomically-placed controls. The large, comfortable and quiet, best-in-class cab offers plenty of leg room, air conditioning, dual wide-opening doors and a host of user-friendly features, including an easy to understand instrument panel on the dash

Users can choose from the standard 12x12 mechanical, 24x24 Hi/Lo Power Shuttle or 16x16 Semi Power Shift transmission options on Maxxum Value models.



Maxxum tractors have several transmission options available to meet specific demands, such as field working gears, transport fuel economy and others.

displaying critical information at a glance and an optional seat-mounted, factory-installed joystick for ergonomic loader operations.

A foldable ROPS option is also available on Maxxum 110 and 125 models, for working in cramped spaces or under lower ceilings, or for better-suited operators who are more frequently getting in and out of their tractor.

Regardless of the configuration chosen, the controls are logically arranged and easily accessible to make sure operators can become familiar with the control layout.

Maxxum tractors have several transmission options available to meet the specific demands of any operation, whether that is simplicity, maximum field working gears, transport fuel economy or versatility.

Users can choose from the standard 12x12 mechanical, 24x24 Hi/Lo Power Shuttle or 16x16 Semi Power Shift transmission options on Maxxum Value models. On the Maxxum 140 Limited models the 16x16 is standard and 17x16 Semi-Power Shift Econo transmission with Autoshift is an option. On all other Limited Cab models the 24x24 Hi/Lo transmission is standard.

Maxxum tractors feature a 540/1000 speed PTO driven directly from the engine flywheel for maximum efficiency. A soft-start PTO feature with automatic feathering for smooth engagement is standard on all

models. Fast raise/lower hitch switches located on both rear fenders are also standard on Maxxum Limited models.

The optional Auto PTO Management System turns the PTO on or off, based on a chosen position of the three-point hitch, giving operators one less thing to worry about.

Several three-point hitch capacity options allow for handling heavy implements. All Maxxum models feature lower link draft sensing to keep the load stable on the hitch, adjustable turnbuckles, telescoping stabilisers to control sway and flexible link ends for quicker connections and easier implement changes.

"The Maxxum really is a workhorse. Proven in fields across Africa, both in our testing and on customers' farms, people can trust that this tractor will deliver what it promises," Ruppert said.

"Plus it's backed by the Case IH dealer network. All our dealers understand the needs of farmers in their areas, plus they've got the knowledge and training, as well as access to the genuine spare parts needed to keep these tractors working when they're needed most."

"We're in constant contact with our global engineering teams and are proud of our ability to make product improvements that enhance our customers' productivity," he added. **E**

Image Credit: CNH Industrial Österreich GmbH

JOSKIN's online configurator makes the selection of livestock trailers and meadow aerators easy.

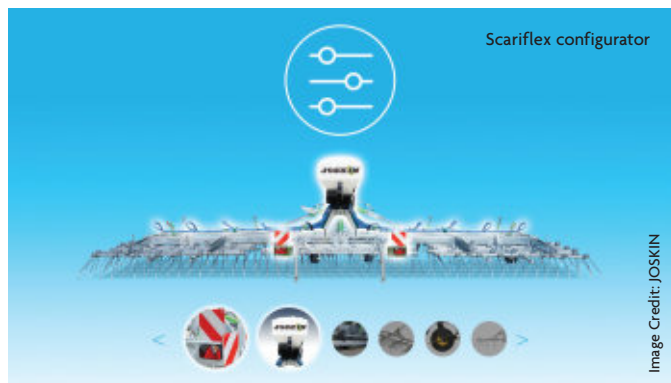
Finding the best configuration



DRIVEN BY A desire to meet the various needs of its customers, JOSKIN is continuing its digital development. After a completely updated and more intuitive website, the digitalisation of its showroom and the virtual tour of its various production sites, JOSKIN is sustaining its momentum and now offers an online configurator for the livestock trailers and meadow aerators.

For a short time now, each farmer has been able to configure the livestock trailer or meadow aerator of their choice thanks to a brand new configurator, available online at the following address: <https://my.joskin.com/sites/configurator>.

