

African Farming

and Food Processing

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Improving

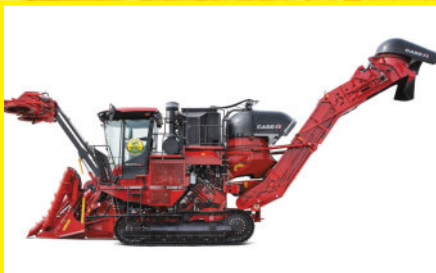
Poultry welfare

Coffee

In East Africa

Irrigation

Progress



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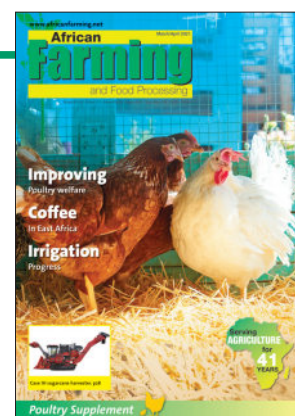
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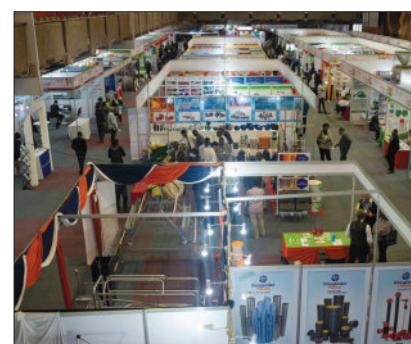
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African Farming

and Food Processing

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Farming Calendar 2021

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07-09 FOODAGRO Africa DAR ES SALAAM
www.expogr.com/tanzania/food_expo/

15-17 Agritech Expo Zambia CHISAMBA
www.agritech-expo.com

MAY

27-29 IDMA AND VICTAM EMEA ISTANBUL
<https://idmavictam.com/>

JUNE

07-09 Eurotier Middle east ABU DHABI
www.eurotiermiddleeast.com

16-18 Agritech Africa NAIROBI
www.agritecafrica.com/

JULY

06-08 agrofood & plastprintpack Nigeria LAGOS
www.agrofood-nigeria.com/

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

AfDB and Central African Republic sign MoU for food security

THE CENTRAL AFRICAN Republic and the African Development Bank (AfDB) have signed two MoUs to fight against food insecurity in two prefectures in the centre-north of the country and finance the modernisation of Bangui airport.

The Central African minister of economy, planning and cooperation, Félix Molou, and the country manager of AfDB, Mamady Souaré, initialed the protocols, which relate, on the one hand, to the project of support for the modernisation of the Bangui-Mpoko international airport, phase II (PAMAB II) and, on the other, to support resilience as well as food and nutritional security in the prefectures of Kemo and Ouaka (PARSANKO).

PAMAB II, funded to the tune of US\$11.44mn aims to consolidate the role of air transport in serving the Central African Republic through secure, safe, efficient airport services and quality, in accordance with international standards. This second phase completes PAMAB I and the Support Project for the National Civil Aviation Authority.

The realisation of PARSANKO aims to support agro-pastoral production and community initiatives. For crop production, priority will be given to the maize, cassava, peanuts and paddy rice sectors. The focus will be on poultry, pork, goats and sheep for animal production.

Developing resilience and sustainable energy in the Sahel region

THE SAHEL ALLIANCE organised its second general assembly in N'Djamena, Chad on 15 February 2021. The meeting took place on the side-lines of a summit for the G5 Sahel countries— Burkina Faso, Mali, Mauritania, Niger, Chad—as well as France. The African Development Bank (AfDB) played an active role in the formation in July 2017 of the Alliance, an international cooperation platform to spur development and stability in the Sahel region.

To foster closer synergy with development partners, the Sahel Alliance has invited the AfDB to lead a working group on agriculture, rural development and food security.

The Bank's extensive experience in the Sahel region in the management and control of water, agri-pastoral and fisheries development, as well as the sustainable management of natural resources, attracted it to the Sahel Alliance.

The Bank's current Sahel portfolio includes three crucial projects aimed at strengthening the resilience of ecosystems and populations and ensuring food security through investment in agriculture and livestock farming as well as sustainable management of natural resources.

The Bank's flagship Desert to Power solar initiative, valued at US\$20bn will turn the Sahel region into the world's largest solar zone giant solar zone with up to 10,000MW of solar generation capacity.



The aim is to ensure food security through investment in agriculture and livestock farming.

Eleven countries are beneficiaries of this initiative including Burkina Faso, Ethiopia, Eritrea, Djibouti, Mali, Mauritania, Niger, Nigeria, Senegal, Sudan and Chad.

P2RS, which is mobilising more than US\$250mn for its first phase and US\$750mn over 20 years, is contributing immensely to breaking the cycles of famine in the region. It also promotes the development of rural infrastructure and creates thousands of jobs for rural youth through

the development of regional value chains and markets.

Another project that demonstrates the Bank's commitment to the region's development is the ongoing implementation of the Programme for the Rehabilitation and Strengthening of the Resilience of Socio-Economic Systems in the Lake Chad Basin (PRESIBALT), which covers Niger, Chad, Cameroon, Central African Republic and Nigeria.

Image Credit: Adobe Stock

IFC loans CEDIAM to support Mali's mango sector

IFC, A MEMBER of the World Bank Group, has announced the recent disbursement of a loan to support expansion at Mali's leading mango processor, Centre d'Étude et de Développement Industriel et Agricole du Mali (CEDIAM), helping the company increase farmers' access to markets and boost production and exports of the flavourful fruit.

IFC's loan will help CEDIAM complete upgrades to its production facility, purchase the equipment it needs to increase the number of mangoes it collects, and add up to 1,000 smallholder mango farmers to its already 2000-strong farmer supply chain. The funding will also support 300 direct and indirect jobs at CEDIAM.

The funds, which will also provide working capital for CEDIAM, are expected to boost the company's exports of mango puree and concentrate in Europe and other markets. IFC will also provide CEDIAM with advisory services to help it strengthen its corporate governance, and financial management, and environmental, and social risk management practices.

Farmers will be supported directly with training to improve their agricultural

methods, not only in mango farming, but also in intercropping other varieties to boost their incomes. The advisory services support is co-funded by the Global Agriculture and Food Security Programme (GAFSP).

"This partnership will help our company become more modern, sustainable, and profitable. It will positively impact local mango production and transformation in Mali and benefit all stakeholders in this value chain. It will also improve our corporate capacity and allow us to meet international market standards," said Diadié Sankaré, CEDIAM's chairman.

"IFC's partnership with CEDIAM will create jobs and strengthen Mali's important agriculture sector, which contributes significantly to the country's employment and GDP. The project also highlights how IFC and the World Bank are working together to support the resilience of job-creating, private sector companies in the Sahel region particularly during severe market challenges brought by COVID-19," said Aliou Maiga, IFC's director for West and Central Africa.

IFC's investment is part of the World Bank-IFC joint implementation plan for agribusi-

ness in Mali, which supports partnerships between smallholder farmers and agribusiness players. The World Bank-funded projects, through the Mali Support to Agro-Industrial Competitiveness Project (PACAM), aim to address infrastructure challenges by rehabilitating rural roads and building collection facilities.

The US\$30mn PACAM programme has already rehabilitated 300km of rural roads in fruit production areas in Mali and conducted campaigns to improve the quality of mangos for export.

"Expanding CEDIAM and increasing the competitiveness of Mali's mangoes internationally will create more opportunities and revenues for Malian farmers, one way that the World Bank Group is working to create markets and strengthen local rural economies in the country," said Soukeyna Kane, World Bank country director for Mali.

IFC's investment benefited from on-the-ground support and flexible funding from IFC's Fragile and Conflict-affected Situations Africa Unit and its Conflict Affected States in Africa initiative, supported by Ireland, the Netherlands and Norway.



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Algenex and Virbac enter licensing agreement for insect-based vaccine

ALGENEX SL AND animal health company Virbac have entered into an international licensing agreement for the development and commercialisation of a CrisBio-based vaccine.

The vaccine will be developed jointly and manufactured using CrisBio, Algenex's proprietary and patent-protected Baculovirus vector-mediated expression platform that harnesses the power of insects to act as natural single-use bioreactors.

CrisBio represents a new paradigm in biologics production, offering a quick, linearly scalable solution to meet the global demand for recombinant protein production without significant capex investment. Algenex anticipates receiving European approval of the first veterinary vaccine produced using CrisBio in 2021.

"This new collaboration with Virbac, one of the global leaders in animal health, is another important milestone for Algenex and a further validation of our unique CrisBio technology and its potential to transform vaccine production in major indications across animal health," said Claudia Jiménez, CEO of Algenex.

"With this partnership, we will benefit from the experience of Algenex, and by providing a simple, scalable and cost-effective alternative to current bioreactor-based expression technologies on the market, we should be able to increase our footprint in the farm animals' vaccine market," said Sébastien Huron, CEO, Virbac group.

Algenex SL is a VC-backed biotechnology company delivering disruptive technologies for recombinant biologics production.

AfDB, FAO and South Sudan's government partner to boost agricultural markets

THE AFRICAN DEVELOPMENT Bank (AfDB) has signed protocols to disburse a US\$14mn grant to the government of South Sudan to boost agricultural markets in a project to be implemented by the UN's Food and Agriculture Organization (FAO).

The Agricultural Markets, Value Addition and Trade Development (AMVAT) project aims to enhance agricultural productivity and boost the marketing and trade of agricultural products in South Sudan. The project will be implemented by the Food and Agriculture Organization of the United Nations (FAO) in close liaison with the Ministry of Agriculture and Food Security.

The five-year project will help increase the productivity and incomes of almost 20,000 farming families in Central and Eastern Equatoria and Jonglei states, most of whom are formerly internally displaced persons who have now returned to their homes.

The project will create



The project will create aggregation business opportunities for farmers and traders.

aggregation business opportunities for farmers and traders, including women and youth, and provide them with new skills and the agro-processing equipment they need to produce competitive products. Twenty aggregation business centres will serve as 'one-stop shops' where farmers can access extension services and connect to markets for their value-added products. Farmer groups joining the aggregation centres will have their products not only tested and quality certified, but also traded with the

private sector on their behalf.

"A diversified economy away from oil and long-term growth depends on promoting agribusiness development," said Athian Ding Athian, South Sudan's Minister of Finance and Planning at the signing ceremony, thanking the African Development Bank for its growing assistance. "With support from our partners, we are building an improved marketing and trade environment for agribusinesses, increasing people's incomes and creating

new jobs, particularly for the youth."

The bank's country manager for South Sudan, Benedict Kanu, noted, "A key factor explaining Africa's and indeed South Sudan's low level of agricultural value addition is the inefficient marketing infrastructure. This prevents farmers and processors from realising the full value of their produce, even in their raw form."

South Sudan has considerable unrealised agricultural potential, but the effects of continued violence combined with unprecedented flooding have seriously damaged food production, resulting in a huge food import bill.

"Thanks to this generous contribution from the African Development Bank, farmers will move faster from subsistence to commercial agriculture by having access to new technologies, markets and linkages with other services and actors," said Meshack Malo, FAO representative in South Sudan.

VTR Bio-Tech plans further expansion and distribution in Africa

VTR BIO-TECH, A bio-technological enterprise offering feed additive bioengineering products and technical services for poultry, swine, ruminant and aquaculture sectors, plans to further develop the African market and look for distributors in African countries.

Found in 1991, VTR has gradually developed into a bio-enzyme preparation giant in the industry in China. Now it has 19 holding and subsidiary companies, one national enterprise technology centre, one work station of postdoctoral scientific researchers, one group research institute, three scientific research centres, five biological R&D engineering centres, 15 production bases.

VTR's core technologies in biotechnology include gene engineering, liquid fermentation, solid fermentation, compound

enzyme collaboration, preparation formulation and application of feed enzyme, and steroid hormone synthetic technique lay solid foundation for its rapid growth and continuous development.

With headquarters in Zhuhai, Guangdong, VTR has set up 25 direct-selling service branches offices, and has established sales network in more than 60 countries and regions in Asia, Europe, America and Africa. It has built up a long-term stable partnership with more than 2,300 quality direct customers from home and abroad. Being customer oriented, VTR will create maximum economic and social benefit for customers and society through investing heavily in innovations, absorbing the latest research achievement and integrating them into their products and services.

AgriTech Expo Zambia from 15-17 April

AGRITECH EXPO ZAMBIA will be back at the GART Research Centre in Chisamba, Zambia for the seventh edition of the show from 15-17 April 2021.

