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to ensure nutrition of rice

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AGCO unveils new compact tractor models. p24



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AndreyPopov/ Adobe Stock



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African Farming

and Food Processing

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Chairman: Derek Fordham

Printed by: Buxton Press

US Mailing Agent: African Farming & Food Processing USPS. No. 015-224 is published six times a year for US\$90 per year by Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK
Periodicals Postage Paid at Rahway, NJ. Postmaster: send address corrections to: Alain Charles Publishing Ltd, c/o Mercury Airfreight International Ltd, 365 Blair Road, Avenel, NJ 07001.
ISSN: 0266 8017

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FAO aims to unlock Africa's potential to end hunger and malnutrition

AT THE REGIONAL Conference for Africa, virtually hosted by the government of Zimbabwe in collaboration with the FAO, the director-general of FAO, QU Dongyu remarked, "Africa is the continent of untapped potential and remains a crucial priority for me. I am convinced that agricultural and rural development are the keys to winning the battle against poverty and hunger in Africa."

The conference reiterated the FAO's agenda of transformative action to build a dynamic, inclusive and agile organisation that serves its members to achieve better production, better nutrition, a better environment and a better life.

EIMA International gets green light for 2021

FEDERUNACOMA HAS GIVEN the go ahead for EIMA International to be held from 3 to 7 February 2021 at the Bologna exhibition centre.

It is part of the restart strategy of the Italian trade exhibitions, launched by the government to resume business activities following lockdown restrictions due to COVID-19.

Thanks to "green corridors" in place, businessmen from across Europe, America and Asia can attend EIMA International, waiving restrictions. A digital platform was held from 11 to 15 November 2020 to showcase products to establish virtual rooms for business contacts directly with businesspeople from all over the world.

The synergy between virtual reality and physical event aims to relaunch the sector's market, in response to a demand for technologies that is growing globally.

EuroTier to happen digitally

THE EUROTIER EVENT is taking place digitally from 9 to 12 February 2021 due to the COVID-19 pandemic.

Organiser, DLG (Deutsche Landwirtschafts-Gesellschaft – German Agricultural Society) said the digital event will offer exhibitors flexibility with digital business packages, while offering visitors an extensive technical programme and networking opportunities.

Topics will include dairy, pig, poultry, energy, emission control and direct farm sales, as well as live discussions for planning investments.

For 2021, the DLG will offer additional events and trade fairs on aspects of animal husbandry and decentralised energy supply.

"The increasing number of corona virus cases worldwide and the related restrictive travel guidelines for exhibitors and visitors require flexible business solutions and information services, like those offered by the 'EuroTier digital' events," explained Dr Reinhard Grandke, CEO of the DLG.

Three million people in Africa to benefit from post-COVID food security programme

IN AN EFFORT to achieve sustainable recovery and build resilience from the COVID-19 pandemic, the Mastercard Foundation has announced a programme that will support more than 3 million people in sub-Saharan Africa over the next two years. The programme will focus on building food security and increasing digital and financial inclusion within the most vulnerable farming communities.

In addition, the programme will:

- Enable 65,000 farmers to directly benefit from quality land, seeds, fertilisers, mechanisation, and storage.
- Tackle the root causes of hunger and poverty through a US\$20.4mn commitment by the Mastercard Foundation.
- Scale the work of the smallholder farming collective, Alluvial Agriculture.

The Mastercard Foundation's COVID-19 Recovery and Resilience Programme will be implemented in partnership with Alluvial Agriculture. The programme will directly support 65,000 smallholder farmers with mechanisation, inputs, agronomic advice, and market access. The programme will



An Alluvial Agriculture tractor working a field.

target an additional one million farmers with climate smart agro-advisory and market intelligence, benefitting at least 3 million direct dependents.

The support programme will enable participants to significantly improve yields, increasing from 2.5 tons of rice per hectare to 4.5, for example, from 1.5 tons of maize to 4 tons.

"Farmers must be at the forefront of helping us recover from this crisis," said Chidinma Lawanson, country head, Nigeria, at the Mastercard Foundation. "This is a sector

where there is tremendous potential, not just to create food security, but to enable work. But this isn't just about recovering from the impacts of the pandemic, it's also about building long-term resilience in the agricultural sector so that it can withstand the effects of emerging and future issues, such as climate change."

Alluvial is tackling systemic problems that leave most sub-Saharan smallholder farmers unable to meet the minimum nutritional needs of their families and communities. Measures to contain the spread of coronavirus have made matters worse for farming communities by disrupting supply of inputs such as seeds, fertilisers, and access to markets.

The company's innovative business model provides comprehensive support to smallholder farmers, including training, technology, land preparation, irrigation, input supplies, and market access. The company achieves this by organising adjacent farms in community blocks. This means that tractors, for example, can efficiently plough each of the smallholdings, saving weeks of toiling by hand.

25 young African agripreneurs through to final round of Agripitch competition

TWENTY-FIVE YOUNG AFRICAN agripreneurs have advanced to the “boot camp” final round of the African Development Bank’s AgriPitch competition, stepping closer to a share of US\$120,000 in seed funding prizes, training and other benefits.

The final round offers young entrepreneurs in Africa’s agricultural sector the opportunity to pitch their agribusiness proposals online to a panel of experts and investors who will select the winners.

AgriPitch organisers received more than 2,500 applications and evaluated 605 proposals from 30 countries. The finalists, from 12 African nations, submitted promising proposals that best embraced the 2020 theme of “Driving Sustainable Nutrition and Gender Inclusivity in Africa’s Agri-Food Systems: Youth Agripreneurs Seize the Decade”.

Finalists, all aged under 35, were selected under the competition’s “Start Up,” “Mature Business” and “Women-Empowered Business” categories.

“It is encouraging to see that almost 62% of all AgriPitch 2020 applicants self-described as being women-led businesses or having women make up at least 50% of their management,” said Wambui Gichuri, the bank’s acting vice president for Agriculture, Human and Social Development.

“Word is spreading that AgriPitch is the competition where all qualified agripreneurs can get the training and support to grow their businesses,” she added. AgriPitch is part of the African Development Bank’s fourth African Youth Agripreneurs Forum (AYAF) – one of the continent’s most exciting platforms for African youth in the agriculture start-up scene – which kicked off online on 3 November and ran through to the AgriPitch winners’ ceremony on 17 November.

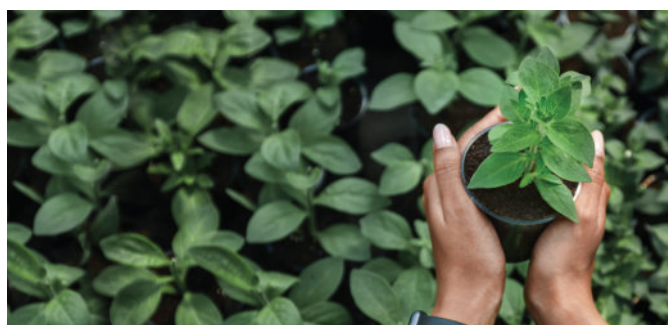


Image Credit: Prostock-studio/Adobe Stock

AgriPitch is part of the African Development Bank’s fourth African Youth Agripreneurs Forum.

The finalists are now enrolled in the AYAF/AgriPitch online training platform, according to Edson Mpyisi, coordinator of the bank’s Enable Youth Programme responsible for the event.

“In this two-week-long business development boot camp, AgriPitch competitors can attend virtual sessions on product development, revenue channel identification, logistics, marketing, business management, investment readiness, financing and other issues, led by trainers and coaches,” Mpyisi said. “The cash prizes may be the most ever awarded at AgriPitch, and the skills offered to all the finalists are invaluable,” he added.

In collaboration with partners, including UN Women, the African Leaders for Nutrition and the Affirmative Finance Action for Women in Africa initiative, this year’s AYAF and AgriPitch competition selected finalists from Kenya, Uganda, Rwanda, Nigeria, Benin, Tanzania, Cameroon, Mozambique, Guinea, Malawi, Ghana and Côte d’Ivoire.

A Ghanaian maize farmer thrives on the ashes of destroyed forest

FOR YEARS, CHRISTIANA Akwabea admired the vast fields she visited in neighbouring districts to buy maize for reselling and dreamed of one day owning a plot of land where she could grow the crop.

But there was not much land for commercial farming in Seikwa in Ghana’s Bono Region, and the local soil is more suitable for cultivating cashew and yam.

In 2017, the mother of six got her wish fulfilled through forest plantation management company Form Ghana, which received a loan from the African Development Bank for a transformative forestry project.

After registering as a farmer with the Form Ghana programme, she received land that had once been a forest in Berekum, about 30km from Seikwa. She harvested around 6,800kg of maize from the 5ha field through intercropping, which involves simultaneously cultivating multiple crops on a particular plot farmland.

“I had always wondered about how I would get farmland for maize and even get money to clear and spray it. But now, all I wait for at the beginning of every farming season is a call from Form Ghana to complete the registration and land will be allocated to me for farming. The memory of this alone is encouraging and gives me a sense of reliability. I’m not burdened with how I will get land and money to prepare the field,” she said.

Form Ghana partnered with the African Development Bank, the Forest Investment Programme of the Climate Investment Funds and the government of Ghana, to undertake an innovative public-private partnership in its forest sector. The project entails the reforestation of degraded forest areas in Ghana.

In the forests managed by Form Ghana, illegal farming was widespread. The company offers 629 farmers the option to participate in intercropping.

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New Tissue Culture Facility for South Africa

A STATE-OF-THE-ART TISSUE Culture Facility (TCF) for the South African fruit industry has been established on the Western Cape. Western Cape Minister of Agriculture, Dr Ivan Meyer, opened the facility at Bernheim Farm, outside Paarl. The initiative is an effort to keep up with international trends and to make sure local producers have access to world-class plant material, according to local press reports.