In just a few clicks, this new JOSKIN tool allows anyone to customise their own machine. A wide range of options and descriptions are available to find the configuration that best suits each specific need. Once the process is finalised, a gross price is automatically generated. The user can then download the complete documentation for their configuration and contact the JOSKIN dealer of their choice to get more information about the product and the price to be paid.



This online configurator is the first of a long series that will be based on a selection from the JOSKIN price list in order to centralise the interests and pieces of equipment of different ranges. Just like the livestock trailers and aerators in this first version, it will be possible to configure all the machines in the JOSKIN range in a simple, efficient and transparent way. **E**

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Distribution Partner for Africa wanted!

Versatile combo baler offers unparalleled flexibility at harvest, allowing growers to maximise the nutritive value of forage.

Massey Ferguson RB 4160P Protec baler redefines forage production

AGCO CORPORATION, A global leader in the design, manufacture and distribution of agricultural machinery and precision ag technology, has introduced the Massey Ferguson RB 4160P Protec combo baler. Producers can now focus on harvesting forage at optimum condition, preserving it at peak nutritive value for livestock.

With the Protec, AGCO continues its legacy of offering innovative hay and forage solutions. The unit combines all the features found on the RB Series silage balers with an integrated bale-wrapping unit, allowing producers to harvest and ensile high-moisture forages in one simple process.

"In climates with high humidity and lots of rain, putting up hay traditionally can be a challenge, so many forage growers are turning to baled silage," said Dane Mosel, marketing product specialist for hay and forage at AGCO. "Not only do they avoid the drydown issues, they can harvest their forage at the ideal growth stage for maximum nutritional value."

Whether harvesting forage for a dairy or beef operation, the versatile RB 4160 Protec can handle any crop a grower wishes to bale. In addition to plastic-wrapped baleage, the machine can be used to mesh wrap forage before bagging as silage, as well as to bale dry hay, straw and even course material, such as corn stover.

Ensuring feed quality and transport advantages

Capturing and preserving a forage's nutritional value is one benefit of silage. Mosel says that by wrapping a silage bale as soon as it leaves the bale chamber, more protein and nutrients are retained for animals to consume.

"It takes less than a minute from the time forage enters the Protec's pickup to the time the wrapped bale is released," he said. "That preserves the nutritional quality the grower worked so hard to achieve in that crop."

In 2020, AGCO hay and forage specialist Jessica Williamson conducted a field trial comparing forage quality from silage bales that were wrapped at varying



Image Credit: AGCO Corporation

With the new Massey Ferguson RB 4160P Protec combo baler from AGCO, producers can focus on harvesting forage at optimum condition.

intervals after baling. She found that delaying the wrapping process by as little as 24 hours led to a nearly 4% decrease in the availability of digestible proteins, as well as reductions in total digestible nutrients and volatile fatty acid score, an indicator of the success of the ensiling process.

Mosel noted that inline tube wrapping delays the ensiling process, because the bales must first be moved to the field edge or a central location. Air can be trapped in the space between tube-wrapped bales, reducing effective fermentation. Quality also may be lost when the tube is opened and oxygen is reintroduced to the bales inside.

"Once that seal is broken, the forage inside is susceptible to spoilage, especially when the weather gets warm," he added. "That's not a concern when bales are wrapped individually. They also can be transported, stored or sold with relative ease."

In climates with high humidity and lots of rain, putting up hay traditionally can be a challenge.

Reliability

Built with durability and long life in mind, the Protec baler has a robust chassis and rides on high-flotation tyres selected to handle the machine's 14,000-pound weight.

"We have standard RBs in the field with 50,000 to 60,000 bale counts and still going strong, so these balers are built to handle whatever you can throw at them," Mosel said.

With a tine-to-tine width of 73 inches, the cam-less pickup ensures that even heavy, wet forages feed smoothly into the bale chamber. Since there is no cam track, there are fewer moving parts, making the baler quieter and more reliable with less maintenance and fewer adjustments.

The Protec baler features two banks of Xtracut hydraulically operated knives. Once the crop is inside the bale chamber, the Constant Pressure System (CPS) ensures density stays consistent through the entire baling process.