Presented by the Zambia National Farmers Union (ZNFU) and jointly organised with the Zambia subsidiary of the German Agricultural Society (DLG Agriculture), AgriTech Expo Zambia is the leading international agriculture showcase event in sub-Saharan Africa. With more than 200 exhibitors, international pavilions, exciting feature zones, training workshops and live crop trials, the 2021 edition of AgriTech Expo Zambia is set to be action packed for the small and large-scale farmer alike.

The high level panel discussion will take place on Day 1, the commercial farmer preview day. VIPs, government officials, media partners, top suppliers and commercial farmers at the all-new Bayer Networking Zone will continue the discussions on improving the industry.

DLG Agriculture announced that they have launched the AgriTech eLearning Platform, which offers a digital arena for interactions between farmers, equipment manufacturers and suppliers to be carried out with ease. The AgriTech eLearning platform is open and free to access for all.

Seed producers and agrochemical suppliers will have the opportunity to run live planting and application demonstrations, and there will be machinery and equipment demonstrations, as well. The Aquaculture zone at AgriTech 2021, will showcase the latest in fish farming, feeds and methods to ensure thriving business.

The platform allows exhibitors to engage the farmers with their products, services and offerings in advance of the show. The exhibitors can build on the trust they develop using this pre-show interaction with their potential clients when they meet them physically at the trade fair in April 2021. The exhibitors include Agrico, ATS Agrochemicals, NMC, BASF Agricultural Solutions, Lindsay Africa, Syngenta Zambia and many others.

BioAg World Congress 2021: the key global event for biologicals

THE SECOND EDITION of BioAg World Congress 2021 has given a rare opportunity to gain a deeper insight to the industry, with strong agenda, elaborate panels and innovative exhibitors.

The congress, held in a 3D virtual setup, was produced 'by the BioAg industry and for the BioAg industry', allowing face-to-face networking to grow distribution networks and offering the latest technological advances within BioAg.

The BAW 2021 agenda comprised six sessions around four main BioAg segments – biopesticides, biostimulants, biofertilisers, and bionutritional. The 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.

Biologicals (Biopesticides, Biostimulants, Biofertilisers, and ICM/IPM) are crucial tools needed for farmers across the globe. Europe is the largest market, followed by North America. Latin America is the fastest growing and Asia has huge untapped potential. BioAg industry is relatively new but is growing tremendously and offers great sustainable solutions for agricultural issues. As the industry keeps growing, it faces various challenges such as innovative products, quality assurance, supply chain, consumer awareness and others.

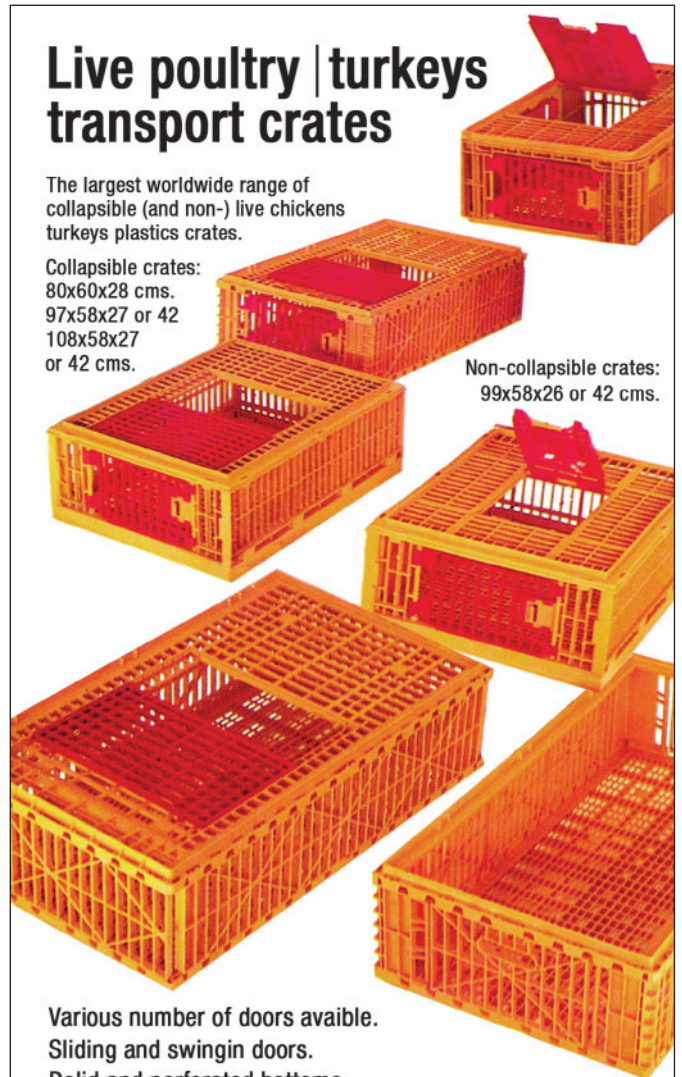
The BioAgro Achiever and BioAgro Disruptor Award of the BioAg World Congress, recognised the efforts and provided inspiration to the human resources in the industry. The exhibition offered the opportunity to network virtually, and interact personally.

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Data management solutions play a crucial role in the success of a poultry farm. *Ahmed Khater*, technical service manager, Evonik, explains.

How to boost poultry profits and productivity with data

SUCCESSFUL POULTRY FARM management depends on farm managers and staff making the right decisions at the right time, and data plays a major role in facilitating this.

Properly organising, centralising, analysing and sharing the growing amounts of data available from a modern poultry farm, however, is not easy, yet there are clear benefits to using data to achieve precision poultry farming.

Poultry farm data in this context, refers to production data – feed consumption, water consumption, body weight, egg production, egg weight, climate, and medication, for example, and financial data – egg prices, feed prices, chick prices, and hen prices, for example. These data sets are key performance indicators (KPIs).

Optimising data

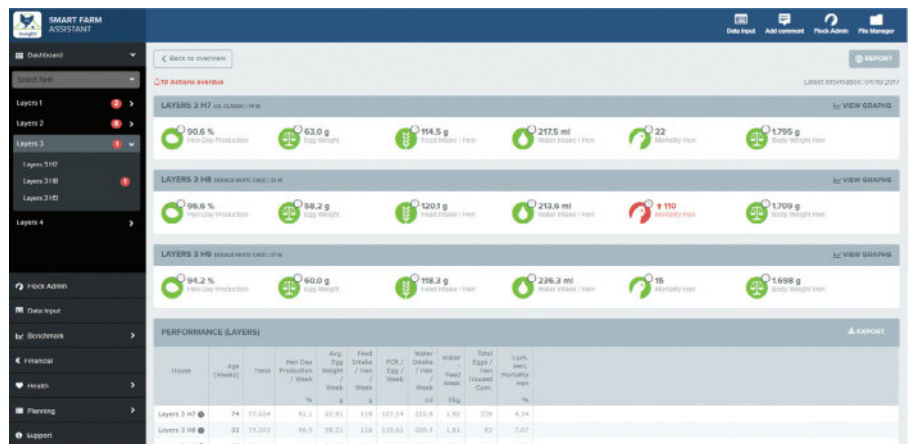
Everything starts with structured – and, most importantly, regular data collection. In practice, most poultry farmers work with paper or Excel, followed by farm management systems or smartphone apps. Digital is the future, but in larger organisations, collecting and centralising data in a structured and scalable way can become a highly complex burden. Fortunately, the internet and the cloud are making this easier.

Mining production data

Good poultry production management is carried out at least daily, and Excel tools become harder to use when you add daily graphs and tables. Farm management programmes are more suitable for interactive graphs for all KPIs, although they too have limitations.

Extracting this information necessitates that farm staff have a certain level of expertise, both in poultry farming and data interpretation. Problem detection, via early warning systems, is increasingly included in farm management systems, based on fixed deviations from general standards.

The next step in data analysis is prediction. This not only helps with adjusting feeding strategies to achieve performance



Using data to achieve precision poultry farming helps in right decision making.

goals, it also supports production planning and cash flow management.

Information sharing

Once analysis has provided the required information, it needs to be shared with the relevant people in and around the poultry business. Sharing should be simple and easy, so that each person has the relevant information at his or her fingertips. Only in this way can everyone play his or her full role. For data sharing, cloud-based solutions are the way forward.

Improved poultry business

The farm manager takes the lead, empowering and motivating staff. Then, trusted experts need to be selected: a nutritionist – independent or from a feed

company – for optimising feeding strategies, a veterinarian for health and hygiene, a farm business or financial consultant for business and/or financial strategies.

With all this expertise focused on the broiler or egg business, insight increases and decision making is improved. Improvement does not only occur in decisions relating to the farm's daily operational management, but also in strategic decision making, such as for feed and genetic choices.

Cloud-based solutions service – farm intelligence solutions

Adopting new technologies to improve bird performance, connecting farms via the internet, applying powerful data-analytics tools to turn data into valuable information and sharing it on mobile devices, can raise output and improve the bottom line.

Data management considerations for poultry farms:

- Choose the data collection strategy that fits the farm and matches goals.
- Let graphical and advanced analysis tools support data interpretation.
- Share information with all relevant persons in and around the business.
- Create a unique living expert system.

Evonik Porphyrio offers an intelligent data management solution to optimise production, as well as profits with small algorithms that do the thinking for the business.

Kemin launched KemTRACE Chromium-OR for organic livestock and broiler

KEMIN INDUSTRIES, A specialist ingredient manufacturer, has launched KemTRACE Chromium-OR – an organic-compliant chromium propionate feed ingredient for use in swine, cattle, and broiler diets.

KemTRACE Chromium-OR is a highly bioavailable, organic-compliant source of chromium propionate that helps improve glucose utilisation and reduce the negative impacts of stress for increased cellular energy and function. This results in improved maintenance, reproduction, growth and immunity for swine, cattle and broilers.

The Organic Materials Review Institute (OMRI) is an international non-profit organisation that provides an independent review of product inputs – including livestock feed ingredients – intended for use in organic production and processing.

KemTRACE Chromium-OR has been reviewed by OMRI against the USDA NOP standards. After evaluation, OMRI determined that KemTRACE Chromium-OR is permitted for use as a mineral livestock feed ingredient in organic production and processing and is now considered OMRI Listed.

“We are thrilled to add KemTRACE Chromium-OR to our trace mineral



OMRI determined that KemTRACE Chromium-OR is permitted for use as a mineral livestock feed ingredient in organic production.

portfolio,” said Kristi Krafka, vice-president of Regulatory Affairs and Quality Assurance, Kemin Animal Nutrition and Health – North America. “Livestock and broiler production is continually evolving, and at Kemin, we aim to advance our product offerings alongside it. KemTRACE Chromium-OR is backed by all

the research, safety and efficacy we have built up for decades with our flagship chromium propionate product, KemTRACE Chromium. This organic-compliant formulation puts a new tool in the toolbox for organic producers looking to improve the health and performance of their animals.”

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Merck Animal Health completes acquisition of Poultry Sense



Image Credit: alia kurianova/Adobe Stock

The Poultry Sense product portfolio joins Merck Animal Health Intelligence.

MERCK ANIMAL HEALTH, a division of Merck & Co, has acquired PrognostiX Poultry Limited d/b/a Poultry Sense from its founding shareholders.

Poultry Sense is an innovator in health and environmental monitoring solutions for the poultry industry. In March 2019, Merck Animal Health invested in Poultry Sense, to support their development.

Poultry Sense, a privately held company located in Exeter, UK, provides enhanced technology for poultry farmers to continuously track and analyse overall health performance for the life of the flock; it provides users with the capability to measure, compare and record key health and environmental indicators captured by battery-powered, wireless sensors in the poultry barn, as well as to identify patterns and trends to predict health and well-being and, ultimately, prevent disease and improve performance.

This innovative technology is an important tool used to assess an animal's health and well-being, which contributes to enhanced productivity and efficacy measures on the farm and, ultimately, to better food safety and security. The sensors allow farmers to monitor and assess vital parameters by measuring weight, water usage, humidity, light, temperature and carbon dioxide. Farmers can therefore gain

insight into the housing environment, as well as bird health and performance.

This proprietary technology can detect health conditions earlier in poultry that can lead to illness, thus reducing the potential for disease outbreak. This notification is done via software reports in an easy-to-read dashboard in real-time on any mobile device, desktop, tablet or secure website, which also connects to the cloud.

Rick DeLuca, president, Merck Animal Health, said, "We now will be able to provide enhanced health and environmental monitoring technology to the poultry industry, which adds to our technological expertise within our livestock monitoring business with beef and dairy cattle as well as aquaculture, strengthening our leadership in shaping the future of animal health.