The facility will support the grape, raisin, pome, and stone fruit industries and will mainly address the shortage of available rootstocks and ensure rapid multiplication of in-vitro plant material.

The initiative is supported by a R10mn (US\$640,000) investment from the Western Cape Department of Agriculture.

FAO, OIE kickstart initiative for African Swine Fever

THE FAO AND the World Organisation for Animal Health called on all nations to help control the pig disease under the Global Control of ASF initiative.

"Our goal is to prevent the spread - and ultimately eradicate - this disease, leveraging the latest science, best practices and international standards," said FAO director-general QU Dongyu in his video message to the participants of a Call to Action event in October.

The disease causes up to 100% fatality in wild and domestic pigs, and there is no effective vaccine. Although not infectious to humans, pig production is critical for many economies, and to the food security and livelihoods of millions of people. The fatal disease continues to extend its reach, causing further damage in the socioeconomic fallout from COVID-19.

CONNECTED Virus Network receives funding extension

SUB-SAHARAN AFRICA-FOCUSED CONNECTED Virus Network has received funding that will enable it to operate for a further year. The 1,480-strong plant health / entomology network was due to end its term on 31 December 2020, but a 12-month extension has been granted by the UK Biotechnology and Biological Sciences Research Council (BBSRC).

The network, which brings together world-class researchers from across the globe to tackle plant diseases that devastate food crops in Sub-Saharan African countries, will now be able to continue its work until at least the end of 2021.

Network director Prof Gary Foster, University of Bristol, said, "We are grateful to the BBSRC for its support, and to all our network members for their continuing engagement since 2017. As directors we will continue to work closely with the network team, redoubling efforts to ensure the network goes from strength to strength."

"The extension will provide a number of extra opportunities for members. For example, we are planning for more networking and collaboration, putting some of our scientific training online for easier access, and improved website resources."

Co-director Prof. Neil Boonham, Newcastle University added, "By far the most important outcome of this welcome extension is that there will be more opportunity for network members to collectively take further steps to improve food security in Sub-Saharan African countries."

The directors made the announcement on the final day of the 'Springboard To Impact' online conference, which brought together many dozens of researchers from across the world, for two weeks of scientific presentations and workshops.

It included presentations, via Zoom, from each of the 20 research projects which have received pump-prime funding from The CONNECTED Network. The projects involved 11 different food crops, and collaborations of 55 researchers in 34 institutions in 14 countries.

The CONNECTED Network, based at The University of Bristol and Newcastle University, was funded by a £2mn (US\$2.6mn) grant from the UK government's Global Challenges Research Fund, which supports research on global issues that affect developing countries. It exists to bring together world-class researchers to find ways of tackling the devastating plant diseases caused by vector-borne viruses.



Image Credit: Adobe Stock

Plant diseases devastate food crops in Sub-Saharan African countries.

Omnia Holdings sells off Oro Agri to Rovensa

JSE-LISTED CHEMICALS GROUP Omnia Holdings Limited has reached an agreement to sell off Oro Agri to Rovensa, a European-headquartered business which produces and distributes biocontrol, bionutrition and crop protection solutions. The transaction is subject to the approval of shareholders, and will provide cash proceeds to Omnia of around US\$152mn.

Oro Agri is involved in the research and development, production, distribution, marketing and sales of a differentiated range of AgriBio products, many of which are patented. Its product ranges include biological crop protection products, adjuvants, liquid foliar fertilisers and soil conditioners for all major crop types.

"We believe that Oro Agri's risk profile, the attractive price offered

by Rovensa and the opportunity to de-risk our capital structure, outweigh Oro Agri's long term potential which would require significant investment to realise," said Seelan Gobalsamy, CEO of Omnia.

Omnia's Agriculture International business is actively growing its biostimulant, speciality nutrient and organic fertiliser coating product ranges which, together with demand for humates from Omnia's unique Australian source, remain high. Research on microbial and other speciality plant nutrition products in South Africa is ongoing.

"Our intention is to use the proceeds from the disposal to repay debt and position Omnia with a strong financial base from which to fund selective organic expansionary capex and working capital," concluded Gobalsamy.

Zambia plays leadership role in SADC regional seed export policy



Zambia's accession to the SADC HSRS is a major milestone for the SADC region.

Image Credit: Ruzanna Arutyunyan/Adobe Stock

ZAMBIA HAS BECOME the first Southern African Development Community (SADC) Member State to fully align their national seed legislation with the SADC Harmonised Seed Regulatory System. The SADC HSRS harmonises national seed legislation with improved regional standards for seed production and allows for easier movement of high-quality seed consignments across national borders.

Zambia's accession to the SADC HSRS is a major milestone for the SADC region and the Feed the Future Southern Africa Seed Trade Project (Seed Trade Project). This is a five-year project designed to increase the availability of high-quality seed of improved varieties to farmers in the Southern African Development Community (SADC) region, and contribute to increased agricultural productivity and improved food and nutrition security. While already a leading seed exporter in the SADC region and Africa more broadly, Zambia's full domestication of the SADC HSRS deepens its position.

The U.S. government, through its Agency for International Development (USAID), and the SADC, in close partnership with the Government of the Republic of Zambia, has commissioned a pilot seed export from Zambia to Mozambique produced by emerging seed company, Lake Agriculture.

The USAID-funded Seed Trade Project has awarded Lake Agriculture a K2 million (US\$100,000) grant to produce and export 200 metric tons of improved, high-quality hybrid maize seed, under the HSRS. With a joint investment of K3.7mn (US\$185,000) and strict adherence to the regional guidelines, the emerging seed company ultimately produced 250 metric tons of high-quality seed valued at K7.6mn (US\$381,000), yielding a 380% return on the USAID investment. Of the total amount produced, 216 metric tons are being exported to neighbouring, seed deficit Mozambique, while the remaining 34 metric tonnes of improved maize seed will be sold on the local Zambian market.

"Through our Seed Trade Project, we are supporting the SADC Secretariat to harmonise the national seed legislation across all 16 Member States with the regional guidelines. Due to its location and ability to produce quality seeds, Zambia is uniquely positioned to provide the ideal seeds for this inaugural export," said U.S. Embassy Zambia Chargé d'Affaires, David Young. "These pilots also provide an opportunity for seed companies - be they large or small - to meet guidelines and successfully produce and export improved seed."

"Seed is fundamental to our survival and regional economic prosperity," stated SADC Food, Agricultural and Natural Resources (FANR) director Domingos Gove. "I am so pleased to see the success of Lake Agriculture and several other seed producers who are taking advantage of the SADC Harmonised Seed Regulatory System, and I encourage more seed companies to engage and learn more about the process."

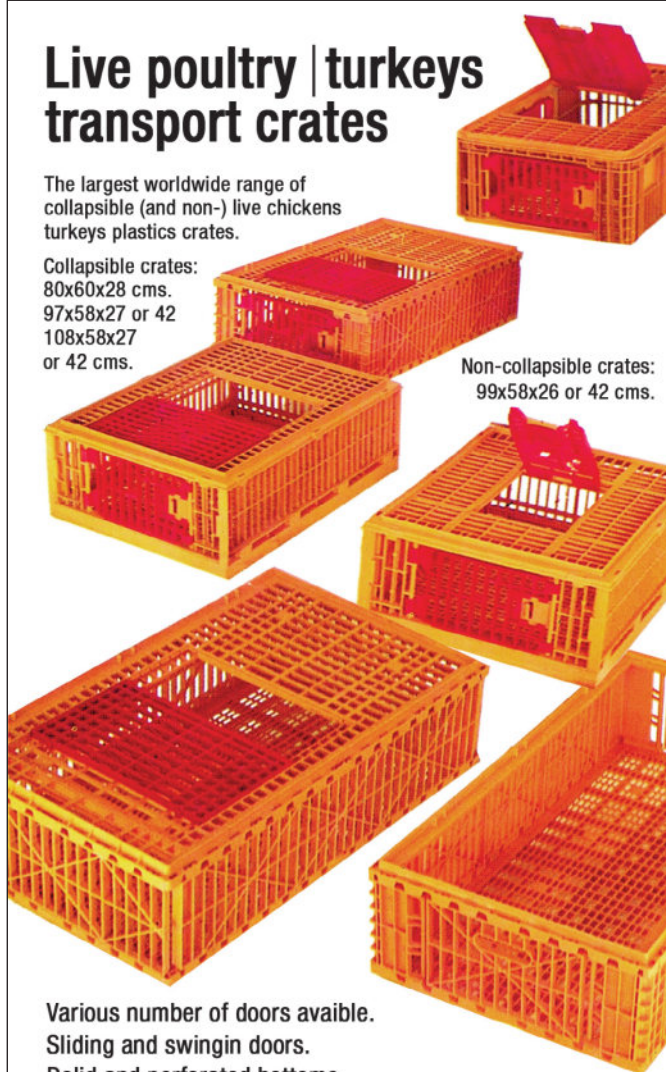
"As a small seed producer, we found it difficult to break into the Zambian seed market. With the close partnership between us and USAID's Seed Trade Project, we received valuable assistance on how to implement the guidelines and now feel like we can be a viable player in this market," said Lake Agriculture's managing director Mike Jackson. "This experience has not only shown us a path forward, but it has opened doors to many other markets and helped us produce more high-quality seed."

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New survey on women in food and agriculture

A NEW INTERNATIONAL survey launched on 28 October by AgriBriefing's Women in Food and Agriculture, which promotes gender diversity across the agribusiness supply chain, will act as a barometer to track change over the last 12 months.

The 2019 WFA survey revealed several barriers for women in agriculture but reflected an optimistic outlook. As 2020 ushered in unprecedented challenges for the industry, how has gender equality been impacted?