"The denser the bale, the less oxygen when it's wrapped, which improves the ensiling process," Mosel said, adding that the Protec's variable chamber forms bales that are 4 feet wide and 35.5 to 63 inches in diameter. **E**

RIELA's new facility in Nasarawa has been launched in collaboration with RIELA Africa GmbH, and offers innovative cleaning, drying and storage solutions.

RIELA's new facility to safeguard against post-harvest loss

RIELA TECHNOLOGY NIGERIA Limited's new facility in Nasarawa State, opened in collaboration with RIELA Africa GmbH, will offer respite to all the farmers who seek long-term solutions to deal with post-harvest loss of grains.

RIELA Technologies comes equipped with a range of maize shellers, cleaners, dryers, storage silos and processing solutions for grains, targeted to substantially cut post-harvest losses.

From the wind sifter, drum screen grain cleaners to bigger industrial cleaning mechanisms, Riela makes available various cleaning equipment and solutions, which ensure grains get properly cleaned, are free from dust, spinning cobs and other impurities.

The post-harvest processing of grains is not complete without the removal of excess moisture. The bouquet of dryers produced by the company are especially customised for the African climate. The GTR mobile drying

The GTR mobile drying solutions can be deployed from farm to farm quite easily by trucking them to the tractors. It can reduce moisture content as high as 40%

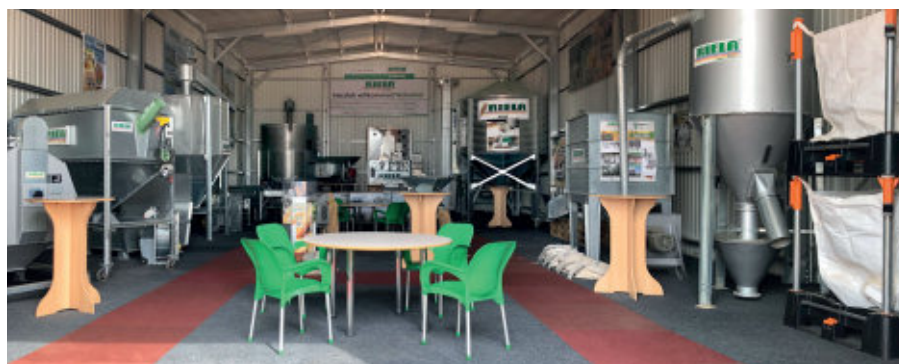


Image Credit: RIELA

RIELA Technology Nigeria Limited has also opened a full-scale tutoring, training, and demonstration centre for farmers, trainees, customers and government officials.

solutions are affordable, and can be deployed from farm to farm quite easily by trucking them to the tractors. The fixed dryers come in different shapes and sizes depending on the customers' needs. Moisture content can be reduced from 40% to the preferred end, making them suitable for storage.

RIELA produces European-grade galvanised steel silo storage systems, with storage capacity ranging from 1 tonne to 40,000 tonnes in one bin. Customers can also ask for any desired size within this range.


Smaller RIELA Mahlfix Hammer Mills as well as the bigger feed mills are all available for sale at the Kaduna-Gitata Road facility in Keffi, Nigeria.

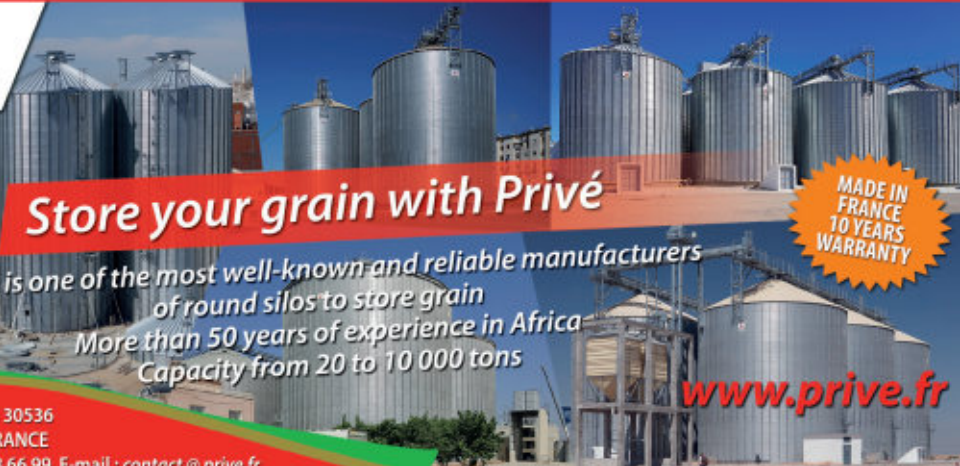
RIELA Technology Nigeria Limited has also opened a full-scale tutoring, training,