"Our goal is to improve the detection of animal illness and enable more preventative solutions, including vaccination, to maintain the health of livestock. We are at the technological forefront of shaping the future of animal health through our commitment to leveraging our scientific and technical capabilities and expertise through comprehensive solutions to manage the health, well-being and performance of animals."

The Poultry Sense product portfolio joins Merck Animal Health Intelligence, a newly formed specialised operating unit that takes

its name from the company's strategic vision for animal health intelligence and data expertise. Merck Animal Health Intelligence is a complementary business that specialises in identification, traceability, monitoring solutions and services to help improve animal management and health outcomes.

"The addition of specialised, digital technology within our portfolio of medicines, vaccines and services, provides holistic solutions to help advance animal health and complements our existing identification and monitoring technology that delivers real-time, actionable data and insights to help, improve or enhance animal management and health outcomes," said DeLuca.

In April 2019, Merck Animal Health announced the completion of its acquisition of market-leading brands Allflex Livestock Intelligence, Sure Petcare and Biomark as leaders in emerging digital technology with animal identification, animal monitoring and smart data management for livestock and companion animals. In June 2020, the company acquired Quantified Ag, an innovator in data and analytics that monitors cattle body temperature and movement to detect illness early. In August 2020, the company acquired IdentiGEN, a leader in DNA-based animal traceability solutions for livestock and aquaculture.

Ensuring smooth feed transitions

AVIAGEN GROUP PROVIDES some points for consideration in correctly managing feed transitions.

Broilers experience a number of changes in feed ration throughout their life. These changes in both feed specification (starter, grower, finisher) and feed texture (mash, crumb, pellet) ensure that the birds receive the correct nutrition for their development and growth.

Correctly managing feed transitions are vital to final flock performance:

- Helps maintain and may improve flock uniformity
- Reduces impacts to carcass quality
- Maintains water intake
- Reduces feed flicking
- Maintains gut health
- Ensures continued feed nutrient intake

To avoid reductions in growth and negative impacts on flock uniformity manage the transition to a new feed carefully.

- Smooth feed transitions are vital to final flock performance
- Transition to a new feed must be made gradually.
- Add a new feed on top of the current feed so that the two can mix together.



A change from Starter to Grower involves a change in specification and, usually, feed form. Providing the first delivery of the grower feed as a crumb or mini pellet will help prevent reductions in feed intake.

- Monitor bird behaviour closely around all feed deliveries but especially before, during and after a feed transition to

ensure there are no changes in feeding and drinking behaviour.

- If changes in feeding behaviour and flock performance are seen, investigate feed form and nutrient density.

Aviagen broiler breeders supply day-old grandparent and parent stock chicks to more than 100 countries worldwide.

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Trends in poultry management are focusing on sustainable production. Fyna Ashwath finds out more on developments that are contributing towards poultry welfare and increasing efficiency.

Ensuring poultry progress



Image Credit: Adobe Stock

Solutions in feeding, housing, ventilation and manure treatment help minimise ammonia in housing.

Poultry trends

EuroTier Digital held in February 2021, asked Prof Matthias Schick, DLG innovation committee, to present trends in the sector. The Fair, organised by the DLG (German Agricultural Society), discovers innovations in modern animal husbandry.

"The trends in poultry farming are moving towards increased efficiency and sustainability and towards securing production. The focus is on process engineering measures through optimised lighting, improved automated feeding systems and systems for reducing emissions.

A socially relevant trend in the poultry sector is the automated in-ovo sex determination of hen eggs using hormone analysis. There are now fully automated systems on the market with acceptable

performance and non-invasive removal of allantoic fluid," commented Prof Matthias.

During the event, livestock experts had showcased solutions and innovations in feeding, housing, ventilation and manure treatment that not only help to minimise ammonia in the housing, but prevent it from occurring in the first place.

Market growth

The global poultry market is expected to grow from US\$310.7bn in 2020 to US\$322.55bn in 2021 at a compound annual growth rate (CAGR) of 3.8%, according to a report by ResearchAndMarkets.

The growth is mainly due to the companies rearranging their operations and recovering from the COVID-19 impact, which had

earlier led to restrictive containment measures involving social distancing, remote working, and the closure of commercial activities that resulted in operational challenges. The market is expected to reach US\$422.97bn in 2025 at a CAGR of 7%.

As with other areas, the poultry sector is continuously witnessing technology improvements and developments. We take a look at some innovations that are changing the landscape.

Evonik's Aminonir

Evonik and its life sciences division, Nutrition & Care, focus on the well-being of both animals and humans. The company's new near-infrared spectroscopy service, AMINONIR Portable, is the first in the world to analyse amino acids, independently of a lab, within minutes. This allows farmers to undertake rapid on-site quality checks and make informed decisions at critical moments in feed production.

Ventilation

Vostermans Ventilation, the Netherlands-based ventilating equipment manufacturer, provide livestock farmers with solutions to for the ideal ventilation for their poultry houses

Good ventilation is indispensable in a poultry house. With the help of mechanical ventilation and air inlets/outlets, it is possible to keep control over temperature, humidity, air speed and CO2 content in the poultry barn, while harmful substances are removed. Too little or too much ventilation results in less efficient growth of poultry, an unnecessarily high energy bill and an unhealthy barn climate for both humans and animals.

Roxell

Roxell, provider of farm equipment for poultry and pigs is collaborating with Serupa in the West African market to provide the complete project, from the building to house systems.

Roxell's overhead systems provide solutions to improve biosecurity. They handle the feed transport at the site and allow deliveries of feed to be made outside the walls of the company.

Roxell's MiniMax feeder pans for broilers are adapted to the preferences and practices of each poultry farm.



The poultry sector is witnessing continuous technology developments and innovations.

"The trends in poultry farming are moving towards increased efficiency and sustainability and towards securing production."

Cobb breeder guide


The new Cobb Broiler Breeder Management Guide includes updated technical expertise in broiler breeder production management.

It emphasises that biosecurity must encompass all operations performed by the breeding stock caretaker. Procedures to prevent the introduction and spread of disease or contamination must be implemented at the hatchery, feed mill, farm operations, general maintenance and by personnel.

Poultry sector outlook for Africa

The poultry sector in Africa is set for growth, despite several challenges.

The Eurotier Digital conference included the presentation of a survey, by Xavier Cadiou, founder and CEO, Agri Reseaux International, a consulting company focused on agriculture and livestock. The survey which was conducted across Africa, with maximum representation of poultry companies, followed by dairy, says that operations have been hugely affected by the pandemic. Almost all companies represented, have been affected by declines in turnover and many companies had reduced operations.

However, it forecasts that more and more funds, public and private equities, will invest in agriculture in Africa. 

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Initiatives to commercialise goat production in Zimbabwe are beginning to bear fruit. *Wallace Mawire* reports.

Building resilient goat market systems

THE VALUE CHAIN Alliance for Livestock Upgrading and Empowerment (VALUE) is a four-year pork and goat meat enterprise commercialisation project. In Zimbabwe, it is managed by global justice federation, ActionAid Zimbabwe and partners including Mercy Corps, COSV, Bradford Farming, Shamiso Farms, Zvikomborero Farms and Michview Enterprises.

Major interventions

“The VALUE project is working in 12 districts of Zimbabwe namely Mbire, Rushinga, Mudzi, Chikomba, Chipinge, Buhera, Beitbridge, Gwanda, Matobo, Nkayi, Lupane and Binga where a number of initiatives are being undertaken,” said Newton Chari, VALUE project co-ordinator from ActionZimbabwe.

The interventions include the setting up of 12 Goat Improvement Centres (GICs) in the 12 districts to provide hands-on training for farmers, goat breeding services with improved breeds, such as Boer Bucks, animal health through the provision of dipping services and drug sales through established drug stores as well as improvement of animal nutrition.

Zvikomborero farms and Michview Enterprises

Chari added that the project is working closely with two private sector players – Zvikomborero Farms, based in Chivhu in Mashonaland province, and Michview Enterprises in Matobo, Matebeleland South province of Zimbabwe.

“The role of these integrators is to work closely with the small- and medium-scale farmers towards the realisation of commercial goat breeding using their expertise,” said Chari.

Zvikomborero Farms is an integrated agribusiness with farming operations located 120km south of Harare in Chikomba district.

Michview Enterprises is a Zimbabwean livestock company, specialising in the supply of goats and sheep for breeding and slaughter. Lindani Ncube from Michview said



The VALUE project is helping farmers upscale their livestock projects.

that his organisation imported exotic goat breeds from Namibia under the initiative.

“We are supplying the local smallholder livestock farmers, with exotic goat breeds which they will cross-breed with the indigenous goat breeds. These cross-breeds will adapt very well with the local environment,” he said.

He said that this will help the farmers to upscale their livestock projects.

Dr Divine Simbi-Ndhulukula from Zvikomborero Farms informed that under the initiative, they had imported some Kalahari Red and Boer goats from Namibia. They are supplying smallholder farmers under the initiative with improved genetic breeds.

“We will supply the established GICs with the cross-breed varieties and we also offer them training on livestock production,” she said.

Study undertaken

Chari revealed that under the initiative, in 2019, a scoping study was undertaken for the government of Zimbabwe.

In Zimbabwe, the goat sector’s contribution to the livestock sector is 19%, according to the National Agriculture Policy of 2018 to 2030.

The study made several recommendations, including the adoption of a farmer

vertically integrated value chain focusing on formation of groups and associations, goat market system development platforms at provincial level, capacity building of goat farmers, input supply focusing on adoption of supplementary feeding systems, processing focusing on linkages between abattoirs and goat aggregation centres at district and provincial level, wholesaling, retailing and consumption, goat value chain governance, and others.

Benefits

“Farmers are accessing fodder crops for supplementing goats’ nutrition from the fodder gardens established at the centres,” Chari said.

The project is reported to have registered more than 10,000 farmers and has helped them to form 12 district-level Goat Producers’ Business Associations to spearhead commercially-oriented activities, such as bulk input and output logistics, aggregation of goat stocks for bulk purchases, among others.

Chari added that the project completed construction of a Goat Holding Centre at Matopos Research Station, in the arid Matebeleland South province of Zimbabwe to enable abattoirs and supermarkets to buy goats in bulk. **E**

Image Credit: Adobe Stock

The ILRI has embarked on a quest to find an effective vaccine for African Swine Fever. *Fyna Ashwath* provides more details.

Accelerating vaccine development for African Swine Fever

THE INTERNATIONAL LIVESTOCK Research Institute (ILRI) will start testing 10 vaccine candidates for African Swine Fever, in the first quarter of 2021.

The experiment, if successful, will be revolutionary in eradicating the disease from much of Africa and the rest of the world.

ASF

African Swine Fever is a contagious haemorrhagic disease, found in wild and domestic pigs. It has a high mortality rate among pigs, with symptoms such as high fever, depression, loss of appetite, vomiting, diarrhoea, redness of the skin on the ears, abdomen and legs, and abortion of pregnant sows.

In the past, several attempts have been made to develop a vaccine or start control and prevention measures as a remedy.

The ILRI trials will be the first to test a vaccine on the genotype IX background, a genotype that circulates in Eastern and Central Africa. Scientists at ILRI have used CRISPR technology to reduce the time needed to isolate viral mutants from five years to a little over one year, accelerating vaccine development.

Technology and efficacy

The CRISPR-Cas9 technology uses precise tools rather than random recombination, to create the required strains, which will promote the growth of healthy antibodies without any virulent side effects.

Lucilla Steinaa, principal scientist at ILRI, who is leading the vaccine research against African swine fever, said: "ILRI has been researching ASF since early 2000, with a focus on epidemiology and surveillance, diagnostics and assessing the socio-economic impacts of the disease. Over

The ILRI trials will be the first to test a vaccine on the genotype IX background, that circulates in Eastern and Central Africa.



Image Credit: Adobe Stock

The African Swine Fever has a high mortality rate among domestic and wild pigs.

time, with national and international collaborations, the scope of research has expanded to undertake ASF vaccine development."

"The CRISPR-Cas9 gene editing system is a quick and easy way to achieve the mutants we want as vaccine candidates," she added.

"Based on the successes of editing the African swine fever virus, we are looking into the use of this technology to generate live attenuated vaccines for other pathogens," she explained.

Hussein Abkallo, a postdoctoral scientist at ILRI and technical lead of the CRISPR-Cas9 work in ASFV vaccine research said, "In the past, a technique known as a homologous recombination was applied to generate genetically modified ASFV vaccine candidates. It takes approximately six to nine months to get a single mutant virus using the older method, so it would take several years to develop 10 mutants. CRISPR technology reduced that time to a little over a year."