After a year like no other when home working has become the norm, the survey will assess how this has impacted on companies' approach to flexible working and the potential impact on women's careers going forward.

USAID-Ethiopian airlines to source food from locals

ETHIOPIAN AIRLINES AND the United States have announced a new partnership agreement that will enable the flagship carrier of the nation to produce locally grown products and ingredients for preparing in-flight meals for global passengers.

Ethiopian Airlines Group CEO Tewolde GebreMariam and US Ambassador Michael Raynor have signed a memorandum of understanding under which the US Agency for International Development (USAID) will provide technical assistance and access to financing to Ethiopian farmers and food producers to ensure that they are able to meet the quality and volume standards of airlines to serve their customers. These new business links will help farmers and local agribusinesses reach a prominent new market.

Demand for radical transformation of food systems to tackle the impacts of COVID-19

THE COVID-19 FOOD crisis is closely linked to economic, social, gender and environmental injustices of free-market neoliberalism, says a report launched by the largest international space of grassroots organisations and Indigenous Peoples working to eradicate food insecurity and malnutrition.

The crisis will not be fixed by emergency measures or stimulus packages that perpetuate the same model, but only by a human rights-compliant radical transformation of food systems, the report said.

Between 83 and 180 million more people could be pushed into hunger because of the pandemic, raising the overall number of food insecure people to more than 2 billion.

The report showed that the most effective initiatives to address the COVID-19 food crises have come from community efforts – to prevent contagion, protect workers (especially migrants), ensure food and economic security, halt evictions and land grabbing.

Despite official recognition that 70-80% of the world is fed by small-scale food producers and local food systems, most COVID-19 policies, financial support and economic stimulus packages continue to favour the corporate agro-industrial complex and global supply chains, it added. Small-scale food producers, workers, Indigenous Peoples, the urban food insecure and landless peoples, particularly women, are among the worst affected by the pandemic.

Rather than promoting an intensive, export-oriented agriculture that perpetuates inequality, human rights abuses and the climate crisis, the report urged States to encourage agroecology, which offers healthy and nutritious food, while also preserving the environment.

It found serious gaps in global coordination to address what is the worst food crisis in over a decade and that few State responses so far have centred on the realisation of human rights, or the needs of vulnerable and marginalised communities. There have been abuses of emergency powers and an increase in the criminalisation of Human



Image Credit: Riccardo Niels Mayer/Adobe Stock

The report states that food sovereignty is the only solution to the crisis.

Rights Defenders, while environmental and labour regulations have been weakened.

Yet, a few governments' initiatives have shown it is possible to support the most vulnerable by providing shelter for the homeless, universal basic incomes or cash transfers within weeks.

The report is published ahead of a virtual meeting of the United Nations Committee on World Food Security (CFS) where governments will discuss how to transform global food systems and tackle the impacts of COVID-19.

It is high time for development priorities to be redefined in accordance with gender justice and the demands of the youth as the future guardians of food systems, the report stated.

Bell aircrafts help safeguard food and agriculture amid historic locust infestation

OVER THE LAST 12 months, food security has been under serious threat from devastating locust swarms, destroying crops from East Africa to the Arabian Gulf.

With experts warning of a 'rolling emergency' that could endanger harvests across the regions for the rest of the year, governments and international organisations face a herculean challenge in controlling the infestations. Aircrafts from Bell, the US-based helicopter manufacturer, have been playing a crucial role in the joint efforts to fight this ancient plague.

According to the United Nations Food and Agriculture Organisation of the United Nations, desert locusts – the destructive infestations of which cause major crop damage – are grasshopper

species that live largely alone until a combination of conditions promotes breeding and leads to the formation of massive swarms.

The current crisis in the region began in October 2019 with the formation of swarms along the Red Sea coastal plains in Yemen, Saudi Arabia, Eritrea and Sudan, spreading eastward across the Arabian Peninsula and further south in Africa in the following months.

By January, Kenya, one of the countries hardest hit by the crisis, had experienced its worst outbreak of desert locusts in 70 years. To address this issue, the authorities hired South African helicopter operator BAC Helicopters, who had recently purchased three Bell 206L-4 helicopters, to conduct the Emergency Desert Locust Survey and Control operation in the affected part of Kenya.

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Advancements in precision farming and modern analytics are significantly impacting the poultry sector.

Novel technologies improving biosecurity



Image Credit: pixamo/Adobe Stock

Advanced technologies are helping farmers improve biosecurity.

THE ACTIONS AND measures taken to prevent diseases being introduced through animals are crucial to ensure the safety of food.

Some recent technological advancements are leading change in poultry production.

Bacteriophage technology

Poultry farmers in selected markets already benefit from using Proteon Pharmaceuticals' bacteriophage technology to ensure biosecurity through the waterline and to improve the efficiency of the production.

The antimicrobial resistance threat has spurred recent investments in bacteriophage technologies. Modern analytics and omics technologies have enabled the bacteriophage candidates to be screened and identified for a specific bacterial challenge, with significant implications for feed and food safety. This new technology is already being used in the animal feed industry.

Jarosław Dastyk, CEO, Proteon Pharmaceuticals, commented, "We strongly

believe that our technology might be considered as the future of animal health and nutrition and will help to reduce antibiotic use and antimicrobial resistance."

Proteon's bacteriophage technology helps ensure biosecurity through the waterline and improves the efficiency of production.

Incineration solution

Agricultural incinerator manufacturer Addfield Environmental Systems has introduced a highly flexible solution for large broiler houses and poultry farms with the release and installation of the first A50L in the UK.

This new solution for poultry farmers helps to maintain biosecurity and manage their fallen livestock efficiently.

The manufacturer said that the A50L had

taken agricultural incineration to new levels by being able to achieve almost continuous loading and operation.

James Grant, business development director at Addfield, said, "It has been a very pleasant result taking off as it has in the UK. We work with farms of all sizes from micro small holdings through to some of the largest pig and poultry producers in the world."

Smart solutions

Several innovations are constantly working together with smart solutions to achieve precision farming.

GPS tracking collars, smart sensors and tags can assist livestock farmers in monitoring and ensuring biosecurity through a smart system of access control.

Biosecurity is of great importance to prevent new outbreaks of contagious diseases, which again, may lead to enormous losses. Together with this, the use of new and innovative feed ingredients, enhancing the immune system of animals is important. **E**

Boehringer Ingelheim unveils vaccine for three diseases

BOEHRINGER INGELHEIM ANIMAL Health has launched a first-of-its-kind vaccine to protect poultry from Infectious Laryngotracheitis, Marek's Disease and Infectious Bursal Disease (classic and variant types).

"This new trivalent vaccine provides a strong immune foundation, optimises protection for flocks and offers reliable protection," said Matt Nelson, head of Boehringer Ingelheim Animal Health's US poultry business.

The three-in-one vaccine is the latest addition in the VAXXITEK family of vaccines for poultry. It uses the same bioengineering platform as VAXXITEK HVT+IBD, which has protected more than 100 billion birds from Marek's Disease and Infectious Bursal Disease in more than 75 countries since its introduction in 2006.

Infectious Laryngotracheitis (ILT) is an acute viral respiratory disease caused by Gallid herpesvirus type 1 in poultry. There is no effective treatment for ILT, and the virus persists for life in affected birds. The disease can cause significant economic losses.

Boehringer Ingelheim Animal Health's existing non-vectored vaccine protects against ILT. The new trivalent vaccine is a




The three-in-one vaccine is the latest addition in the VAXXITEK family of vaccines for poultry.

vectored vaccine that protects ILT along with two other health threats to poultry: Marek's Disease and Infectious Bursal Disease.


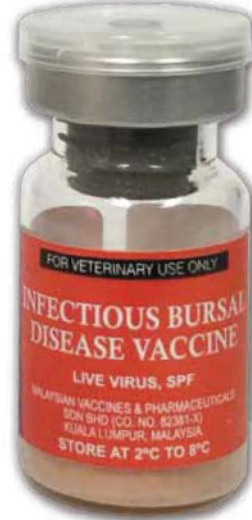
The company will manufacture its new

vaccine in Gainesville, Georgia, where it produces 60 billion doses of poultry vaccine per year for use in the US and around 60 other countries.

Image Credit: agnomark/Adobe Stock



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Healthier animals mean more food, production revenue and a booming agricultural industry for the entire continent. *Nawa Mutumweno* reports on the initiatives across Africa to improve livestock production.

Holistic solutions for livestock health

IN AFRICA, HERDS often face extreme weather conditions, zoonotic diseases, and malnourishment, making it difficult to ensure sustainable livestock production.

Interventions

The United States Agency for International Development (USAID) Africa Bureau is strengthening the capacity of African animal health disease surveillance systems to enhance early detection and reporting of infectious animal disease by:

- Providing veterinary professionals a toolkit of equipment, materials and information to aid them in detecting disease in the field and collecting samples, together with developing a business strategy for creating and sustaining internationally-accredited laboratory capacity for timely processing of samples from the field.
- Engaging private-sector resources and capacity to enhance disease surveillance through public-private partnerships with commercial actors and private veterinarians; and using the African Bureau of Animal Resources of the African Union Animal Disease Information System to strengthen national disease surveillance capacities through communication strategies providing information and training.

Weaknesses in veterinary surveillance systems in Africa have surfaced during outbreaks of infectious diseases such as Rift Valley fever and Highly Pathogenic Avian Influenza.

Other active partners over the years have included FAO, European Union, Bill and Melinda Gates Foundation, World Vets International Aid for Animal and GALVmed.

Focus on SADC

Initiatives undertaken to address challenges of the sector under the South African Development Community (SADC), include the Livestock Information Management System developed to create animal health yearbooks, analyse animal health data on a monthly basis, develop livestock marketing initiatives and create quarterly trade data.