and demonstration centre to cater to the needs of farmers, trainees, customers and government officials. The facility is one of the few that demonstrates shelling, cleaning, drying, processing, and storage equipment to interested parties. Technicom has a complete silo plant comprising four silos, each with a capacity of 500 tonnes and a feed mill for animal feed production.

RIELA Technology Nigeria Limited will have a fully equipped service workshop at the facility.

The CEO of RIELA Africa GmbH Karl-Heinz Knoop, stated that the adoption of RIELA's post-harvest technologies in Nigeria will lead to a surge in productivity and mark the beginning of a new era of sustainable grain production. **E**


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Climate FieldView helps collect accurate and reliable agronomic data from precision equipment for future use.

The Climate Corporation launches Climate FieldView in South Africa

THE CLIMATE CORPORATION, Bayer's digital farming arm, has announced the commercial launch of its digital farming platform, Climate FieldView in South Africa.

Adopted by farmers in more than 20 countries, and used on more than 60mn subscribed hectares globally (150mn acres), this new addition marks a major milestone for the company, as its first expansion onto the African continent.

As the world continues to grow hotter, and the demand for food rises, farmers are looking for newer solutions to help produce the food, feed and fuel that power the planet.

Innovation meets action

With the FieldView platform, The Climate Corporation and Bayer have come up with a pioneering digital solution for the agriculture industry, that helps farmers manage risk and increase their productivity, while simplifying their operations.

Through its suite of easy-to-use data collection and analysis tools, FieldView offers farmers a single platform to unite data from each piece of their precision equipment – including tractors, planters and sprayers; which can be then combined and accessed from anywhere with a smartphone, tablet device or computer.

"Digital technologies are showing major promise in the agriculture industry and have the power to unlock many valuable insights on the farm, but the use of technology can sometimes be intimidating," said John Raines, chief commercial officer at The Climate Corporation. "With FieldView, we work to ensure our product is both easy to access and easy to use, so farmers can take control of their own data and utilise these insights to make more informed decisions," he added.

South African farmers can now connect field data through the Climate FieldView Drive device, a piece of hardware that can be inserted into a diagnostic port, in the cab of their precision equipment; which uses bluetooth technology to stream agronomic data from the equipment and syncs it with the FieldView account. Farmers can also upload data generated by their equipment directly into their FieldView



Image Credit: Bayer

All FieldView users have full control over their farm data. They can also choose to share their agronomic information with a trusted agronomic partner for business purposes.

account, through the Data Inbox tool, without using the FieldView Drive.

Data privacy

All FieldView users have full control of their farm data and they can also choose to share their agronomic information with a trusted agronomic partner, if it helps them make data-driven business decisions.

Last year, South African farmers tested FieldView on more than 500,000 hectares (1.2mn acres) and were able to experience the value the platform has to offer, prior to its commercial launch.

Data management

The Climate Corporation's flagship product, the FieldView platform can now be connected with the CLAAS TELEMATICS portal via the CLAAS API (application programming interface) for seamless transfer of harvest information and insights.

Having access to accurate and reliable data from previous years' yields, and the site-specific yield differences, contributes to successful fertiliser, crop protection, and planting and sowing strategies.

Overview of API in action

The Automatic Documentation add-on option in CLAAS TELEMATICS facilitates driver-independent, field-specific and site-specific documentation – making it possible to obtain a complete overview of each field worked upon, taking account of all recorded

parameters. In addition to machine data and consumption figures, yield data and measurements from NIR sensors can also be documented with this enhancement.