"Besides accelerating the ASFV vaccine development effort, CRISPR technology has

significant potential for making vaccines for other livestock pathogens such as, *Theileria parva*, a parasite that causes East Coast fever, a fatal cattle disease," he added.

"This technology has also proven useful for improving livestock breeds and developing extremely sensitive multiplex diagnostics for both human and veterinary pathogens," Abkallo further explained.

Genotype IX

"ILRI's vaccine trials are an important first step in managing ASF, and the first anywhere to test a vaccine based on genotype IX, which circulates in Central and East Africa," commented Steinaa.

"However, there is still some way to go before a vaccine is proven efficacious and safe and approved for use in the field. Eradicating diseases requires coordinated efforts across national and international agencies. Only one animal disease – rinderpest, has ever been fully eradicated but with new scientific advances like the use of CRISPR, the process of developing an effective vaccine is accelerating meaning, we can act faster to improve animal health." 

Experts note that the increase in coffee prices at the New York Coffee Exchange has been instrumental in boosting earnings for Kenyan farmers.

An emerging, urbanised middle class and rising exports are factors driving coffee demand in East Africa. *Mwangi Mumero* finds out more.

Boosting demand for coffee in East Africa



Image Credit: Adobe Stock

IN DOWNTOWN DAR es Salaam, coffee enthusiasts meet at Atom Coffee Hub or Grano Coffee for espresso-based drinks.

While coffee consumption remains low in East Africa compared to North Africa, the sector continues to grow, despite numerous challenges.

Kenyan coffee industry

Coffee earnings among Kenyan farmers continue to soar this year, as compared to last year, as global demand rose even with the troubling effects of the Covid-19 pandemic.

Market reports from the Nairobi Coffee Exchange (NCE) showed that the crop earned US\$47.3mn in January 2021 – a 94% rise from US\$24mn in January 2020.

The NCE chief executive officer Daniel Mbithi observed that the improved earnings is a result of high demand for the Kenyan coffee and higher volumes at auction.

“There has been a very high demand now for Kenyan coffee especially for the washed premium ones. This has seen a surge by an amazing 64.49% from an average of US\$177.46 in January 2020 to US\$291.91 per 50 kilogramme,” said Mbithi.

On an average, prices of 50kg bag went up to US\$132 at the end of January 2021 from US\$111, in early 2020.

Experts note that the increase in coffee

prices at the New York Coffee Exchange has been instrumental in boosting earnings for Kenyan farmers.

Kenyan coffee has a bright acidity and a wonderful sweetness with a dry winy aftertaste. A really good Kenya coffee will have a black-current flavour and aroma, according to the Kenya’s Coffee Directorate, the industry regulator.

Kenya grows mainly the Arabica coffee, farmed by nearly 700,000 smallholder farmers across 32 counties. It is marketed by, approximately 500 primary co-operatives which receive, process and then deliver to any of the 17 coffee mills.

Among the leading millers are Thika Miller Limited, New Kenya Planters Co-operatives Union (KPCU), Kofinaf Company Limited, Sasini PLC and Kahawa Bora Millers.

Among the coffee dealers are Dorman Coffee, Diamond Coffee, Africa Coffee roaster EPZ and Eagle Brown Coffee Limited.

Such has been the rosy story of coffee earnings among East African farmers even

as coffee production continues to declines due to a myriad of challenges.

Government projections indicate a drop in production from 44,000 tonnes in 2019 to the projected 40,000 tonnes projected for 2020.

“Our farmers are harvesting less coffee per tree while others are converting their land for real estate purposes and this has negatively impacted our coffee production”, said Dr Hamadi Boga, principal secretary in Kenya’s Ministry of Agriculture.

According to Dr Boga, on average, a farmer is able to harvest 2kg per coffee bushel while major coffee producing nations can achieve up to 30kg per bush.

Coffee production has been falling from more than two million bags in 2016 to less than one million two years ago.

“While demand for Kenyan coffee in the world remains steady, with the United States being one of the top export destinations, the future of Kenya’s coffee production remains uncertain,” notes a report prepared by Kennedy Gitonga for the USDA Foreign Agricultural Service.

Low prices, and persistent shift of coffee producers to less risky enterprises are the leading factors in the possible fall in marketed coffee volumes in recent years.

Coffee production and climate change

“The coffee bush is bearing berries at different stages of maturity becoming hard

Low prices, and a persistent shift of coffee producers to less risky enterprises are the leading factors in the possible fall in marketed coffee volumes in recent years.

to manage. Diseases and pests have also become more persistent as temperatures rise – increasing the cost of production”, observed Joseph Kuhia, a coffee farmer in Chinga area of Nyeri County.

Kuhia is among a group of new farmers attracted by high coffee prices. This three-acre farm is located in the fertile and rainy countryside on the shoulders of the Aberdare Ranges in Central Kenya.

Coffee does well in rainy weathers that are also rich in fertile, acidic loamy soils. Central Kenya counties of Kiambu, Nyeri, Murang'a and Kirinyaga remain the core Arabica coffee producing regions.

The region straddles Mt Kenya and Aberdare Ranges, which has predominantly acidic loamy soils destined from volcanic activity

The Ruiru-based Coffee Research Foundation (CRF) has developed two coffee varieties - Ruiru 11 and Batian - to cater for the emerging challenges of climate change. These varieties are resistant to coffee leaf rust and coffee berry diseases.

Tanzania coffee industry

Meanwhile, statistics from the Tanzania Coffee Board (TCB) show that coffee exports for the 2019/2020 was estimated at 50,000 tonnes, down from 68,000 tonnes in the 2018/2019 period.

Dependency on old coffee trees and increased occurrence of pests and diseases are some of the major drawbacks in the sector, according to government officials.

The government has been urging the Tanzania Coffee Research Institute (TACRI) to ensure new coffee varieties are well distributed to farmers. Tanzania has an estimated 250,000ha of land under coffee production – and an estimated 530,000 coffee farmers in 50 districts across eight major production zones.

The Tanzania Coffee Research Institute (TaCRI) has, in recent years developed 19 varieties that are resistant to coffee leaf rust and coffee berry disease.

In Tanzania and Uganda, some firms, involved in milling and marketing of coffee are Africa Coffee Roasters, Vava Specialty Coffee, Tembo Coffee Company, Atlas Coffee Importers, Bugisu Co-operative

Dependency on old coffee trees and increased occurrence of pests and diseases are some of the major drawbacks in the Tanzania coffee sector, according to government officials.



Nyambene Coffee Mills display assorted coffee products at a Coffee Research Foundation Fair, in Ruiru, just outside Nairobi.

Union, Busiro Coffee and Produce Ltd.

Just like other businesses in the sub-sector, specialty coffee dealers are a worried lot with declining volume.

“Every year is getting hotter,” observed Dr Joseph Kimemia, the vice-chair Africa Fine Coffee Association.

Dealers are equally concerned.

“The diminishing volumes of coffee is very concerning for the speciality coffee world,” said Mathew Harrison, a buyer at speciality coffee sourcing company Trabocca.

The Netherlands registered coffee importer sources its coffee from farmers in Nyeri County, on the south-west slopes of Mt Kenya, working directly with co-operatives societies.

Ugandan coffee

Coffee production in Uganda has been rising with exports for the 2019/2020 season, amounting to 4.74 million 60kg bags worth US\$459.52mn. This compares favourably with the 4.24 million bags, worth US\$435mn in the 2018/2019 season.

Uganda grows mainly Robusta coffee although Arabica coffee is also farmed in some regions.

Most areas produce Robusta variety with 66.8% of its production being exported to the European Union nations of Italy, Germany, Spain and regionally in Sudan.

Market reports indicate that exports of the Robusta variety in February 2020 increased by 48.61% in terms of quantity and 43.05% in terms of value.

In recent years, Uganda has been looking to expand its coffee market to Australia, a country that boasts one of the biggest coffee markets in the world.

Among the specialty coffee importers in Uganda is Mercanta which deals with high quality coffee.

The company has invested in sustainably grown and priced specialty-grade Arabica coffee.

Working with local partners, the firm sources its coffee from 18,000 smallholder farmers, many eager to receive higher prices for their high-quality coffee.

According to the Specialty Coffee Association (SCA), participants in the value chain from farmers, green coffee buyers, roasters to baristas must ensure high quality standards.

Farmers selling coffee berries must ensure they are free of defects and picked at their peak of ripeness. Such farmers are then connected to buyers interested in quality resulting in high profits for farmers, their families and communities, according to the SCA.

Coffee in Rwanda

Meanwhile in neighbouring Rwanda, coffee is produced by more than 400,000 small-scale farmers and their families. Almost all coffee grown in the country is Arabica with 95% being the Bourbon varieties.

The specialty coffee sub-sector still remains largely underdeveloped.

According to the Rwanda Development Board, annual coffee production ranges from 20,000 to 22,000 metric tonnes.

The major markets for Rwandan coffee are the United States, Switzerland, UK, Belgium and Singapore.

Three years ago, Rwandan coffee started trading on the Alibaba e-commerce platform.

Among the coffee exporters in the country include Dallas Investment Ltd, Gatere Coffee, Green Land Coffee Ltd, Coffee & Tea (COFERICA) Ltd and 1000 Hill Products Rwanda Ltd.

Across Africa, Ethiopia remains the biggest coffee producer followed by Uganda, Ivory Coast, Tanzania, Kenya, Madagascar and Cameroon.

In consumption, Ethiopia-considered the cradleland of coffee, still leads the pack, followed by Algeria, Egypt, Sudan, Morocco, South Africa, Tunisia and finally Madagascar. **E**

A new variety of banana is gaining popularity and promising to be more resilient to disease. *Fyna Ashwath* discovers more on what makes it different.

Reinventing the future of the banana

A STAPLE PART OF the diet, the banana is a lynchpin of the economy in places such as Africa and South America. In fact, Kenya grows around 1.5 million tonnes of bananas annually, and it is a major local food source. However, a deadly fungus is sweeping the world, and Kenyan farmers are fighting to find a solution.

BBC World News series *Follow The Food*, explores the alternative banana variety, FHIA-17.

The series informs us about how the Cavendish variety, which makes up almost half of all the bananas grown on the planet, is susceptible to Panama disease, and is at imminent risk of extinction.

A new variety

At Kalro Kakamega Research Institute in Kenya, alternative banana varieties are being studied, in the hope that they can be as popular as the Cavendish, but much more resilient to disease.

Isaac Ogotu, farms systems coordinator for Send a Cow, a Kenyan NGO that helps smallholder farmers, says, "In general, bananas grow well in a wide range of soils and climatic conditions across Kenya, provided that the soil is fertile and there is some rain, or moisture in the soil.

Bananas flower mostly during the wet season and mature fully during dry season. The succulent underground stem stores water and nutrients that the plant will depend on during dry months. The leaves and sheath also store food and



Bananas are a major food source in Kenya.

water, as well as performing photosynthesis."

How the FHIA-17 bananas are different

The FHIA 17 is tall, with a strong stem, and can be cooked or ripened. When ripe it has a 'brilliant yellow' colour, and is currently taking the largest share of the ripe bananas market in Kenya.

FHIA 17 has proved fairly resistant to pests, and to the lethal effects of the new strains of the Panama disease.

Yields per hectare of land are higher with the FHIA 17, and it has won the hearts of many farmers in rural Kenya.

"This variety can produce around 130 to 270 fruits per bunch depending on the management practice. I have not had the opportunity to count

the number of fruits for the Cavendish due to the risk of Panama disease, but I can easily estimate it to be half the yield of the FHIA," says Ogotu.

Farmers in Kenya have been quick to adopt the new FHIA variety because of its tolerance to diseases, faster maturity (around 12 months from the time of transplanting), and higher yields. Due to its strong stem, it is not easily blown down by wind. It also has a longer shelf life when ripe, compared with other varieties.

The majority of farmers prefer to sell it when ripe, as it fetches more income, this makes it one of the top food and income security crops in Kenya.

Overcoming obstacles

The biggest challenge farmers have been facing in growing

the FHIA 17 is the availability of seedlings from nurseries and research institutions. The nurseries are usually a long distance away from the farmers. And high demand has made the price of seedlings rise as high as KSh 250 (US\$2.50) each.

To help farmers cope with these challenges, Send a Cow Kenya, is currently training farmers to macro-propagate bananas using maiden suckers and corms in simple propagators made with locally available materials: poles, sawdust or sand, polythene, and nails or string.

"Using this propagation method, the apical dominance is interfered with, which makes the maiden sucker produce many as 12-20 plantlets," adds Ogotu. **E**

Image Credit: Adobe Stock

Omex Agrifluids has a range of products to help tea growers provide complete nutrition.