Livestock constitutes an important natural



Image Credit: dr322 / Adobe Stock

Strengthening African animal health disease surveillance systems is crucial for early detection.

resource for the Southern African region.

Funded by the African Development Bank (AfDB), the US\$21.6mn Trans-boundary Animal Diseases project aims to make significant progress towards managing, controlling and eradicating trans-boundary animal diseases through improved capacity for detection, identification, monitoring and surveillance.

Innovations

Countries such as Zimbabwe have responded to the need for more, better quality feed to sustainably grow the livestock sector. Some farmers who received training in the production of forage seeds in eastern Zimbabwe earned up to US\$800 each for producing lablab, or Hyacinth bean, which also improved the quality of meat.

Simple mobile technology has been used in Ghana to provide veterinary information and advice to livestock farmers.

And simple mobile technology has been used in Ghana to provide veterinary information and advice to livestock farmers. Within two years of the information service Cow Tribe launching, vaccine coverage among its users increased from less than 20% to 65%, reducing livestock disease and loss, and adding an estimated US\$300 to their annual household income.

A wide selection of smart solutions now exist, from wearable technologies to ingestible hardware, that are designed to reduce the spread of disease and mortalities.

Analysis of the sector

Without sustainable growth of its livestock sector, Africa is expected to import up to a fifth of meat and milk within the next 30 years, according to the Malabo Montpellier Panel.

"With rising incomes and urbanisation quickly shifting dietary habits across Africa towards increased meat consumption, the livestock sector will play a crucial role in ensuring food and nutrition security and fostering economic growth in the years ahead," said Ousmane Badiane, co-chair

of the Malabo Montpellier Panel.

During the meeting held in December 2019, agricultural experts analysed lessons from four African countries that have sustainably grown their domestic livestock sectors to provide recommendations for unlocking the economic potential of animal agriculture and becoming self-sufficient.

The panel highlighted the experiences of Ethiopia, Mali, South Africa, and Uganda in terms of institutional and policy innovation as well as programme interventions.

The report also reviewed challenges facing Africa's livestock sector ranging from feed quality to animal health and food safety issues, as well as highlighting the role of livestock in the empowerment of women.

"Understanding the interactions between livestock and the environment is essential to developing a thriving, sustainable livestock sector, including assessing the extent of grassland degradation, land and water pollution, water scarcity, biodiversity loss, and emissions," said Nachilala Nkombo, panel member and country director for the World Wildlife Fund (WWF), Zambia.

Way forward

The agricultural sectors and livestock



Image Credit: dusanpetkovic/Adobe Stock

Sustainability in the livestock sector is crucial for food security.

farming in particular must shift towards sustainability to enhance their contribution to food security, nutrition and healthy diets and build better to overcome the COVID-19 pandemic and other challenges, FAO director-general QU Dongyu said at the recent virtual 27th session of the Committee on Agriculture in Rome, Italy.

"A sustainable livestock sector will foster an inclusive economic growth, improve livelihoods, sustain animal health and welfare, and address environmental issues," he said.

There is a need for a holistic and inclusive approach to livestock sector policies and technical actions that include all stakeholders within the food system. **13**

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Large-scale kelp farm to be developed in Namibia



Image Credit: Andrew/Adobe Stock

Kelp Blue will create employment opportunities in coastal communities and contribute to economic growth in outlying areas.

CLIMATE FUND MANAGERS (CFM) and Eos Capital have announced a partnership between Climate Investor Two (managed by Climate Fund Managers), Kelp Blue and the Namibia Infrastructure Development and Investment Fund (NIDIF), managed by Eos Capital, for the commercial development of the world's first large-scale kelp farm.

Kelp Blue will cultivate giant kelp in nutrient-rich waters 3-10km off the coast of Namibia, near Lüderitz. The seaweed canopy will be sustainably harvested to produce alternative agri-food, bio-stimulant and textile products.

Kelp is a fast-growing seaweed and has the ability to sequester more CO₂ than terrestrial forests while boosting marine biodiversity and improving fish stocks and generating additional ecological benefits,

The introduction of offshore engineering innovations and novel processing technologies will reduce overheads and increase scalable process efficiencies.

including counteracting ocean acidification and de-oxygenation.

Investment of approximately US\$60mn will be required over a five-year period. This will be funded by both international and local Namibian sources through CI2 and NIDIF, pending investment approvals. Kelp Blue will seek the necessary Namibian regulatory approvals and will liaise closely with local authorities.

Kelp Blue's business model will add value across the entire kelp value-chain. The introduction of offshore engineering innovations and novel processing technologies will reduce overheads and increase scalable process efficiencies. Economic development will be promoted through the creation of value-added products in Namibia for local consumption and export.

Kelp Blue will also create employment opportunities in coastal communities and contribute to economic growth in outlying areas. Kelp Blue is directly aligned with the goals of the CI2 facility as it offers a viable alternative to existing water and waste management practices and current approaches to ocean system management. It is also aligned to Eos Capital and NIDIF's shared mission of contributing to the growth of the Namibian economy. The

"In addition to the positive impact on our ocean and our local fish stocks, this is an exciting opportunity to add to the infrastructure and growth of Lüderitz, thereby enhancing prospects for the local community, and to secure inward investment into Namibia on an environmentally responsible basis."

business will contribute to the attainment of the United Nations' Sustainable Development Goal Number 14: Life below water through the creation of marine ecosystems.

"In addition to the positive impact on our ocean and our local fish stocks, this is an exciting opportunity to add to the infrastructure and growth of Lüderitz, thereby enhancing prospects for the local community, and to secure inward investment into Namibia on an environmentally responsible basis," said Nicole Maske, the managing partner of Eos Capital.



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Iraq	17 – 20 Nov. 2021	Erbil www.iraq-agrofood.com
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Africa is a major market for Spanish manufacturers of agricultural products and equipment. *Jaime Hernani*, director of AGRAGEX, discusses the work of these companies and their interest in the continent.

Combining innovation and quality



AGRAGEX has organised visits of buyers from African countries to Spain.

Image Credit: AGRAGEX

AGRAGEX, THE SPANISH Exporters' Association of the agricultural sector, is dedicated to promoting the products and equipment of Spanish agricultural manufacturers throughout international markets, for more than 41 years.

In Africa

Africa is a priority market for AGRAGEX, due to the diversity in crop and livestock, its demographical potential and proximity of the Maghreb region.

The organisation has expanded the scope of its activities in Africa, over the years, keen to be a part of the development of its agricultural sector in shaping the future of the continent.

AGRAGEX has held international exhibitions and trade missions to Morocco, Algeria, Tunisia, Libya and Egypt in the north, South Africa, Angola, Namibia and Zimbabwe in the south, Senegal, Côte d'Ivoire, Ghana, Nigeria and Cameroon on the west coast as well as Ethiopia, Kenya, Sudan and Zambia

AGRAGEX has held international exhibitions and trade missions across all parts of the continent. The association has organised visits of trade delegations, importers and distributors, from African countries to Spain.

on the east of the continent.

The association has organised visits of trade delegations, importers and distributors, from the African countries, coinciding with the FIMA trade fair in Zaragoza, to provide buyers the opportunity to learn and observe the Spanish agricultural and livestock equipment.

Industries

The leading technology of Spain is recognised world-wide for the design and

manufacturing of plastic greenhouses and allied industries. Spanish companies in this sector are established across Africa.

The drip irrigation, sprinklers and pivot irrigation systems from Spain are well-known around the world and USA, Japan and Germany are enthusiastic users.

For the storage of cereal crops, Spain has developed metallic silos and other products that help in preservation and prevent crop losses. Spain is an important manufacturer of turnkey farm projects that guarantee good practices and products of great quality.

The animal health and nutrition products from Spain, also stand out for adherence to high standards, helping in the prevention of animal diseases and ensuring an uninterrupted food supply.

The agricultural machinery, irrigation equipment, greenhouses, silos, agronutrients and biostimulants, as well as animal health and nutrition products from Spain combine innovative technology with affordable prices. They meet high quality standards and offer an unbeatable price-quality relationship. **E**

Nestlé steps up efforts to boost Africa's coffee production

AFRICA ACCOUNTS FOR around 12% of the world's coffee production and the high-quality and taste of coffee from the continent are loved by coffee connoisseurs worldwide. Côte d'Ivoire alone is the largest coffee producer in West Africa and the third largest in sub-Saharan Africa.

Coffee farmer, Francois Dadi Serikpa, from Gnamagnoa in Côte d'Ivoire, joined Nestlé's Nescafé Plan 10 years ago. The coffee farms that had been in his family for generations were producing poor yields, making it hard for him to earn a good living to care for his family. Under the Plan, he worked hard with Nestlé agronomists who taught him better farming practices and how to grow coffee sustainably. Four years later, Dadi was very proud to have increased his production five-fold, growing more than two tons per hectare. Dadi embodies the success stories of thousands of farmers across 11 countries, who are part of the Nescafé Plan worldwide.

However, scientists warn that without conservation, monitoring and seed preservation measures, millions of coffee farmers on the continent could lose their livelihoods, impacting the quality of their lives and their families.

Dadi is one of the millions of farmers all around the world facing the threat of climate change disrupting coffee production. To grow properly, coffee crops require specific temperature, light and humidity levels.

"However, rising temperatures will reduce the area suitable for growing coffee by up to 50% by 2050. Water shortages have also left some coffee farms abandoned or converted for other uses. In Côte d'Ivoire, coffee production usually peaks at about 100,000 metric tonnes a year, but recently took a severe hit when the seasonable rain pattern reduced supply by 15%," said the statement of Nestlé.

To help revitalise coffee production on the continent, much work is currently underway to boost production, which can improve the incomes of coffee farmers and encourage young people to pursue a career in coffee farming.