When a farmer connects his CLAAS TELEMATICS account to his FieldView account, via the CLAAS API, the documented harvest values from the TELEMATICS system are retrieved and sent to the FieldView user's inbox, as posting proposals. From there, the customer can select the files they would like to sync with their FieldView account, and further process the complete field-related documentation in FieldView.

With this connectivity, yield values and yield maps from a CLAAS combine harvester can be used in FieldView to generate site-specific planting prescriptions or fertiliser maps for the coming season – saving farmers a lot of time.

Each individual customer connects their two accounts. Agronomic information is exchanged only between the accounts of FieldView and CLAAS TELEMATICS customers, who chose to enable the offering. Farmers or contractors can independently revoke the connection in the CLAAS TELEMATICS or FieldView portal at any time and disable the data exchange.

Bayer has committed to help 100mn small-scale farmers by 2030, through relevant technologies and initiatives, such as the Water Efficient Maize for Africa (WEMA) TELA Maize Project, Farm to Market Alliance, and the Better Life Farming Alliance. **E**

Hydrofarm's new products for indoor farming

HYDROPONICS EQUIPMENT MANUFACTURER Hydrofarm Holdings Group has announced the release of new products from GroStar, Autopilot, Plant Success King Crab, Rock Rootinator, and Roots Organics, which further expand Hydrofarm's portfolio of innovative and proprietary branded products, in the lighting, climate control, nutrients and growing media categories.

Autopilot 4-Light and 8-Light High Power HID Controllers can control multiple 1000W human interface device (HID) lights from one time-clock or controller device.

GroStar pH EC Pens are accurate, durable. The new features include a large, three-colour LCD screen, quick calibration, long-lasting replaceable probes with one-year warranty and durable pen bodies with a full two-year warranty.

Plant Success King Crab increases yields, maximises phosphorous uptake, and adds life to the root zone. The active microbes enhance root zone performance during the vegetative stage, and increase yields in the flowering stage.

Rock Rootinator helps bring sick plants back to health with its updated version of the classic root boosting SuperCharge Root Tonic. The new, concentrated formulation complements the current feed, guards against negative environmental impacts, and helps in the assimilation of nutrients for maximum effect.

Roots Organics Terp Tea Bloom Booster is a strategic fertility input for gardens that acts as a supplement for flowering plants in the later stages of development, enhancing blossom vigour. The product helps bring the ratio of potassium and other primary macronutrients into the targeted range, and provides soluble potash supplementation that boosts harvest quantity and yields.

Valmont to acquire agricultural artificial intelligence and machine learning specialist

VALMONT INDUSTRIES, A provider of engineered products and services for infrastructure and irrigation equipment and services for agriculture, has entered into an agreement to acquire Prospera Technologies, a privately-held Israeli-based AI company. The transaction, valued at approximately US\$300mn, is expected to close in the second quarter of 2021.

Since 2019, Valmont and Prospera have successfully integrated AI technologies with centre pivot irrigation to develop real-time crop analysis and anomaly detection solutions, resulting in strong adoption and greater returns for the grower.

The partnership has expanded its intelligent solutions, monitoring five million acres in 2020 against an original estimate of one million, with twice as many growers using the service as compared to 2019. More growers are expected to adopt the new technology, which is estimated to double in 2021, with greater acceleration in the near term.

"Today's acquisition is a testament to our commitment to make the farm more efficient and increase productivity while dramatically improving sustainability. Building on the successful partnership with Prospera, we are accelerating our commitment to provide services that enhance the lives of our customers and the communities in which they operate, as well as finding new ways to achieve higher crop yields using less – land, water, chemicals, fertilisers, fuel and time," said Valmont president and CEO Stephen G Kaniewski.

Kaniewski continued, "Over the past two years we have delivered a widely-adopted, differentiated grower offering and significantly accelerated the deployment of AI technologies on irrigated acres, positioning us well for strong, highly-accretive growth of technology sales over the next several years."