Foliar feeding the Omex way – it's time for tea!

SUB-SAHARAN AFRICA HAS become one of the world's major tea-growing hubs with a number of countries producing high tonnages of tea. Kenya ranks number three in the world with an annual crop approaching 500,000 tonnes per annum, while Malawi, Burundi, Uganda, Tanzania, Mozambique and Rwanda collectively weigh in another 250,000 tonnes.

As an evergreen bush crop with young shoots and leaves routinely picked, tea requires full and fast nutrition by foliar feeding says Omex Agrifluids, a world leader in the design, development and delivery of soluble nutrient products. Assam in North-East India, the world's largest tea growing region by production is where a full range of Omex products are used to maintain plant vigour and vitality of the world famous Assam black tea leaf infusion. Tea growers on estates across Assam use the following combination of Omex products.

Omex Bio 20 – A formulation of macronutrients, magnesium + iron and chelated micronutrients all 'wrapped up' with a natural biostimulant sourced from seaweed. Omex Bio 20 is applied as a foliar spray. Omex Bio 20 is used first in the tea nursery to promote root biomass for maximum uptake and utilisation of water and nutrients. Follow up applications to young tea bushes help to alleviate physiological stress caused by abiotic and biotic factors including high temperature, soil moisture deficit and pest and disease attack. Mature tea bushes benefit from Omex Bio 20 through enhanced plant health and vigour translating into higher yields of better quality leaf. As a foliar-applied spray Omex Bio 20 is effective during the wet season when soils are waterlogged and root absorption is inhibited.

Omex Kingfol Zn – A high analysis liquid suspension containing 70% zinc (w/v) and used for rapid correction of zinc deficiency which is common in tea growing regions, including Assam, because zinc becomes locked up in the soil. Recommendation is 0.25 to 0.5 L/ha as a



Kenya ranks number three in the world with an annual crop approaching 500,000 tonnes per annum.

Image Credit: Omex

foliar spray depending on severity of zinc deficiency. Regular use reduces the incidence of 'banjhi' buds, a pair of leaves enclosing a dormant (inactive) bud or no bud at all. Omex Kingfol Zn outperforms standard foliar spray applications of zinc sulphate (Zn SO₄) especially during attacks of red spider mite (*Oligonychus coffeae*).


Omex Foliar Boron – A high analysis solution of boron (15% w/v) used to boost recovery from attacks by tea mosquito bug (*Helopeltis theivora*) and/or to correct boron deficiency. Recommended rate is 0.5 to 0.6 L/ha as a foliar spray applied immediately after attack by tea mosquito bug and at the first sign of deficiency symptoms. Omex Foliar Boron is the ideal 'rehabilitation' spray for tea.

Omex K41 – This is a water soluble emulsion of macronutrients and sulphur containing an ultra-high (40% w/v) concentration of potassium. Potassium the so-called 'gatekeeper' nutrient is crucial for maintaining optimal plant water relations. Foliar application of Omex K41 improves tea leaf turgidity to produce heavier harvests of picked leaves and shoots. Omex K41 is especially useful when tea is grown on sandy substrates where soil water deficits are most pronounced. Omex Seastar F – Seastar F is a natural seaweed-derived growth stimulation product containing a range of physiologically active compounds including amino acids and plant hormones.

Foliar applications assist in breaking bud dormancy especially during dry periods, thus boosting growth of new shoots for heavier harvests of leaves.

Omex Kingfol Mg – This is another product from the Omex Kingfol range and containing 22% magnesium (w/v), which is the metallic element at the core of the chlorophyll molecule. Under plant stress conditions tea leaves become hard and fibrous and unsuitable for picking. Application of Kingfol Mg as a foliar spray helps to soften the leaves while heightening leaf colour by enhancing chlorophyll content for improved photosynthesis and yield.

Omex Kingfol S – Kingfol S with 72% sulphur (w/v) improves the green colour and shine of tea leaves to give measurable increases in yield. The sulphur in Kingfol S also hones quality of the black tea infusion because sulphur is a key constituent of the chemicals responsible for colour, taste and aroma.

Omex 3X Emulsion – A fully water-soluble fluid fertiliser containing macronutrients and chelated micronutrients with magnesium and iron. Foliar feeding with Omex 3X Emulsion improves chlorophyll content of leaves for bigger and faster breaking leaf buds and enhanced leaf colour. The improved plant vigour alleviates soil-associated stress whether from waterlogging or drought. 

Israel's agricultural technology to help food security in the UAE and Africa

The innovative methods developed for agricultural technology in Israel can be useful for the UAE and other Middle Eastern countries.



Image Credit: Adobe Stock

IMPROVATE, A COMPANY that facilitates technology and innovation for countries across the world, by bringing together leaders and decision makers on a common platform, recently organised the IMPROVATE Israel-UAE Agriculture & Water In Arid Areas conference in Tel Aviv.

IMPROVATE discussed the challenges faced by the UAE and African nations in ensuring food security, when faced with adverse climatic conditions, and the opportunities that Israeli companies may find therein.

The conference was attended by senior government representatives from Israel and Africa, along with investors from the UAE and Israeli agricultural technology companies. The companies which attended the conference included Netafim, SupPlant, GES, NRGene, AlgaHealth, WFI Group and the Ramat Negev Desert Agro Research Centre.

While Netafim provides innovative solutions to farmers, by helping them maximise their yields and saving on water and other resources; SupPlant, an Ag-Tech Israeli company, uses agronomic guidance technology to assist farmers in making the best use of the resources available.

Ramat Negev Desert Agro Research Centre, an agricultural research and development centre, specialises in agriculture under desert conditions, for more than 60 years now.

IMPROVATE founder and chair Irina

Nevzlin said the introduction of the Abraham Accords and fostering strong relationships between the UAE and Israel, had brought about an opportunity for exchange of knowledge and expertise. "As Israel's landscape is very similar to that of the UAE, including the desert areas, the innovative methods developed for agricultural technology in Israel can be a valuable asset and focal point for partnering with the UAE and other Middle East countries," she added.

Alon Schuster, minister of Agriculture and Rural Development, said Israel's desert climate and limited natural resources had led it to develop some advanced agricultural technologies that were at the forefront of global development. "The Israeli agricultural sector offers agricultural technologies to increase efficiency and yields, while generating maximum returns in all fields of agriculture, in challenging climate and soil conditions. The fruitful collaboration will enable us to share our experiences with our partners on a desert climate and a reality of increasing desertification, and to learn together and share our knowledge and experience to create more efficient and sustainable agriculture that will ensure global food security."

Ronit Hasin-Hochman, IMPROVATE CEO, stated, "Israeli water management and agricultural technologies can provide

outstanding solutions for countries around the world. We are very pleased that recent peace agreements enable us to facilitate collaborations across countries and continents."

Job Masima, ambassador of Tanzania to Israel, called on Israeli companies to come to Africa, adding that the continent has a rapidly growing population, is more stable politically now, and that its economy is on the rise, with five out of 10 of the world's fastest-growing economies located in Africa. "Once you come to Africa, you are coming to a vast land that is like all of China, all of the US and all of Europe, so this is where you should be looking. Around 30% of the world's arable land is in Africa. With this arable land, we are capable of feeding nine billion people. Africa is the future global powerhouse, come to Africa," he added.

Joseph Antoine Kasonga Mukuta, minister of Agriculture from The Democratic Republic of Congo; Dr Deo-Guide Rurema, minister of Agriculture, Livestock and Environment of Burundi; Hadija Jabiri, founder and managing director of GBRI business solutions, EATFRESH from Tanzania; Tom Sillayo, general manager of Faida Market Link Company, from Tanzania and Lazare Ossende-Essanga, director of Partnerships Promotion and Rural Entrepreneurship at the Gabon National Agricultural Development Agency, also attended the conference.

Provivi to help Kenyan farmers in crop protection

EMERGING CROP PROTECTION company Provivi has announced a US\$10mn investment by the Bill & Melinda Gates Foundation

This amount adds to Provivi's recently announced US\$45.5mn C2 fundraising round.

This investment in Provivi aims to further advance the foundation's objective of developing new crop innovations designed to meet the needs of smallholder farmers.

The funding will support the production and distribution of crop protectants to address insect pests that have a disproportionate impact on small-scale producers within developing countries. The programme will focus on several individual projects to develop and supply Provivi's pheromone-based Mating Disruption products against Rice Stem Borer and Maize Fall Armyworm to small-scale farmers in Kenya, Bangladesh, and India. Pheromones are substances that serve as highly selective attractants for insects, allowing the control of deleterious pests while preserving beneficial insects. They are naturally produced substances that have been commercially used to disrupt the mating of insect pests.

Pedro Coelho, co-founder, and CEO of



The funding will support the production and distribution of crop protectants to address insect pests.

Provivi, said, "A core mission of Provivi is to ensure the availability of our products to those farmers in developing countries, who stand to benefit the most from being able to use our safe and reliable technology. With

this collaboration, we will leverage the technology recently registered and commercialised in Mexico, Brazil, and Kenya. Our products will help improve the livelihoods of farmers, who will now get access to this technology, by helping them prevent damaging insect attacks and thereby improve their crops and securing the supply of their staple food without putting their health or the environment at risk."

Ganesh Kishore, chairman of the board at Provivi, stated, "The joint projects will help accelerate a core objective of Provivi, namely improving lives of small-scale producers in developing countries by selectively addressing devastating pest problems offering safe and affordable protection of their crops."

"We are especially encouraged to continue to fuel Provivi's growth and boost our ability to work in developing countries. Agriculture is resilient, and farmers play an indispensable role in the global economy. We are excited to take the Provivi brand to new countries and to bring the benefits of pheromones to the grain crop farmers who feed the world," Coelho concluded.

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 **BALDAN**

The 7th edition of Agritec Africa will take place from 16 -18 June 2021. Exhibitors have opportunities to participate in the digital edition as well, to be held from 16 - 30 June 2021.

Agritec Africa goes 'phygital'

MODERNISING AGRICULTURE IN East Africa and Kenya, post COVID-19 crisis and changing climate, will require significant investment.

Leading to increased demand in various sectors of agriculture, such as, irrigation technology, seeds and biotechnology, agriculture equipment, storage solutions, agriculture chemicals and dairy technology industry, grain and grain allied technology, the 7th Agritec Africa, Dairy Livestock and Poultry and Graittech Africa are anticipated to attract major participation by established national and international players.

Participation

Agritec Africa 2021 is jointly organised with the Ministry of Agriculture, Livestock, Fisheries and Cooperative, Republic of Kenya. With a participation profile of nearly 175 companies from Kenya and abroad this year, and an expected footfall of more than 15,000 visitors, the event is expected to generate tremendous business opportunities.

Agritec Africa 2021 will be organised on 16 June 2021 at KICC, Nairobi, Kenya.

Along with Agritec Africa 2021, Radeecal Communications have planned on organising the Dairy Livestock and Poultry Expo Africa and Graittech Africa as concurrent events where many international companies are going to participate exhibit their featured products. Farmers, dealers, traders, agronomists, scientists, farm owners, and others will take part in the exhibition as visitors or delegates.

"Since our commencement, we have been growing in International participation in Agritec Africa. In 2014, we had seven countries' participation and with a gradual growth today in 2021, we have reached more than 20 countries' participation which includes country pavilions like India, China, Turkey and Egypt. We are gaining in terms of attracting international visitors to witness this exhibition from eight countries in 2014 and this time around we are expecting visitors from 25 countries in the 2021 edition. To give more exposure to our show from the first edition we organised the event titled Dairy Livestock & Poultry Expo Africa and in 2019 we organised the field of Grain &



Image Credit: Agritec Africa

Radeecal Communications have planned the Dairy Livestock and Poultry Expo Africa and Graittech Africa as concurrent events.

Grain allied technology titled "Graittech Africa Exhibition," the organisers said.

Theme

The main theme of the exhibition is 'Improving Farmers' Income through Innovation & Technology.' This is aligned to the Kenyan Government's Big 4 Agenda Initiative with a specific focus on two of the four pillars - Food and Nutrition Security; to drive smallholder productivity, reduce the cost of food and enhance large scale farming and manufacturing; specifically agro-processing where the government intends to generate more than US\$200mn annually in value additions.

The theme focuses on the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) adopted in 2015, to embody a

roadmap for progress that is sustainable and leaves no one behind.