Côte d'Ivoire is the largest coffee producer in West Africa.

Image Credit: Nestlé

For Nestlé in Central and West Africa, sustainable coffee farming is attainable, and the company is joining forces to do this by rejuvenating, rehabilitating and replanting sustainable coffee now, and in the future.

Agricultural techniques, such as adapting the coffee tree crop formation including the structure, number of branches and canopy shapes, have been introduced to enhance growth. Group training, individual farmer coaching and farming tools have also been provided to Ivorian coffee farmers to encourage the advantages of the correct pruning and maintenance of plantlets and trees.

As a result, about 6,750 ha of coffee trees have been planted and more than 2,000 ha of coffee farms have been rejuvenated across Côte d'Ivoire, producing more than 2,000 metric tonnes of additional coffee supply and increasing farmer income by 25%.

In the Democratic Republic of Congo, Nespresso also recently announced a long-term commitment to revive the country's coffee industry, support Congolese farmers and restore production in regions that are under threat.

South African stone fruit 2020/21 season expects improvements on all fronts

PROMOTIONAL ACTIVITY FOR the South African stone fruit industry in the UK is underway, and growers are optimistic about the season ahead.

The 2019/20 season brought many challenges caused by difficult weather conditions and the coronavirus pandemic. This season, however, is set to see an improvement in all aspects: this year's weather has been advantageous for the fruit crops, and ports have returned to a more normal operational status.

Hortgro, the organisation which represents South Africa's stone fruit industries, will continue to develop the plum, peach and nectarine categories in the UK through their integrated marketing initiative, which has now been running for 12 years.

Jacques du Preez, general manager of trade and markets at Hortgro, said, "The stone fruit forecast and overall estimate volumes are looking much better compared to the same time last year. For plums in particular, the favourable weather conditions have definitely had a positive impact on fruit set for this coming season and we are optimistic about the harvest."

The initial export crop estimates project an



Image Credit: South African Stone Fruit

Favourable weather conditions have a positive impact on the fruit crops.

increase in volumes compared to the previous season. Plum growers anticipate a large increase of 22% compared to last season, to 10.8 million cartons. Nectarines are expected to increase from last year's 5

million cartons to almost 5.6 million cartons (2.5kg). Peaches can expect a 5% increase to 2.1 million cartons. The increased volumes are mainly driven by young orchards coming into production and more favourable weather conditions.

Collaboration with retailers will be one of the main focuses of this year's campaign, which will see in-store promotions, advertising and editorial both online and in retailer magazines, alongside social media activity.

The stone fruit campaign will be supported by other trade and consumer-focused activities, including new recipe styling and photography, editorial and advertising, and social media.

Preez added, "The South African stone fruit growers, packers and exporters remain committed to supplying consumers with excellent quality and great tasting products. The industry is confident that the logistical challenges experienced during the past year due to COVID-19 is something of the past and is looking forward to a great season."

The season begins with stone fruit in November through to May and top fruit from April through to October.

Dr Terry Mabbett explains the system that can help African rice farmers ensure complete nutrients for the crop.

Feeding rice through the foliage

Omex Bio 20 is applied in the rice nursery to boost root biomass and to secure seedling establishment.

Image Credit: Omex



LOWLAND RICE FARMING may only realise half the achievable grain yield even when modern hybrid varieties are used. Climatic conditions and the extent to which these vary from year to year may restrict yield but are clearly beyond control of the rice farming fraternity.

However, fertilisation is well within the remit and control of rice farmers. For instance, placement of potassium (K) fertiliser can be expected to increase rice grain yield by 20%. However, fertiliser failings and impact on yield potential may not be due to insufficient fertiliser but inefficient use and application of available resources.

For example, efficiency of nitrogen (N) fertiliser can be maximised by improved application timing and synchronisation with those stages in the rice crop cycle having the highest requirement for this macronutrient, as well as due regard to placement in

the soil. Similarly, phosphorous (P) must be targeted at key stages in the crop growth and development cycle.

The answer and solution lies in foliar feeding whereby nutrients are supplied in a ready-plant-available form as soluble-liquid or soluble-powder delivery systems, mixed with appropriate volumes of water and sprayed onto the crop foliage. Foliar

Foliar feeding complements base fertilisation to offer dual advantages of speed to improve timing in relation to nutrient-demanding stages in the rice crop cycle and exact placement to maximise uptake and minimise loss and waste.

feeding is not a substitute or replacement for base fertilisation using solid formulations but complementary to offer dual advantages of speed to improve timing in relation to nutrient-demanding stages in the rice crop cycle and exact placement to maximise uptake and minimise loss and waste. Separate but of crucial importance is foliar feeding as the fastest way to correct plant and crop deficiency of a specific nutrient.

Foliar feeding is of particular importance and benefit where soil nutrients such as zinc are not available in the plant because they are locked up, in this case as insoluble zinc phosphate and prevalent in high P soils. Or insufficiently plant available, such as calcium (Ca) due to inherent poor mobility of this divalent cation (Ca^{2+}) but nevertheless an essential secondary (meso) nutrient.

From leaf surface to cytoplasm

Journey from leaf surface to cell cytoplasm

for soluble nutrients applied by foliar feeding, is quicker and altogether less encumbered than more tortuous journeys for nutrients from soil into the rice plant's root system. Soluble nutrients in the spray tank are in a stable solution, unthreatened by an inappropriate pH background or counteractive compounds as is frequently so for soil-based nutrients.

The foliar feeding journey is divided into two distinct and separate stages:

- Movement of nutrients from foliar surface into the leaf tissue via penetration or absorption
- Movement of nutrients from point of penetration to various sites in the plant by translocation

Two main points of entry are direct entry via the cuticle and entry via the stomata. Extent and speed of entry via stomata will clearly depend on stomatal density and distribution across the leaf surface and the extent to which stomatal pores are open, depending on the time of day and atmospheric conditions including relative humidity. All that said, the journey for soluble nutrients applied by foliar feeding is more rapid and less obstructive than for nutrients making their way from the soil solution, into the roots and up into the aerial parts of the plant.

Soluble nutrients - what's in the Omex store for rice farming?

Farmers will realise the benefits of foliar feeding through soluble nutrient products that can satisfy all nutrient requirements.

Omex Agrifluids is a R&D based company in the East Anglian region of

England, with a product profile which spans the spectrum of essential plant nutrients and is used worldwide on the widest range of crops including rice. Dr Ben Odunlami, technical sales manager for Africa and managing director, Peter Prentis explained in detail about the Omex products for rice in Africa.

Zinc seed dressing – the means to an end

"First on the agenda is a Primer Zinc Bio applied as a seed dressing (3 ml product/kg rice seed). Clearly applied at the very beginning of the crop cycle, but ironically to ensure the rice harvest it should contain sufficient zinc to ensure the nutrition quality of the rice grain," said Odunlami. "Primer Zn Bio is a high concentration suspension seed treatment containing 700 g/l (70% w/v) Zn and a natural biostimulant sourced from a marine alga (seaweed)," said Prentis.

"Primer Zinc Bio applied as a seed dressing. Clearly applied at the very beginning of the crop cycle, but it should contain sufficient zinc to ensure the nutrition quality of the rice grain,"

Stimulating seedling growth

Omex Bio 20 is another product in which key nutrients are boosted by the addition of a biostimulant. "Omex Bio 20 is specially

formulated to supply rice seedlings with a nutrient profile that promotes greater root biomass to maximise utilisation of moisture and nutrients and therefore plant growth," added Prentis.

Post-transplant sprays at tillering

Transplanted rice plants at the tillering stage receive a second 'shot' of Omex Bio 20 (1.0 – 2.0 l/ha) and a second boost with zinc this time as Kingfol Zn, a flowable foliar applied nutrient formulation, containing 700 g/l (70% w/v). Odunlami told African farming, "How the zinc contained in Kingfol Zn is zinc oxide, which has small particles together with enhancers to optimise the uptake by the leaves."

Post-transplant sprays at panicle initiation and spike emergence

Key priorities at the crucial panicle initiation and spike emergence stages are broad and balanced applications of nutrients to sustain growth and development. These are specific applications of calcium and boron treatments for general all round tissue strength and resilience.

Odunlami says the breadth and balance is provided by combinations of four Omex products – Omex K41 at 3.0 l/ha, a water soluble emulsion containing nitrogen, magnesium, sulphur with super high potassium (41% w/v); calcium and boron are supplied by Omex CalmaxB (calcium 22.50% w/v, boron 1.53% w/v plus chelated micronutrients, nitrogen and magnesium) at 2.0 l/ha, Omex Bio 20 and Omex Kingfol Zn. **15**

Use of Omex's high zinc products ensures the enhanced human nutrition required of the harvested grain.



Image Credit: Omex

Farmers in Ethiopia are finding new ways of improving crop yields. Wallace Mawire reports.

Improving wheat productivity

DNA fingerprinting study has shown that farmers in Ethiopia have widely adopted improved rust-resistant bread wheat varieties.



Image Credit: hplfotos/Adobe Stock

WHEAT RUST IS a devastating fungal disease that can be dispersed by wind over long distances and can dramatically reduce wheat yields. Ethiopia has developed ways to improve production.

Early warning system

An early warning system is helping farmers throughout Ethiopia combat wheat rusts by delivering wheat rust predictions directly to farmer's phones.

According to information received from the International Maize and Wheat Improvement Center (CIMMYT), the system, which uses field and mobile phone surveillance data together with spore dispersal and environmental suitability forecasts, allows policy makers to forecast a wheat rust outbreak up to a week in advance.

According to Dave Hodson, principal scientist at the CIMMYT based in Mexico, despite the challenges created by COVID-19 pandemic in 2020 and efforts of their partners, it was still possible to operate the

wheat rust early warning system and get regular advisories and alerts out to extension agents and farmers.