Finn, Dorian Drake to export farming equipment



The export region includes Bahrain, Egypt, India, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Philippines, Qatar, and Saudi Arabia

FINN CORPORATION AND Dorian Drake have announced an export agreement for hydroseeders, material and straw blowers for select territories within the Middle East and Asia.

Dorian Drake will manage all aspects of product bids, sales, logistics, and customer service in their coverage region, which includes Bahrain, Egypt, India, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Philippines, Qatar, and Saudi Arabia.

"We are looking forward to growing our international business through this partnership with Dorian Drake," said Todd Thornicroft, director of sales and marketing at Finn Corporation. "They bring the knowledge and expertise in conducting business in key international markets that will assist us in achieving our strategic growth goals."

Chris Canellas, Dorian Drake's Hardware, Lawn & Garden group manager, said, "We are excited about expanding our product range to include Finn's hydroseeders and the rest of their product line. They are the industry leader in erosion control equipment and we're eager to introduce their product lines to our customers."

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QSIT implements AI solution for Egyptian agriculture

ESRI, A SPECIALIST in location intelligence, has announced that Egyptian partner Quality Standards for Information Technology (QSIT) has implemented the crop mapping and field boundary detection solution for the Agricultural Research Centre (ARC) in Egypt.

To meet challenges such as crop disease, weed management, pest control, and irrigation, Agricultural Engineering Research Institute (AEnRI) sought to increase agricultural output in different regions all over Egypt.

QSIT implemented an AI and remote-sensing spatial analysis solution to establish a dynamic, seasonal digital inventory of crop patterns. It integrates satellite imagery, field observations, data feeds and geospatial AI (GeoAI) capabilities to support AEnRI in maximising crop yields from limited resources. QSIT has built AI models to detect agricultural field boundaries and classify patterns at the field level. The detection of already planted crops enables more accurate yield estimation as well as better monitoring of crop production and distribution.

Fadl Abdelhamid Hashem, executive director of Climate Change Information

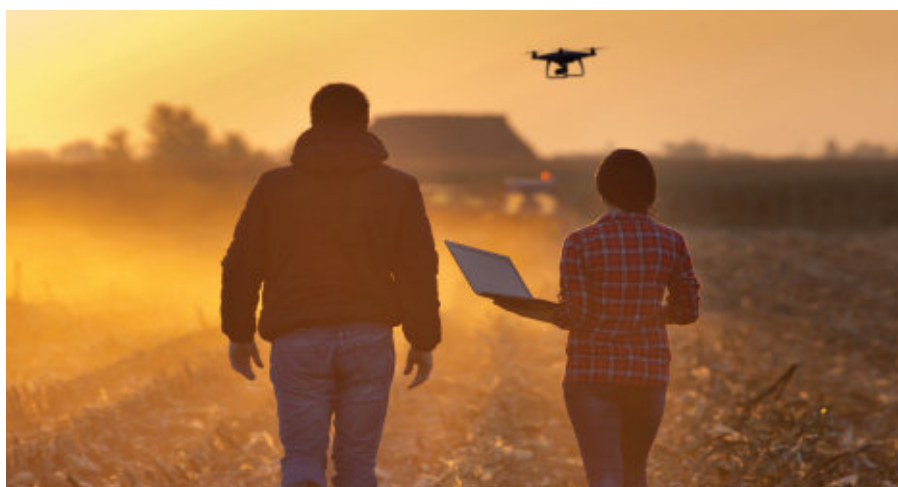


Image Credit: Adobe Stock

Esri partners QSIT implements crop mapping and field boundary detection solution for the ARC in Egypt.

Centre, Agriculture Research Centre, Ministry of Agriculture and Land Reclamation, Egypt, said, "AI is being utilised for the first time in the agriculture sector in Egypt and implemented to manage farms in a strategic way. The project is just the first step, opening doors towards a series of other AI implementations aiming to support the farming industry in Egypt."

Sherif Awad, CEO of QSIT, said, "The project extends to include the implementation of multiple practices in the field of precision agriculture, with a view to achieving optimised water consumption and enhanced crop yield and distribution. The bigger picture is to take this implementation from Egypt as a pilot country to the rest of Africa, supporting sustainable development goals in the continent."