Agritec Africa majorly covers 25 sectors of agriculture as well as dairy, livestock, poultry, animal husbandry and grain allied technology. It offers an ideal launchpad for new ideas, products and services, a conducive platform for forging joint ventures and collaborations with an open marketplace to source ideal solutions. To sum it up, Agritec Africa 2021 is the open-access doorway to the global marketplace and a business solution in the agriculture sector.

The varied exhibitors' profile includes agri ecology, agricultural building contractors, agricultural machinery, aquaculture, biotechnology, fertilisers and chemicals, floriculture, fork lift and handling equipment, greenhouses, irrigation and water technologies, livestock and dairy farming, marketing and export services, organic agriculture, seeds and plant propagation material, plant protection, plasticulture, post-harvest treatment, poultry, precise agriculture, R&D, renewable energy, rural development, software and hardware, veterinary, turnkey projects and knowledge transfer products. **E**

Agritec Africa majorly covers 25 sectors of agriculture as well as dairy, livestock, poultry, animal husbandry industry and grain allied technology.

Hybrid option for IDMA and VICTAM EMEA 2021

VICTAM CORPORATION AND Parantez Group have announced that the IDMA and Victam EMEA exhibition and conference will be held from 27-29 May 2021 at the Istanbul Expo Centre in Istanbul, Turkey.

The event will include an alternative exhibition format for international companies who want to have a presence but are unable to commit to travelling. The hybrid online/offline presence will allow companies to exhibit with a fully-branded and equipped stand including a local bi-lingual host to connect visitors via livestream.

"We are confident that this hybrid participation format will enable international exhibitors to tap into this market potential with the brand presence and personal contact with targeted industry contacts (via livestream) that one is accustomed to at events, while not bearing risk," said the organisers.



Image Credit: IDMA AND VICTAM

The event is strongly supported by associations from Turkey and many other countries in the Middle East and North Africa.

Bolstering international trade

The two companies that set off with the motto, 'The international event of the grain and feed milling industry' will bring together all components of the grain, feed, and pulses sectors under one roof on a stronger and wider platform, creating significant added value.

The organisers have confirmed that the cooperation between Parantez and Victam will provide both great convenience and significant advantages to the exhibitors and visitors in marketing, sales and operational activities. It will contribute to accelerating the growth of companies in international markets.

A strong and value-adding industry event

Parantez International Fair, has been organising IDMA - International Flour, Feed, Semolina, Rice, Corn, Bulgur Milling Machinery and Pulses, Pasta, Biscuit Technologies Fair, since 2005.

"We live in a period where food safety and sustainable production are at the forefront. Therefore, the development and strengthening of our grain, feed and pulses sectors, of which we are a part as Parantez and Victam, are extremely important in terms of ensuring food safety and sustainable production in the world," said Zübeyde Kavraz, the chairman of the organiser of the IDMA Fair.

Sebas Van den Ende, managing director of VICTAM International BV, reminds in his statement on the partnership that both sides that signed the agreement aim to be the strongest and largest event in the region. "This joint venture, which adopts a win-win strategy, can create a synergy in sales, marketing and operations and can be a proactive answer for companies that want to enter the region," he said.

Victam Corporation is the organisation behind VICTAM events held in Cologne and Bangkok, the leading international fairs and conferences for the animal feed and grain processing industries.



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Distribution Partner for Africa wanted!

Moba's Crono9 loader combines gentle handling of fragile eggs, with maximum performance and adaptability.

Providing the big capacity for efficient egg processing

THE GLOBAL EGG processing market is a sector experiencing increasing growth. A major part of this growth is witnessed in the African continent, as an expanding population is driving demand requiring to meet this increased egg production efficiency. It is therefore fortunate that long gone are the days when an egg was delivered from chicken to consumer, and all the steps in between, by hand. Now, farmers have access to a wide range of equipment specialised in washing, grading, packing, breaking, pasteurising, etc, designed to make egg processing efficient.

Moba

With the introduction of the Crono9 loader, Moba has raised the bar for egg processing making it possible to load eggs at a capacity of 225,000 eggs per hour. The Crono9 loader, the newest member of the Crono family, features all the benefits processing plants have come to expect from the Crono brand, including the fully washable stainless steel design, cleaning in place and the use of the innovative multilink servo-assisted auto-adjusting technology.

Moba has identified egg loading as a perpetual critical factor in the egg breaking process with most production dead times due to loader stops. All kinds of eggs of different sizes, quality, age and shape must be loaded properly and quickly and a loader must adapt to all of this mutable raw egg intake in a fast and effective way. The Crono9 loader is therefore designed to combine maximum efficiency and performance with gentle egg handling and can be easily adapted to a variety of different types of eggs and trays, which significantly reduces loading downtime.

The Crono9 is also fully compatible with egg breaking systems and, due to its compact design, has a small footprint allowing it to be easily configured according to specific plant and room layouts.

Dual Feeding Arm

The new Crono9 loader is equipped with a



The Crono9 loader can load eggs at a capacity of 225,000 eggs per hour.

Image Credit: Moba

new feature, the dual feeding arm, which eliminates the return path and thus improves productivity. With this component, the Crono9 loader is able to load eggs at a rate of 225,000 eggs per hour, matching the capacity of the Synchro626, the largest egg breaker/separator in the world.

Additional advantages the Crono9 loader

- Compact stainless steel design for improved hygiene and robustness
- Small footprint with a wide variety of possible layouts, making it easy to adapt to customer requirements
- The equipment is fully servo driven, drastically reducing maintenance time
- Better accessibility for quick and easy cleaning to meet the highest hygiene standards
- Capable of handling the most

challenging eggs and trays:

- Two-step egg release system, specially designed for second-grade eggs
- Contactless stuck egg detection for empty trays that accurately detects stuck eggs on flats without misplacing them
- Four-sided tray pickup that works especially well with wet trays
- Multi-zone automatic foaming cleaning system (optional)

The Moba vision

The introduction of the Crono9 is another step in Moba's vision to enable food producers worldwide to feed consumers around the world with healthy and affordable egg-based food. In pursuit of this, the company strives to develop high-quality integrated systems for the egg industry and support its customers with intelligent solutions that ensure the highest yield, reduction of costs, and the efficient utilisation of resources such as energy, water, and animal nutrition. Every day, Moba's systems process around one billion eggs around the globe. **E**

Every day, Moba's systems process around one billion eggs worldwide.

Deere adds new companies to its 2021 Start-up Collaborator programme

THE START-UP COLLABORATOR programme was launched in 2019 to enhance and deepen its interaction with start-up companies whose technology could add value for John Deere customers.

"The Start-up Collaborator programme continues to build tremendous interactions between start-ups and John Deere," said Julian Sanchez, director, emerging technology for John Deere. "This year is no different as this diverse group of companies has great potential to transform our markets."

Deere has welcomed four leading start-ups that are working to transform their industries. These companies include:

Nori – a company working to reverse climate change by building a carbon market where all types of consumers, from individuals to large corporations, can purchase carbon credits directly from farmers.

NVision Ag – a company working to help corn farmers make nitrogen management decisions based on data modelling and aerial imaging.

Scanit – a company that provides physical detection and classification of airborne plant pathogens before the onset of widespread disease.

Teleo – a company that is converting construction and mining equipment into tele-operated robots controlled by operators working remotely from a desk, thus unlocking productivity and operational gains for contractors.

The start-up collaborator is a year-long programme that provides flexibility for Deere and start-up companies to test innovative technologies with customers and dealers without a more formal



Image Credit: Adobe Stock

Deere has welcomed four companies thanks to its Start-Up Collaborator programme.

business relationship. Start-ups also gain affiliation with and mentoring from a world-class leader in technology for agricultural and construction equipment.

"Innovation is one of our company's core values. The Start-up Collaborator program is one way we can continue the innovative spirit that has helped define Deere for more than 180 years," Sanchez said.

Tata International Ghana wins John Deere Africa Dealer of the Year Award 2020

TATA INTERNATIONAL AFRICA'S Ghana operation has been awarded John Deere Africa's prestigious 2020 Dealer of the Year Award for the category of dealers outside the SADC region.

"The John Deere Dealer of the Year Award is presented to a dealer that performs over and above in various aspects of the business including delivering value to our customers. With the commitment the Tata team has demonstrated towards the John Deere brand and our customers, it does not come as a surprise that it has won the 2020 award," said Jaco Beyers, managing director, John Deere Africa Middle East (AME).

In addition to overall customer satisfaction, other key criteria for the award include turnover and market share growth, added Beyers. "We are passionate about customer care and part of the evaluation for this award is assessing how our dealers take care of our customers. From a John Deere point of view, we actively engage with our dealers not to purely sell a product, but to also build lasting relationships with all customers. It is for this reason that Aftermarket and Customer Support weighted highly in assessing the winner of this award."

At the handover of the award at John Deere Africa's head office in Boksburg, Ekurhuleni, South Africa, Len Brand, CEO of Tata International Africa, said, "We wish to thank John Deere AME for this wonderful acknowledgement. This award demonstrates the strength of the business partnership and teamwork between our two world-class brands, operating together on the continent, has been the key to our success.

Huge congratulations must go to David Kelder, head of agriculture and construction business at Tata International Africa. His focused leadership, clear strategy and knowledge and commitment to the John Deere brand in all the territories in which we operate in Africa is unwavering."

"Of course, it goes without saying that the team in Ghana is truly doing an excellent job – they're a fantastic team, very focused, they know what they have to do and have a great ability to know how to penetrate the market," commented Brand.

"Looking at Ghana, we have great fundamentals in place there. We have trucks, we have buses, we have agriculture equipment, we have construction equipment, an excellent team and the cherry on top is our retail financing offering," added Brand.

"The Ghana operation is headed by Aline

Badr, the only woman business leader in Tata International Africa. Aline and her team have certainly set the bar high. She has successfully led the team in Ghana since Tata commenced operations in the country early in 2019.

Our solid reputation of supporting John Deere products sold in Africa has certainly borne fruit. In addition to this award, which means a great deal to us, we have made successful in-roads in winning market share as a new player in the industry, which is extremely encouraging.

Our commitment to customer support through our uptime strategy has benefited John Deere owners in Ghana and other countries in which we operate," he concluded.

Tata group in Africa

The Tata group began its relationship with the African continent in 1977 with the establishment of Tata Zambia. Today, the brand is committed to its vision of building and sustaining relationships in Africa with cooperation and trust, creating employment opportunities and making its contribution to the social development of local communities. Tata companies in Africa promote the social and economic development of local communities through education, entrepreneurship and health initiatives.

A number of irrigation projects across Africa are having a significant impact on the agricultural sector. Fyna Ashwath finds out more.

Irrigation innovations: Impacting lives



Image Credit: Adele de Witte/Adobe Stock

Improved irrigation of otherwise arid regions to promote crop growth is aimed at making Africa's future more food secure.

AS AFRICA SEES a surge of interest in irrigation, the management and efficient distribution of scarce water resources, is increasingly gaining importance to ensure the continent's food security and be an engine of agricultural transformation.

Improved irrigation of otherwise arid regions to promote crop growth is one of the ways NGOs, governments and international organisations like the UN are striving to make Africa's future more food secure.

We take a look at some recent projects in both the private and public sectors, that aim at progress in irrigation of African farms:

Solar-powered irrigation

Bboxx, a next generation utility, EDF, a global company for low-carbon energies, are expanding access to solar-powered irrigation systems for thousands of farmers.

Bboxx, EDF and SunCulture team up with Togo government for solar-powered farming.

The Government of Togo is providing a 50% subsidy to halve the cost of irrigation systems for 5,000 farmers.

Supplied by solar irrigation provider

SunCulture, EDF's partner and affiliate in Kenya, Bboxx EDF Togo will be deploying the water pumps and arranging financing for customers. The Togolese market will benefit from SunCulture's experience from having rolled out this solution on a large scale in East Africa.

"We are thrilled to be a contributing partner in Africa's largest public-private partnership utilising smart solar irrigation subsidies, and in doing so, ensuring that sustainable agriculture is both affordable and accessible to those who stand to gain the most," commented Samir Ibrahim, CEO and co-founder of SunCulture.

Danfoss assists in increasing production

Danfoss, together with engineering components provider BMG, an authorised DrivePro service partner of Danfoss, supplied a commercial maize farmer in South Africa, with the technology required to combat challenges around electricity sufficiency, for more effective irrigation purposes and to increase production capacity.

BMG's engineering products and services support the industrial, manufacturing, mining and agricultural sectors in 15 countries in sub-Saharan Africa, through more than 100 branches. Its Boer Slim/Smart Farming initiative offers South African farmers sustainability solutions that focus on effective food production.

"Maize is South Africa's most important field crop, being a staple food for many of its citizens, as well as making a significant contribution to the economy.