Hodson said that wheat rust, especially yellow and stem rust, were highly prevalent in Ethiopia this season and weather conditions were extremely favourable for rust development.

"However, based on expert opinion and feedback, farmers were able to get control of rust outbreaks in many areas. Rust diseases were widespread, but high losses over large areas should not have occurred," he said.

It is reported that several factors are likely to be contributing to the control, including information from the early warning system, widespread use of different resistant

varieties, better preparedness and experience in rust control from farmers.

DNA fingerprinting

A CIMMYT-led, state-of-the-art DNA fingerprinting study has shown that farmers in Ethiopia have widely adopted improved rust-resistant bread wheat varieties, increasing both farmer income and national wheat production.

The results published in Nature Scientific Reports, found that nearly 47% of the nationally representative area sampled was grown to varieties 10-years-old or younger and the majority, 61% of these were released after 2005. CIMMYT-derived varieties released by the Ethiopian Institute of Agricultural Research covered 87% of the wheat area surveyed.

It is reported that initial estimates indicate that the use of varieties released after 2005 allowed farmers to gain an additional 225,500 tonnes of extra production, valued at US\$50mn, since 2014. **E**

The early warning system allows policy makers to forecast a wheat rust outbreak up to a week in advance.

Uralchem and Uralkali provide farmers with a complete range of fertilisers, essential for plant growth.

Apart from fertilisers, UFCL focuses on providing value-added services.

Ensuring crop nutrition

Image Credit: Adobe Stock

THE SUPPLY OF fertilisers in the right quantity and quality at the right time and place goes a long way in increasing farmers' productivity, enhancing household incomes and in building food security.

Uralchem, a producer of mineral fertilisers, has a wide range of products used in plant cultivation and animal husbandry, including nitrogenous fertilisers commonly used in agriculture, such as ammonium nitrate, urea prilled, calcium ammonium nitrate granulated. In addition, Uralchem manufactures a number of NPK compounds and specialty water soluble fertilisers used in chemical industry, metallurgy, construction, mining, glass manufacturing and other industries.

Uralkali is the leading global producer of potash (potassium chloride) or MOP, accounting for about 20% of global potash production. The company mines potash ore, which is then enriched and converted into final product ready to be used as a fertiliser for direct application to the soil, a component for NPK blending and the source of potassium in the compound NPK manufacturing process.

Uralchem and Uralkali's manufacturing facilities are located in Russia.

In Africa

UFCL was established in early 2019 to perform commercial and marketing activities in Africa on behalf of Uralchem and Uralkali. Proximity of offices to major African markets locates UFCL within arm's reach to its customers and to those enterprises willing to engage into new business relationships.

UFCL was established in early 2019 to perform commercial and marketing activities in Africa on behalf of Uralchem and Uralkali.


Apart from fertilisers, UFCL focuses on providing value-added services and building practical knowledge of environmentally-friendly crop production and the economical benefits, as well as test alternative fertilisation programmes. The company's experts, alongside its customers (importers and

distributors) establish field trials to demonstrate the effect of balanced crop nutrition to frontliners and major stakeholders of the agricultural sector: farmers.

Crop nutrients

Together with partners, UFCL distributes compound NPK grades, produced through a latest granulation manufacturing route, which ensures that each granule possesses superb physical properties (strength, density and shape) and contains primary nutrients (N, P and K) and sulphur. In nitrogenous fertilisers, UFCL supplies commonly used prilled urea, ammonium nitrate and CAN granular.

Potassium chloride (MOP) is universal, as it also can be applied directly to the field, which is very important in order to achieve balanced supply of nutrients for high quality yields. MOP is also distributed by UFCL.

The specialty fertilisers portfolio provides robust solutions for crops under irrigation. High purity and fully water soluble potassium nitrate, monoammonium phosphate, calcium nitrate concentrated, urea micro prills and foliar NPK+ME are specifically made for high-tech sensitive systems. 



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Tata International Africa invests in new John Deere dealership in Ghana

TATA INTERNATIONAL AFRICA has invested in a new John Deere dealership in Takoradi, Ghana to be officially opened in the first quarter of 2021.

In early 2019, Tata International Africa signed an agreement with John Deere Construction & Forestry as the authorised distributor for its products in Ghana and Nigeria. The addition of John Deere Construction equipment to Tata International Africa's product line-up has enhanced the company's ability to further meet the customer needs in a region where the company also sells and supports the John Deere Agricultural Equipment range.

The success and growth in selling and supporting the full line of John Deere Construction Equipment in Ghana, including the iconic John Deere excavators, has resulted in a strategic decision to invest in a new, full-service, flagship dealership in Takoradi.

"Our solid reputation of supporting John Deere products sold in Africa has enabled us to make this investment," said Len Brand, CEO of Tata International Africa. "In addition, 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."

"Apart from the financial investment in building this new dealership in Takoradi, we will be creating employment in the area as well. Africa's manufacturing, mining and quarrying sectors have played a continuous and significant role in the development of Ghana's economy. We are looking forward to playing a part in the further development of this region's economy," continued Brand.

The financing of heavy commercial vehicles, construction equipment and agricultural machinery presents a unique set of



The dealership will be opened in the first quarter of 2021.

Image Credit: Tata International Africa

challenges in Africa, but the introduction of Captive Retail Finance solution, called AFCL in the region has afforded some leeway in the way credit is provided. The retail credit provider started operations on the African continent in November 2017, in Tanzania, and has since become the a specialist company providing captive financing solutions for customers purchasing vehicles from Tata International Africa.

Since its inception two years ago, AFCL has financed more than 800 customers who, collectively, bought in excess of 1,600 vehicles and equipment. AFCL's product offering includes repayment terms in USD or local currency, loan durations between 12 and 36 months, with minimal deposit requirements. Finance is available for individuals, first-time buyers and companies looking to purchase commercial, agricultural, construction or passenger vehicles.

AFCL branches currently in operation across Africa include Tanzania, Kenya, Nigeria, Ghana and Zambia. There are plans underway to introduce AFCL in South Africa and Senegal later this year.

Our policy of deep customer understanding and delivering customer value defines the way we do business, and our resourceful team is willing to go the extra mile to deliver proficient services. Because access to credit is restricted, we support customers in overcoming this obstacle by providing easy application and credit processes with novel, flexible repayment structures," said Brand.

"Tata Africa has proven that it is recognised as a leading company to be aligned to, not only as a distributor or dealer for OEMs, but also as a premium supplier and dedicated aftermarket support and service to our retail customers in Africa. We are committed to the company's vision of building and sustaining relationships with cooperation and trust," Brand concluded.

The two companies both boast a long and proud history. John Deere is a leading manufacturer of agriculture, construction and forestry equipment with manufacturing facilities worldwide, while Tata has been operating successfully on the African continent for more than 40 years.

DJI introduces drone for precision agriculture spraying

DRONE AND CAMERA technology company DJI has launched an agriculture drone, the DJI AGRAS T20.

This precision agriculture spraying drone packs impressive features into a modular and portable design, making it accessible and scalable for farmers who are ready to apply digital insights and automated spray technology into their operations.

The drone is optimised to work in the most complicated environments and different agricultural lands, from its easy autonomous flight planning and terrainsensing radar, to its extended flight time, high payload capacity, and off-the-grid power options.

It is equipped with an omnidirectional digital radar system capable of detecting obstacles in all horizontal directions. It can also automatically circumvent obstacles while flying over different terrains, ensuring a high level of operational safety.

The drone enables users to easily set flight and operating param-

eters. With an integrated RTK centimetre-level positioning system and RTK dongles, centimetre-level waypoint recording is enabled, greatly enhancing operations and ensuring precision spraying. It also comes with a real-time FPV camera and two searchlights, providing users with a full live view even during low-light operations.

With a robust modular design, the drone folds and unfolds in seconds, making it more portable than other agriculture drones. The spray tank and battery are both swappable, reducing downtime and increasing workflow significantly.

DJI agricultural solution packages are designed to monitor crop health and generate variable treatment processes.

Using P4 Multispectral, operators can scan target areas and generate multispectral charts that provide actionable insights into crop health and help to formulate variable spraying and seed maps.

AGCO unveils Massey Ferguson 1800M and 2800M series compact tractors

AGCO CORPORATION, A manufacturer and distributor of agricultural equipment, has introduced the Massey Ferguson 1800M and 2800M Series, with five models ranging from 35-60 engine horsepower.

The 1800M and 2800M Series replace the 1700M Series compact tractors and are offered in both factory-installed cab and open-station ROPS models.

Featuring 1.83-litre, three-cylinder Iseki diesel engines, the 1800M Series tractors are available in two models with 36.2 or 39.4 engine horsepower. The 2800M Series offers three 2.43-litre, four-cylinder Iseki-powered models, from 48.8 to 60.3 engine horsepower.

These engines are turbocharged for responsive power, liquid-cooled for increased durability and standard-equipped with glow plugs for fast, reliable starting in frigid temperatures. Clean-burning Iseki engines meet Tier IV emissions standards and can be found in specialised equipment used worldwide in a broad range of demanding agricultural, turf and commercial applications.

The M Series compact tractors also come with an updated hood, headlights and new decals, reflecting the look of larger Massey Ferguson utility and row-crop tractors. They are ideal for jobs such as mowing or rotary tilling, where consistent working speeds must



AGCO NA Massey Ferguson 2860E loader.

be maintained.

An optional three-range hydrostatic transmission is also available. Dual foot-pedal controls make for quick and easy forward or reverse direction changes. Cruise control allows operators to set and maintain their preferred working or transport speed.