Amethis acquires Moroccan micro-irrigation specialist Magriser Group

AMETHIS HAS ACQUIRED a majority stake in Magriser Group, one of the pioneers in the distribution and installation of turnkey micro-irrigation and solar pumping systems.

Magriser was one of the forerunners of the micro irrigation technique in Morocco.

The group offers a full line of micro-irrigation equipment ranging from basins coverings, PVC and micro-irrigation pipes to filtration and fertigation systems.

With its core business of distributing micro-irrigation equipment, Magriser also diversified its product portfolio by offering solar pumping systems and completed its solutions offering by proposing consulting and installation of turnkey micro-irrigation systems.

Magriser helps farmers every day to reduce water input while improving agricultural productivity. Magriser's irrigation systems save 100 million cu/m of

water each year, the equivalent of the annual consumption of four million people in Morocco.

With Amethis support, Magriser is engaging in a new development phase. The Group plans on launching its own production unit for micro-irrigation pipes by the end of 2021 and has ambitions to expand its activities to sub-Saharan Africa.

Simohamed Azzouz, CEO of Magriser, said, "One of the major challenges facing Morocco is water scarcity coupled with strong demographic growth. For more than 30 years, Magriser has been providing micro-irrigation solutions that enhance agricultural productivity while reducing water consumption. With the assistance of our resellers, we have participated in making this technological solution more democratic in Morocco. Our partnership with Amethis will help us to accelerate the deployment of irrigation systems in Morocco and in Africa."

Wilfried Poyet, investment director of Amethis who led the transaction, said, "We are very proud to partner with a young entrepreneur who has proven his ability to achieve strong performances for several years in a strategic area for the kingdom."



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Amethis acquires a majority stake in Magriser Group.

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African countries commit to double agricultural activity

A COALITION OF multilateral development banks and partners has pledged more than US\$17bn in financing to address rising hunger on the African continent and to improve food security.

These funds were pledged on the final day of a two-day high-level dialogue called "Feeding Africa: Leadership to Scale Up Successful Innovations". Seventeen African heads of state have signed the commitment to boost agricultural production and double the current productivity levels, through the scaling up of agrotechnologies. This will include investing in access to markets and promoting agricultural research and development.

More than US\$10bn came from the African Development Bank, which said it would invest US\$1.57bn on scaling up 10 selected priority commodities over the next five years, helping countries achieve self-sufficiency. Another US\$8.83bn will go towards building strong value chains for these commodities over the next five years. This will include programmes to create opportunities for young people, particularly women.

The International Fund for Agricultural Development (IFAD) said it aimed to provide an additional US\$1.5bn to support national efforts to transform food and agricultural systems in Africa over the next

three years. IFAD will also invest more in creating the pre-conditions for increased agricultural productivity. The organisation is helping to develop a growing pipeline of investments to restore land, create jobs and build resilience to climate change in the Sahel region. This will contribute to the green great wall objectives, and will create 10 million jobs in the region by 2030.

Gilbert F. Houngbo, president of IFAD, said, "We praise the African leaders commitment to increase agricultural productivity and improve food security for millions of Africans. By modernising African agriculture, small-holder farmers will be in a better position to bring more affordable food to consumers and create decent livelihoods for millions of young Africans involved in the processing, storage and marketing of food."

The Arab Bank for Economic Development in Africa (BADEA), committed up to US\$1.5bn in agriculture, over the period 2020-2024. The Islamic Development Bank Group said it would earmark US\$3.5bn to boost the agriculture sector in Africa in the next three years, and develop commodity value chains for both staple food and cash crops.



Development banks and other bodies have committed more than US\$17bn to boost food security.

Caprari inaugurates PumpPro Academy and interactive platform to train staff

IN AN EFFORT to increase and standardise the knowledge of its product and serviceability, Caprari has started up "PumpPro Academy", an innovative training programme developed for internal staff and the distribution and service network.

Caprari PumpPro Academy represents a digital leap in professional training in the world of solutions for optimal water cycle management, with the help of a new interactive platform, designed for simple and intuitive use. The new academy gives users the opportunity to access online courses dedicated to Caprari products, enabling them to achieve standardised and uniform training levels, with the possibility of designing tailor-made paths. Navigation of the platform is permitted to a selected number of users, and is supported by international software allowing access to a dedicated portal.