To compete more effectively in global markets, South Africa has to reduce its logistics and production costs, but this is difficult while the country's power grid remains constrained," noted Sydney Govender, Danfoss country sales manager, Drives SSA.

"The Danfoss/BMG initiatives show how the farmer was able to free up energy, which was then channelled elsewhere to increase productivity. If more farmers were able to follow this example, this would assist individual farmers, while simultaneously allowing them to play their own incremental role in improving the country's macroeconomics while the electricity supply continues to be constrained," he added.

Turning desert into farmland

ABB has provided several vital technical solutions to deliver electric power reliably and continuously to kickstart the development plan for Toshka's new agricultural area in the South Valley of Egypt.

A groundbreaking initiative outlined by President Abdel Fattah Al-Sisi, aims to reclaim an area of more than 2,200 sq km of desert by 2024 in the South Valley. It will boost agricultural production in accordance with the state's efforts to encourage investment and create job opportunities through agricultural activity, food manufacturing and associated urban activities.

ABB has supplied all medium voltage primary and secondary switchgear, UniGear and UniSec, along with compact substations for the first three phases of the project. The contract worth US\$4.8mn will guarantee the power supply for irrigation systems and related services stretching across more than 400 sqkm of

"The Danfoss/BMG initiatives show how the farmer was able to free up energy, which was then channelled elsewhere to increase productivity."

reclaimed land in the Toshka desert.

"We are proud to be part of this mega project which aims to create sustainable development and a better future for the people of Egypt. We are glad to provide the latest technology for the communities of Toshka which will help them achieve balanced economic success, environmental stewardship and social wellbeing to benefit their present and future," said Loay Dajani, country managing director, ABB Egypt.

Precision irrigation

Israeli technology company, SupPlant was granted US\$2M from the National Centre for Research and Development of the government of Poland to develop new smart irrigation technology suited for small farmers with land that is smaller than 10 hectares.

SupPlant's technology is being used by farmers in 14 countries around the world including Australia, Mexico and South Africa. This grant is supporting the development of more advanced technology, a mobile application which will avoid the need for physical sensors, and a smart water valve which will communicate with SupPlant's application.

By changing the basic concept of irrigation methods and sensing the plant's stress, this unique technology will assist small farmers to manage their water budgets efficiently, save water, reduce costs, improve productivity and yield. **B**

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ABB has provided technical solutions to deliver electric power for Toshka's new agricultural area.

Austoft 8810 named Machine of the Year

CASE IH'S AUSTOFT 8810 has won the 2020-2021 Machine of the Year awards in Brazil, in the sugarcane harvesting category.

The Case IH Austoft 8810 sugarcane harvester, which underwent a series of technical evaluations carried out by experts in the field of agricultural mechanisation was considered the best machine in the segment.

"This award proves the quality, efficiency, high performance and technology that are exemplified in Case IH's equipment," said Michele Monzio, Case IH Austoft product manager – Asia, Middle East and Africa.

Focusing on harvest quality and the profitability of the customer's business have been the cornerstones of the improvement process in the organisation. The result has been a union of technologies that increase mechanical availability, generating efficiency and ensuring greater productivity. Case IH offers a full range of harvesting

equipment for all types of sugarcane cultivation.

Throughout its long history, Case IH Austoft sugarcane harvesters have led the world in sugarcane harvesting technology, promoting excellent cane quality and ultra-clean samples. The Austoft has earned a reputation for its advanced solutions, performance and high levels of customer satisfaction which have been proven all over the world.

Today, Austoft sugarcane harvesters cut around half a billion metric tonnes of sugarcane per year across the globe, from South America to South East Asia, India, China, Sudan, Papua New Guinea and Australia.

Case IH's commitment to innovation is enhanced by a deep understanding of the sugarcane industry. From land clearance and crop establishment to harvesting and hauling, Case IH is recognised around the world for industry-leading machines that boost farm productivity.

"The Austoft 8010 and 8810 models meet the increasing demand for innovation in the sugarcane harvesting industry. We are confident sugarcane growers will appreciate the leading features of these machines which will provide more profit for the farmers and increased output for sugar mills," said Monzio.

"Winning this title in Brazil is

further recognition of how this product is leading the way in the sugarcane harvesting industry, all around the world."

Case IH, brand of CNH Industrial N.V., has a powerful range of tractors, combines and balers supported by a global network of dealers dedicated to providing customers with superior support and performance solutions.

"The Austoft 8010 and 8810 models meet the increasing demand for innovation in the sugarcane harvesting industry," said Michele Monzio, Case IH Austoft product manager - Asia, Middle East and Africa.

Case IH Austoft sugarcane harvesters have led the world in sugarcane harvesting technology, promoting excellent cane quality and ultra-clean samples.



Image Credit: CASE IH

TSRgrow introduces revolutionary approach to horticulture

TSRGROW, A HORTICULTURE solutions provider, has announced Lighting as a Platform (LaaP), a revolutionary technology for indoor growers, while significantly reducing up-front and long-term operating costs.

LaaP brings together TSRgrow's solutions for commercial horticulture growing into one digital platform: Centralised Power Server Technology, highest performance LED Lighting and integrated software applications with sensor feedback technology for real time monitoring and control. LaaP maximises efficiency while cutting costs in Controlled Environment Agriculture (CEA) facilities. TSRgrow LaaP is revolutionising commercial horticulture.

LaaP eliminates local ballast equipment on each fixture from the growing area. By centralising power in the grow facility, installation and maintenance costs are reduced and simplified. By removing ballast heat from the grow area, growers can reduce their HVACD cooling load requirements and equipment CAPx. These benefits are just the beginning.

LaaP produces greater light intensity and more uniform canopy coverage for each grow, reducing the total number of fixtures needed, further reducing capital expenditures.

"Designed for commercial horticulture, LaaP unites lighting, power and monitoring into one integrated system," said Mikhail Sagal, president of TSRgrow. "It provides growers the ability to maximise their yields reducing their operating costs."

LaaP integrates with TSRgrow's TOTALgrow solution, giving growers deeper insights across every aspect of their operation.

Additional benefits include simplified installation and maintenance, monitoring and control dashboards accessible from anywhere, and the highest performance



LaaP eliminates local ballast equipment on each fixture from the growing area.

designed for horticulture LED fixtures on the market. Featuring power servers with the industry's highest efficacy and lowest iTHD throughout the dimming range (0-100%), LaaP is Utility recommended and helps drive down facility operating costs for long term sustainability of your indoor, vertical or greenhouse facility.

"Taking all of the ballasts out of the flower rooms and putting them into a full IT server room, has helped us do right by our plants and our facility. Since we are using TSRgrow's Lighting as a Platform, we have

the ability to control our environment outside of our grow in a designated server room where we do all of our monitoring.

"During our recent 200,00 sqft expansion project, the TSRgrow team was there to help us every step of the way. Before you buy, do your research. TSRgrow is a true platform technology-based company. Not just because of the lights and the technology, but also because they are a true partner to help you grow. We will be using them again during our next expansion project," said Cliff Miller, president, Norman K, Auburn, Maine.

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Alternative ingredients and digital tools are critical to weathering disruptions in the agrifood value chain, says Lux Research.

The top five technologies transforming food and agriculture

IT IS HARDER than ever before to be a food or agriculture company. Smaller competitors are using digital tools, novel channels to gain market access, and other innovations to gain share, shaking up the entire agrifood value chain. To help guide innovation in this space, Lux Research released its annual report, *"Foresight 2021: Top Emerging Technologies to Watch."*

The Foresight 2021 report identifies and ranks 12 key technologies that will reshape the world. The technologies are chosen based on innovation interest scores from the Lux Tech Signal, a composite measure assembled from a variety of innovation data sources, along with input from Lux's experts. In addition to highlighting the key overall technologies, this year's report ranks the top five technologies in the food and agriculture space for the first time.

"The agrifood ecosystem is experiencing a phase of rapid, intense change, where most of the growth in the space in recent years has gone to companies outside the top 20 players. As smaller and more agile brands meet consumer demand for personalisation, larger brands will need to look for innovative solutions to regain lost ground and get ahead," states Joshua Haslun, Ph.D., senior analyst at Lux Research.

Lux's new report takes a deep look at the agrifood ecosystem and reviews what topics emerged and which technologies rose to the top during 2020. Its expert analysis of the hottest innovation topics and best tech startups found that the top five technologies food and agriculture leaders should look to in 2021 are:

Bioinformatics

Having developed and risen to prominence largely focused on medical and pharma applications, bioinformatics is now crossing over into agrifood and health.

"Agriculture and food companies alike will need to capitalise on the digital revolution."



This year's report from Lux Research ranks the top five technologies in the food and agriculture space for the first time.

Alternative proteins

Concerns about health and sustainability are pushing to diversify diets away from meat and fish, leading to changes ranging from land use to ingredient supply chains.

Precision agriculture

Digital tools are continuing to revolutionise agriculture, improving product yield and quality and reducing environmental impact.

Biofertilisers

Biofertilisers and other microbial biostimulants use living microorganisms to improve nutrient use efficiency and agriculture sustainability.

Lux analyses how preservation technologies can play a major role in various segments of the value chain.


Ingredient Informatics

Applying machine learning to recipes and ingredients can produce new product

formulations more quickly, rapidly accelerating new food product launches.

Using data, analysis, and artificial intelligence to reduce costs, improve outcomes and accelerate the development of new food and beverage products, is gaining increasingly popularity.

"Agriculture and food companies alike will need to capitalise on the digital revolution, with ingredient informatics as a prime focus for shortening product development cycles and precision agriculture technologies as unfamiliar but critical complements to conventional agrichemical developments," explains Haslun.

"Alternatives to mainstay ingredients are another hallmark of both agriculture and food, where biofertilisers and alternative proteins, respectively, loom large. Finally, look for bioinformatics to come out of its early role in pharmaceutical development to take a prominent, transformative position across the agrifood ecosystem." 

Steketee experiences increasing sales and full order books

THE DUTCH WEEDING technology company Steketee, part of the LEMKEN group, has seen a rising demand for weed control solutions. The company continued to grow in 2020 despite the pandemic, recording sales growth of 30%.

Iljan Schouten, Steketee's managing director, commented, "The trend towards integrated crop care is unstoppable. There is strong demand for hoeing machines, ridgers and band spraying implements for reducing the use of pesticides." The company's order books are well filled for the 2021 spring season.

To meet this high demand, Steketee and LEMKEN have worked together to optimise processes and production in Stad aan't Haringvliet. A new assembly line for small implements is being set up, which will boost production capacities and shorten delivery times, while the introduction of the two Professional and Individual product lines has made it easier to create and process orders.

The Professional line comprises easily configurable hoeing machines for traditional row crops and row widths.

"With the Individual line, we retain our ability to meet individual customer requests thanks to a wide range of available options. There is a clear trend towards customers demanding greater efficacy with larger



High precision at larger working widths is made possible by the IC-Light camera control system developed in-house.

Image Credit: Steketee

working widths, with the IC-Light camera control delivering very high precision," explained Schouten.

The company has also worked intensively on its after-sales service. Spare parts are now documented in the Agoparts online portal and can be ordered from there by dealers and end customers. All popular spare and wear parts are available for express overnight delivery from the

central warehouse.

The company is currently developing and trialling new plant recognition methods using artificial intelligence. "We want our customers to be able to experience early practical applications in the near future", said Schouten, concluding

"We really want to live and breathe our new 'space to grow' claim in all areas of our company."

AGCO partners with WesBank to launch retail financing solutions for farmers in South Africa

AGCO, A DISTRIBUTOR and manufacturer of the Challenger, Fendt, Massey Ferguson and Valtra brands, has joined hands with WesBank, a prominent vehicle and asset financing company in South Africa, to offer a financing solution that will assist AGCO's growing network of dealers to streamline their operations and increase their competitiveness in the market. Other than dealer stock financing, both the companies have also agreed to extend retail financing to the farmers.

The WesBank financing solution is a part of AGCO's 'New Way Forward' strategy, which was launched in September last year, to bring agricultural machinery and solutions closer to customers in the region. This renewed sense of customer-centric approach is unlocking significant value in the local distribution chain, making it easier for AGCO dealers to deliver the established brands, more effectively and efficiently.

The WesBank retail financing solution is designed to empower farmers, so that they continue to contribute to the growth of a robust agricultural industry; and respond better to the current food production demands through AGCO's full line of agriculture equipment and services.