The tractors are available in both cab and open-station configurations. The standard cab models feature dual lockable, entry or exit doors, tilt steering and heating or air conditioning. The tractors offer up to 12.6 gpm hydraulic output, providing more responsive power at low engine speeds, allowing operators to throttle back to reduce noise, while maintaining full steering and

implementing the function.

The 1835M, 1840M and 2850M models offer a Cat. I rear three-point hitch, while the 2855M and 2860M models are equipped with Cat. I and II three-point hitch with 3,086-lb. lift capacity, providing compatibility with a wider range of attachments. M Series compact tractors can be equipped with dozens of implements and attachments, including the new Massey Ferguson FL Series loaders, CB backhoes and front-mounted snow blowers.

Jeffrey Ratliff, AGCO tactical marketing manager, said, "The M Series offers new developments and enhancements which meet the expanding needs of the compact tractor market."

New folding power harrows from Pöttinger

THE NEW LION 403 C and LION 503 C folding power harrows line from Pöttinger have working widths of 4.0 and 5.0m. Powered by tractors of up to 320hp, these two models are equipped for the toughest jobs.

The folding frame concept has been optimised to meet the latest requirements. The headstock and the entire folding frame are mounted on the machine. The result is a short and compact power harrow that is up to 30 cm shorter than any of the others. As a result, the centre of gravity is closer to the rear axle, and the weight acting on the front axle is noticeably more positive. Both models fold to an outer width of 2.55m so that transport on the road is no problem.



Both LION models operate with four rotors per metre of working width.

As tractor power continues to increase, so does the range of applications. While power harrows can be used solo for seedbed preparation, now more flexibility is needed. The answer is to make it possible to combine the power harrow with a coultail rail and front seed hopper. Thanks to its compact and short design, the weight of the coultail rail also acts further forward. This has an extremely positive effect on the steering performance of the tractor.

Both LION models operate with four rotors per metre of working width. This makes it possible to output wide working widths with smaller power tractors.

With the LION 103 C series, it is easy to quickly set the ideal working depth from the side of the machine to obtain the correct seedbed structure. All the operator needs to do is pull out a lynch pin and adjust the control rod to set the working depth as required. This system allows the working depth to be adjusted at intervals of approximately 1 cm.

Other advantages of the models are offered by the levelling board, which is automatically height adjusted by the rear roller. This is completely independent of the working depth setting. The levelling board is guided at a consistent pre-defined distance above the soil without changing its distance from the tines or its pre-set height. This patented solution delivers the most level and uniform tilth structure for the seedbed, even in varying soil conditions. Seedbed preparation is concluded by one of a wide range of rear rollers ranging from tooth packer rollers, prism packer rollers and rubber packer rollers. On tooth packer rollers and prism packer rollers, there are the additional criteria of two different diameters to choose from.

Investments in agriculture are impactful, provided they adopt a value-chain approach that enhances productivity, promotes agro-processing, and increases access to markets, says Nasser Al-Thekair, general manager for trade and business development at ITFC.

Improving market access for smallholder farmers

AGRICULTURE VALUE CHAINS are an integral part of regional and global integration, linking countries to the global economy. Nowhere is this more relevant than in Africa, given its immense importance to global agriculture and the launch of the African Continental Free Trade Area (AfCFTA) agreement.

Since its inception, the International Islamic Trade Finance Corporation (ITFC) has provided about US\$5.6bn of financing towards the food and agriculture sector in Africa. This includes post-harvest and pre-export financing in major value chains, such as cotton and groundnuts and import of vital commodities for food security of member countries, such as fertilisers, rice, sugar, and wheat.

Technologies helping smallholders

"Upskilling of African farming communities is a fundamental part of ITFC's trade finance and development model. Funding alone is not sufficient to sustain farming communities. They need to be equipped with knowledge and skills to increase output and leverage opportunities along the agriculture value chain," said Al-Thekair.

In this regard, ITFC has been working closely with OCP Africa, to upskill farming communities in Senegal. In 2019, ITFC launched the third OCP School Lab in the Agro-ecological zone of Niayes, Thiès region, an innovative programme aimed at increasing the yields and the incomes of smallholder farmers on strategic crops such as onions and potatoes by offering a full set of agri-services to farmers in that region. The programme also provides for soil-testing using the latest technologies (X-rays, big data and machine learning) and recommendations for fertiliser application that meet soil and crop needs.

"Upskilling of African farming communities is a fundamental part of ITFC's trade finance and development model."



OCP Africa and ITFC launched a mobile school lab in Senegal in 2019.

Image Credit: ITFC

In 2018, ITFC signed a US\$210mn framework agreement in The Gambia to support the import of fertilisers and pre-export finance for groundnuts and cashew nuts. The agreement also extends to technical assistance with the Aflatoxin Mitigation Programme, aimed at eradicating aflatoxin fungus and improving the quality of the groundnut produced in The Gambia.

In 2019 alone, ITFC financed the import of wheat, rice and other basic commodities benefitting millions of households in African member countries.

ITFC onwards: action plan

As part of its COVID-19 response measures, ITFC has been working with governments to ensure the steady and uninterrupted supply as well as pricing of food staples. ITFC's mandate is to advance trade and improve lives in all OIC member nations and this will continue throughout and after the COVID-19 pandemic.

For the African continent, one of the major priorities will be the continuity of trade and availability of trade finance to promote the flow of goods and continued economic activity. There is a need to ensure that buyers and sellers in the critical and value-adding sectors continue to engage

and trade amidst the upheaval.

The Arab-Africa Trade Bridges (AATB) Programme, a flagship programme by ITFC and its strategic partners, including the Arab Bank for Economic Development in Africa (BADEA), the African Export-Import Bank (Afreximbank), Islamic Development Bank (IsDB) and Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), amongst others, will continue to focus on driving regional economic integration between the African and Arab regions and strengthening trade-related cooperation.

Emphasis will be placed on global agri-food value chains and improving market access for smallholder farmers through initiatives that contribute to better quality agri-food output, transport, and storage. These initiatives include the training of farmers on improved agricultural techniques. ITFC will continue to create high-impact value chains across African OIC member countries that impact the lives of smallholder farmers and their families for decades to come.

Going forward, the AATB programme will play an even more important role in terms of continuing to engage food and agriculture exporters to ensure continuity of trade, sustainable farming and regional food security. **E**

'New technologies measurably boost farmers' productivity'



Mobile technologies and digital agriculture are a great promise for farmers.

Image Credit: Courage/Adobe Stock

MOBILE TECHNOLOGIES AND digital agriculture are a great promise for the world's farmers, making it all the more important to foster appropriate institutions capable of generating innovation that benefits smallholders and disadvantaged groups, said Nobel laureate economist Michael Kremer in a special lecture hosted by the Food and Agriculture Organisation of the United Nations.

"Digital agriculture has allowed governments to support smallholders during this pandemic, and it should also be a path to creating a better system for the future," said Kremer, who drew on recently published research that found information sharing through mobile telephony catalysed significant and measurable improvements on yields and adoption of recommended agro-chemical inputs across sub-Saharan Africa and India.

"Digital technology is not only about economics, but digital governance, digital society and a digital world," said FAO director-general QU Dongyu. He also noted his guest's lecture was held on International Day for Rural Women, who often have limited access to mobile phones- which he calls a 'new farming tool'. Emphasising the importance of rural areas and smallholders,

he urged that the 'development deficit' between countries must not be replicated in a similar digital divide.

Kremer discussed prospects for digital agriculture, including the provision of higher-resolution weather information, customised pest-control advice, opportunities to improve supply chains and ways to improve extension services.

Under Qu Dongyu's leadership, FAO has accelerated the promotion of digital agriculture and the use of smartphones to boost the productivity and livelihoods of the world's poorest, an effort that has become even more critical as a result of disruptions to

global food systems, as well as work methods at FAO and other organisations – caused by the COVID-19 pandemic.

Highlights include the creation of an innovation office headed by FAO's first-ever chief scientist, the launch of a hand-in-hand geospatial data platform, which provides public, verified and impartial data as part of an initiative to bring more stakeholders into development efforts, and an agreement backed by more than 70 agriculture ministers to set up an international platform for development.

Ongoing FAO work uses mobile and digital technologies to help members and farmers fight invasive species and deforestation, optimise water management and land-use patterns and disseminate knowledge on food safety standards and e-commerce opportunities.

Mobile technologies are bringing change to the lives and livelihoods of African farmers. Earlier this year, an initiative by The International Fund for Agricultural Development (IFAD) aimed to benefit 1.7mn small-scale farmers in Kenya and Nigeria with personalised agricultural advice through their mobile phones, to improve their incomes, food security and resilience to economic shocks caused by COVID-19.

Recently published research shows information sharing through mobile telephony catalysed significant and measurable improvements on yields and adoption of recommended agro-chemical inputs across sub-Saharan Africa and India.

IFC, AATIF invest in Senegal onion plant

IFC, A MEMBER of the World Bank Group and the Africa Agriculture and Trade Investment Fund (AATIF), announced an investment to help Société Africaine d'Ingrédients (SAF Ingrédients) build an onion dehydration plant in Senegal.

This plant is said to be the first in sub-Saharan Africa that will create hundreds of jobs and boost the country's agriculture exports.

The project involves decommissioning an existing onion dehydration plant (built in 2003 and closed in 2014) near Dijon, France, and relocating it to St. Louis in northern Senegal. Support from IFC and AATIF will also help SAF Ingrédients develop a 760-hectare onion farm and establish a large out-grower network of onion farmers.

The plant is expected to produce almost 5,000 tonnes of dehydrated onions annually, representing 2% of the global supply, with some production being exported to Europe. Dry onion powder is an important and popular flavouring in soups, stews, and many other dishes.