The new project, entirely designed in-house at Caprari and in continuous development, is based on multimedia learning modules, covering theory and practice. To complete the modules, users must pass intermediate checks and final tests, necessary for monitoring, evaluating and guaranteeing the user's level of learning.

Armando Bigliocchi, corporate customer services manager, said, "We are confident that we have met a strongly felt need within our distribution and service network. Through this new multilingual platform, we'll be able to standardise and monitor the training paths of our users, whose success in passing the courses will be attested by a "Caprari PumpPro Academy" certificate which has international recognition.

PumpPro Academy is an innovative project inserted into a broader programme of technological transformation – Caprari 5.0 – started in 2019 with the goal of optimising and increasing the



The online professional training programme is made constantly available to water professionals.

efficiency of all processes of the group with a view compatible with a customer centric strategy.

For more details on PumpPro Academy: www.caprari.com

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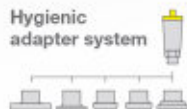
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Dangote Sugar invests US\$700mn into infrastructure

WITH NATIONAL ANNUAL sugar imports of more than US\$337mn, the management of Dangote Sugar Refinery has declared its irrevocable commitment to the Backward Integration Policy (BIP) of the Federal government to reverse the trend and make Nigeria self-sufficient in sugar production.

The company, which is committing more than US\$700mn to its sugar projects, told visiting members, at the Nasarawa House of Assembly that the company's investments in sugar will revolutionalise the economy of the state and lift its people, as other people-oriented infrastructures would come with the sugar projects.

The state lawmakers who were excited about the sugar projects commended the Dangote Group for choice of the state for the project and the accelerated pace with which the project was being executed, despite occasional delays arising from communal disagreements.

Nigeria is one of sub-Saharan Africa's largest importers of sugar, second only to South Africa, but the Dangote Sugar management assured the lawmakers that by the time the company fully completes its sugar projects in Nasarawa and Adamawa under the BIP, the nation would save more than half of the forex expended on sugar imports annually.

John Beverley, general manager for the Backward Integration Project, Dangote Sugar, said when the factory is fully operational, it would have the capacity to crush 12,000 tonnes of cane per day (tcd), while 90MW power will be generated for both the company's use and host communities.

He also disclosed that some 500km of roads in all will be constructed to ease transportation within the vicinity, even as he solicited the support of the lawmakers in controlling the menace of land encroachment by settlers and itinerant farmers.

UPL signs agreement with Soil Health Institute

UPL LTD HAS announced a two-year agreement with the Soil Health Institute (SHI), a non-profit organisation whose mission is to safeguard and enhance the vitality and productivity of soil through scientific research and advancement.

With this collaboration, SHI will evaluate the soil health at selected UPL research and development field stations around the world (including UPL's OpenAg farm in Brazil), provide soil health training for UPL field agronomists, and help establish R&D protocols for evaluating the impacts of management practices on soil health.

Soil is the basis of the world's agro ecosystems that provide food, feed, fibre and fuel. By 2050, the world will be challenged to feed nine billion people while also managing limited natural resources and the impact of climate change. UPL, with its mission to make every food product more sustainable, collaborates with partners, farmers, and key stakeholders to meet the future demand of agriculture, and improving soil health will be essential.

Adrian Percy, chief technology officer, UPL, said, "Our collaboration with SHI is a step towards understanding our soil in a much deeper way to provide the right solutions for farmers to enhance soil health, a key element for sustainable agriculture. It exemplifies our belief in activating connections across the world's agriculture system and powering new levels of sustainable growth, in line with our OpenAg purpose, an agriculture network that feeds sustainable growth for all. No limits, no borders."

Dr Wayne Honeycutt, CEO of the Soil Health Institute, explained, "Our research and training programmes are focused to provide useful outcomes for farmers. So far, most of our work has been in North America. This collaboration with UPL will allow us to further explore and translate soil health science into actionable management practices in other regions of the world, too."

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