Dr Dominik Reus, managing director of AGCO, Africa, explained, "In WesBank, AGCO has found a partner that understands the critical task of farmers to feed the world. Now farmers can benefit from AGCO's high-tech agricultural solutions, through this affordable financing solution, and our dealers can enjoy much improved cash flow to expand their offerings, sustain day-to-day activities and acquire the inventory that farmers desire from our international factories, without any delay."



Image Credit: Adobe Stock

The WesBank financing solution is a part of AGCO's 'New Way Forward' strategy, to bring agricultural machinery and financing solutions closer to customers.

"The agriculture sector is a vital part of the South African economy, and contributes substantially to the GDP on a direct and indirect basis. This partnership with AGCO reinforces our deep understanding of the agricultural business and our ability to offer a choice of dedicated finance options, specifically tailored to the agricultural environment," says Kalie Roets, head of agriculture, WesBank Corporate.

"At WesBank, we understand the difficulties agricultural businesses face, and our team, with its in-depth knowledge of the industry, is looking forward to delivering affordable asset finance solutions for AGCO and its partners in the agricultural businesses," added Roets.

Perry opens office and training facility in Uganda

PERRY OF OAKLEY, a British company with a 73 - year heritage in the design, manufacture and installation of grain handling, drying and storage equipment, has established Perry East Africa, with registered offices in Kampala, Uganda.

This will complement its existing Africa office, Perry Africa, registered in South Africa.

This is a clear indication of the importance Perry of Oakley, through its international subsidiary Perry Engineering Services, places on the ever-expanding African market.

David Perry, the third-generation owner and managing director of Perry of Oakley, has announced that Perry East Africa will be opening a training facility in Uganda in March 2021.

The facility aims to provide hands-on training for customers' employees in the professional operation of grain handling and storage facilities. It will also give the opportunity for potential customers to view their products and even spend time with the operators before they make purchasing decisions.

It is intended that the training will be without charge, as an indication of Perry's commitment to enhance the post harvest knowledge base in Uganda and East Africa



Image Credit: Perry of Oakley

Perry looks forward to working with the existing partners and customers as they grow in East Africa.

as a whole, which means that as soon as a customer receives their Perry equipment, they are already experienced in its use and the theories behind post harvest technology.

David Perry said, "Since my early visits to Uganda and sub-Saharan Africa as a whole

I have been excited by the agricultural prospects in these countries, and we look forward to not only being able to promote our products at the training facility but to also enhance the overall post-harvest knowledge in Uganda and East Africa as time goes on."

Priva makes data security a priority

THE HIGH-TECH HORTICULTURAL sector in the Netherlands is changing rapidly due to new technological developments.

As a result, the sector is becoming increasingly interesting to cybercriminals. For Priva, this is a reason to make data security a priority and to have its services regularly tested by independent ethical hackers.

Horticultural sector interesting for cybercriminals

Cloud technology and data security are topics that are becoming increasingly relevant in the horticultural sector. New applications are drastically changing the way we grow. This offers opportunities for further optimisation of processes, sustainability, and growth of the entire sector. However, the data and technologies used can also become targets for espionage and data theft.

Priva has data security high on the agenda

Developing cloud services is a challenging process that requires expertise and a secure and stable cloud platform. The Microsoft Azure platform on which the Priva Open Platform is built meets strict requirements and is certified according to common international

standards for data security.

On top of the Microsoft Azure platform, Priva develops secure cloud services. During the development and use of its products and services, Priva applies security principles such as 'security by design' and 'defence in depth'. In addition, Priva thoroughly tests the security and works in line with international standards in the field of information security.

Testing, testing and more testing

Priva's architects and security specialists work closely with the development teams, so that information security is an integral part of the development process. During development, tests are already being carried out to determine whether the products and services meet the required security level. Products and services are also tested regularly during use and there is a continuous focus on security and stability.

Ethical hacking

Independent ethical hackers regularly test Priva's products and services. This is done during so-called pen tests (penetration tests).

Findings are investigated and resolved so that the security level is continuously increased.

Five Priva cloud services were recently subjected to a pen test. A TPM (third party memorandum) was recently issued for MyPriva, Priva Operator, Priva Alarms, Plantonomy and an application that will soon be available. These statements indicate that the services are adequately secured. These tests are repeated regularly. Soon Priva expects more TPM statements for other products and cloud services.

International standards

In addition to testing, Priva considers it important to demonstrably comply with applicable international standards for information security and quality management. Therefore, ISO standards 27001 and 9001 are currently being implemented. This is an important step in demonstrating that information security and quality management are structurally embedded in the organisation.

Priva develops hardware, software and services in the field of climate control, energy saving and optimal reuse of water.

Bühler, Vyncke partner to offer low-carbon-emissions food plants

BÜHLER GROUP AND Vyncke have partnered to offer integrated solutions with which biomass side stream products are transformed into clean process energy while reducing the customers' carbon footprint.

The dependency on fossil fuels – and with this, CO₂ emissions – can decrease from 20% to 100%, depending on the raw material and side stream products. This means that in some cases, food plants can become fully carbon neutral.

The first focus of the partnership is the segments of cocoa, oat, and malt processing. "This partnership is a key element in our strategy to massively reduce CO₂ in the value chains of our customers," said Johannes Wick, CEO of Bühler Grains & Food.

"Many industries rely on our solutions to reduce their fossil fuel consumption. With Bühler, we now aim to also become the standard to reduce the CO₂ footprint of the food industry," said Peter Vyncke, owner of Vyncke. "Together, Bühler and Vyncke can now offer integrated and optimised solutions where economic and ecological benefits go hand in hand."

Biomass by-products are generated in almost all food processes. Typical examples are the processing of grains, rice, corn, and cocoa. Today, by-products are often either used for animal feed or simply disposed of.



Peter Vyncke, owner of Vyncke, and Johannes Wick, CEO of Bühler Grains & Food, in Bühler's application centre in Beilngries, Germany.

From biomass by-products, food manufacturers can also produce a climate-neutral form of energy.

Unlike the combustion of fossil fuels, the use of biomass energy helps controlling greenhouse gas emissions as the only fraction released corresponds to what the plants previously took from the atmosphere during their growth, which is less than transporting the side stream products to a place where they would be used for feed or disposal. This creates a neutral CO₂ cycle. With new equipment, digital services and retrofit offerings, Bühler already made strong progress in making its solutions more energy-efficient.

"By adding Vyncke's energy recovery processes to our portfolio, we can offer our

customers low- to zero-carbon food solutions," said Johannes Wick.

With their cooperation, Bühler Group and Vyncke are addressing this issue to develop solutions for more sustainable food production – with holistic process chains in which energy recovery is integrated so that external energy consumption and energy costs can be reduced. This not only contributes to greater sustainability, but also opens competitive advantages for food producers through greater energy efficiency.

Belgian technology supplier Vyncke specialises in energy production from a wide range of biomass by-products, including industrial or municipal wastes.

Team Europe, Equity Bank partner to support Kenyan business and agriculture amid COVID-19

THE EUROPEAN UNION and the European Investment Bank, working together as Team Europe, are providing US\$143mn (KES 15.8 billion) of new support for Equity Bank to enhance financing to Kenyan companies most impacted by the COVID-19 crisis.

The financing package will support access to finance at appropriate conditions for Kenyan SMEs, including in the agriculture sector, through US\$119mn loans from the European Investment Bank to Equity Bank and US\$23mn of European Union (EU) grant support.

New technical assistance, backed by the European Union, will further strengthen Equity Bank's capacity to assess, execute and monitor longer-term agricultural value chains investment projects and further develop the provision of long-term financing for agriculture.

James Mwangi, group managing director and group CEO of Equity Group Holdings, said, "As an inclusive regional financial institution these facilities strengthen Equity's position to further enhance the strength of MSMEs which are key actors in value chains and ecosystems in the economy. By ensuring their survival and growth the MSMEs will continue to protect jobs, create more jobs and support lives and livelihoods in society, serving to create resilience as the pandemic subsides, vaccines become available in Kenya, and market growth returns.

"We value our long-term partnership with the EIB and the European Union who have walked with us and our customers on our path for sustained human development for many years including their investment to scale Kilimo Biashara. We thank them for supporting our efforts to strengthen the role of MSMEs to stimulate the economy back to prosperity, and hence support lives and livelihoods through market growth.

AGCO announces farmer-first strategy

AGRICULTURAL MACHINERY SPECIALIST AGCO has announced its farmer-first strategy designed to maximise value creation for its major stakeholders.

During its 2021 virtual analyst briefing, Eric Hansotia, AGCO's chairman, president and CEO introduced AGCO's new purpose and vision statements that, when combined, offer powerful insight into the role AGCO intends to play for farmers and within the agriculture industry. AGCO's purpose is 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.

Reinforcing AGCO's goal to help farmers increase net farm income by improving yield or reducing waste, Seth Crawford, senior vice-president, precision ag and digital, showcased AGCO's approach to unlocking this significant customer value. Leveraging its Fuse precision ag technology across the core brand portfolio, growing its global, precision planting retrofit business, and optimising its collaboration with sales partners through the Digital Customer Experience to better serve farmers are key elements of AGCO's strategic focus in this dynamic space.

Hansotia summarised AGCO's farmer-first strategy, "Our strategy is custom-built to place farmers at the centre of everything we do. Deeply understanding our customers' needs and aligning our business to meet and exceed their expectations will deliver sustainable stakeholder value and help secure the global food supply for future generations."

Hotraco Agri unveils new dry feed controller

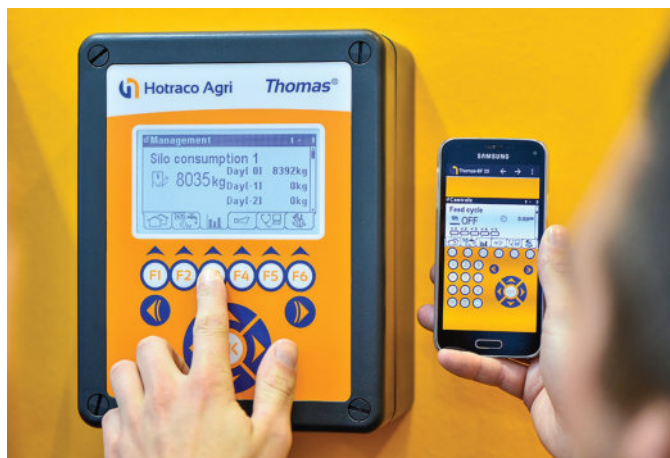


Image Credit: Hotraco Agri

The new Thomas empowers pig farmers to create reliable and efficient feeding processes.

HOTRACO AGRICULTURE, AN operating supplier of innovative automated systems for poultry and pig farming, has unveiled the advanced pig feeding controller in the world: Thomas.

The manufacturer has re-engineered Thomas to become the perfect pig dry feeding solution for every pig house on the planet. The new Thomas empowers pig farmers to create reliable and efficient feeding processes, that result in optimal animal health and growth, more precise feeding per room and per animal and lower feeding costs.

However, in the process development, they had another key focus area: improving pig farmers' daily lives. With the radically improved Thomas, farmers can get more insight, more control, more free time and less worry. Their Remote App gives farmers insight and control of every aspect of the pig house's feeding system.

Hydrofarm launches PHOTOBIO•TX and PHOTOBIO•T linear top lights

HYDROFARM HOLDINGS GROUP, an independent wholesaler and manufacturer of hydroponics equipment and commercial horticultural products, has launched PHOTOBIO•TX and PHOTOBIO•T linear top lights – the newest additions to the Phantom PHOTOBIO series of next generation LED tech solutions.

The high-performance products, optimised for greenhouse applications, were developed by Hydrofarm and further expand the company's portfolio of innovative and proprietary branded products such as lighting, climate control, nutrients and growing media.

"We believe that our PHOTOBIO TX and T top lights are smart, affordable investments for growers looking to successfully cultivate all types of crops in controlled environments and their homes. The Phantom PHOTOBIO LED line's exacting design, extreme efficiency and extraordinary performance support the power to grow healthier food and plants," said Bill Toler, CEO and chairman of Hydrofarm. "Following our December 2020 IPO, we continue to enhance our portfolio with equipment to empower our customers."

Phantom PHOTOBIO•TX and PHOTOBIO•T are slim, high efficiency LED top lights that act as a natural light supplement for greenhouses. They provide minimal self-shading and can also act as a strong sole-source LED that provides better plant canopy access. The ultra-effective commercial design utilises a proprietary heat sink construction, and the products are built with architectural-grade aluminium and a unique heat pipe cooling system that provides superior heat dissipation. The S4 spectrum delivers ideal conditions for plant health to deliver consistent crop quality. These fixtures provide horticulture professionals with increased performance and yields while maximising ROI.

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