The US\$15mn investment is composed of AATIF's US\$7mn senior loan, IFC's "A" loan of up to US\$4.1mn from IFC's own account, and a concessional loan from the IDA Private Sector Window Blended Finance Facility of up to US\$4.1mn. The IDA Private Sector Window was launched to catalyse private sector investment in places where it is needed most.

Magatte Wade and Emmanuel Vallantin Dulac, respectively CEO and managing director of SAF Ingrédients, said in a statement, "Support from IFC and AATIF will allow us to build only the second onion dehydration plant in Africa while creating jobs and sustaining the livelihood of thousands of farmers. It will also allow us to grow our business in West Africa and link Senegal to the global food industry."

Aliou Maiga, IFC's director for West and



Image Credit: Anastasia Malinich/Adobe Stock

Dry onion powder is an important and popular flavouring in soups, stews, and many other dishes.

Central Africa, said, "This investment illustrates IFC's support to improve access to finance for SMEs in agriculture, which is essential to create jobs in Senegal. It is also timely, as it will help spur agricultural productivity and contribute to Senegal's economic recovery from the COVID-19 pandemic".

Dr Thomas Duve, chairman of the board of directors of AATIF, said, "This investment

represents AATIF's first corporate investment in Francophone West Africa, one whose potential impact in the local economy excites us. With 100% of the supply being sourced locally, largely from smallholder and commercial farmers, alongside the creation of numerous jobs, this project is an opportunity for significant impact on local value addition, one we are proud to be affiliated with."

Hytera DMR radios increase productivity in the agricultural sector

FARM MANAGERS NEED to be in constant contact with arable and livestock teams, and workers in packing houses, grain stores and livestock sheds need to coordinate tasks efficiently and keep track of progress.

To ensure this, the industry needs a reliable, cost-effective and powerful communications solution capable of delivering consistent service across the entire estate.

Arable crops need to be harvested on dry days, but finding a window in the weather may be tricky. When there is one, farm workers and harvesting machines need to be organised and coordinated for long

days in the field.

Hytera Digital Mobile Radio (DMR) provides a highly reliable, robust and powerful instant push-to-talk communication solution. It enables groups of people to talk to each other at the same time to coordinate and synchronise farming activities.

Hytera DMR radios provide a high degree of robustness and weatherproofing against dust and moisture ingress. They feature crystal clear audio noise-cancelling technology even in the noisiest farm environments. When required, radios can provide integrated GPS for location services

and support Man Down and Lone Worker alarms to enhance farm workers' safety.

Good radio communications are crucial to maximising efficiency and productivity. The same applies to the handling of movements of livestock, the delivery of feed and the administration of veterinary care.

The radios have a long battery life to provide at least 16 hours of talk-time, so farm workers can stay in touch when working long hours in the field. The DMR solution gives the farm complete control of its communications and without the need for ongoing monthly contracts.

New post-harvest technologies are helping to reduce food loss and waste.

Innovative post-harvest treatment has huge potential to tackle food loss and waste.

Innovations enhancing shelf life

THE SUPPLY CHAIN disruptions caused by the coronavirus pandemic have highlighted the need for novel ways to help keep food fresh and safe.

Innovative post-harvest treatment, digital agriculture and food systems and re-modelling market channels offer huge potential to tackle the challenges of food loss and waste, said FAO director-general QU Dongyu, at a global event earlier this year, marking the International Day of Awareness of Food Loss and Waste.

Post-harvest initiatives in Africa

Post-harvest loss is a big challenge in Africa, reducing smallholders' income.

The new African Centre of Excellence for Sustainable Cooling and Cold Chain based in Rwanda is helping farmers to market their produce quickly and efficiently, reducing food waste, boosting profits and creating jobs.

"The African Centre of Excellence in Energy for Sustainable Development is delighted to be part of this important work on sustainable cold chains for food and

medicines – energy-efficient, climate-friendly, and affordable cooling and cold chains can improve agricultural efficiency and boost farmers' incomes, driving real environmental and economic change," said professor Etienne Ntagwirumugara, director of the centre.

GrainMate measures the moisture content of maize and other grains, helping farmers ensure they are sufficiently dried and tackle the main cause of post-harvest loss in the grain.

Sesi and the Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss at Kansas State University are providing farmers in Ghana with an affordable moisture meter called GrainMate, which measures the moisture content of maize and other grains, helping farmers ensure the grains are sufficiently dried and

tackling the main cause of post-harvest loss in the grain – insufficient drying before storage, which creates conditions for fungal growth, contamination and insect infestation.

One of the best ways to ensure that maize remains at a constant moisture content throughout storage is to store in hermetic bags. The PICS bag and the ZeroFly Hermetic Storage Bag are two of the most popular hermetic storage bags available. Both bags have an inner lining that prevents air and water from entering or leaving the bag, ensuring that your maize maintains the same moisture content throughout storage.

Global innovations

Compac's InVision2 platform achieves extremely accurate and consistent grading for size, shape, colour and blemishes through a combination of powerful imaging using colour and infrared technologies, controlled lighting and cherry rotation.

The company and its partners were able to successfully ship and install three turnkey cherry grading and packing lines in Turkey

and a fourth one in Uzbekistan, just as the COVID-19 pandemic hit.

Bühler's SORTEX FA series machines have helped European frozen food producer Fine Food to take advantage of high-resolution cameras and proprietary detection technologies to ensure maximum food safety.

Start-up company Crover has developed a robot that can take accurate temperature and moisture measurements as it travels through the grain. This data is then transmitted, via satellite communication, to the grain store manager.

Canada-based Oppy completed a trial of a new shelf life extension technology created by Chicago-based Hazel Technologies Inc. Hazel's technology uses grape sachets that release active, shelf life-enhancing vapors to slow food waste during transit and storage.

"The penetration and adoption of biological and digital tools will play an important role in shaping the future of preservation tech."

Way forward

Preservation and shelf life extension technologies can effectively drive supply chain resilience and reduce food loss and waste, according to Lux Research's report 'Preserving the Food Chain.'

"The penetration and adoption of biological and digital tools will play an important role in shaping the future of preservation tech," said Harini Venkataraman, lead author of the report and research analyst at Lux.

Looking forward, Lux Research predicts developments in all six segments of the value chain in the coming three years. On



Image Credit: Compac, Perla Fruit

Compac's InVision2 platform a combination of imaging, controlled lighting and cherry rotation.


farms, integrated crop protection will become industry-standard, while post-harvest wax coatings will lose dominance to a mix of bio-based coating solutions. Within food production, biopreservation methods will achieve performance parity with conventional preservatives.

In conclusion


Ministers at the FAO Regional Conference for Africa this year, committed to 'raising ambitions and accelerating actions'

towards achieving food security at the end of the three-day event. Delegates are committed to accelerating the transformation of African agriculture and agri-food systems, including through innovation and the introduction of digital technologies in the agriculture sector.

Innovative initiatives by governments and private sector players are helping to prevent food loss and waste. Enhanced partnerships at all levels are needed to strengthen food security in the continent. **E**



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Technology advancements are helping to resolve challenges in agriculture. *Fyna Ashwath* reports on some of the latest developments.

Introduction of smart technologies can make a difference in the lives of smallholder farmers.



Image Credit: Riccardo Nials Meyer/Adobe Stock

Going smarter

NEW FRONTIERS IN technology are transforming agriculture. Like in other fields, big data and analytics are helping to reduce costs. GPS is a valuable tool for farmers. Artificial intelligence and IoT are improving agriculture in numerous ways.

Digital technologies are set to solve complex challenges farmers and growers are facing today, according to a whitepaper published by Intellias.

Recent technological breakthroughs are bringing change to every area of farming.

Hoogendoorn Growth Management's IIVO ensures the stable regulation of energy management in greenhouses.

Greenhouse management

Hoogendoorn Growth Management launched its biggest innovation yet: IIVO a next level climate computer. a combination of smart software and state-of-the-art hardware.

IIVO uses its predictive powers to create the ideal climate conditions for your crop by combining sensor generated data, weather predictions and past learnings. The system responds proactively to maintain a stable and uniform growth climate, which maximises the yield and quality of a crop, and ensures the most efficient usage of natural resources.

IIVO's drag-and-drop function makes it possible to easily set and manage irrigation strategies using preferred start conditions. It is possible to initiate irrigation cycles per valve based on time, radiation, slab weight, water content and drainage. Water conditions are balanced and managed by integrated sensors, providing crops with the perfect amount of water and nutrients

when they need it.

IIVO's advanced energy management ensures the stable regulation of energy management in your greenhouse. The system is easily integrated with energy sources including boilers, co-generation, biomass, thermal, solar and wind-energy. This ensures the most efficient usage of heating and CO₂ according to the specific energy demands of your crop.

Disease management

Simple, digital and smart technologies are enabling streamlined disease control and herd management. This, in turn, has a potent knock-on effect when it comes to profitability, productivity, and reduced pressure on farmers.

One such smart advance is the capability of technology to transmit real-time temperature readings to a remotely accessible dashboard, which is cloud-based and can be accessed on any connected device. This gives farmers the ability to personally monitor even dispersed herds.

Smarter Technologies, an IoT company says that, with a range of practical and economic challenges facing smallholder farmers, the introduction of smart technologies to farm management can make a meaningful difference to their daily lives.

With transparency and traceability becoming increasingly important around the question of food safety, smart technologies can also be geared towards effective record-keeping in developing countries. Remote dashboards utilise a digitalised cloud-based platform, personalised to suit individual farmers' requirements and farm set-ups. Hardware is securely connected to a user's dashboard to provide reliable solutions to the challenges faced by farmers in the health management of their livestock. In Ghana for instance, online platforms such as Esoko, Farmerline, and Trotro Tractor are already established to provide farmers with accessible services.

IoT

Farmers across the world are ramping up their interest in IoT. Whether it is for livestock monitoring, irrigation monitoring or remote water monitoring, smart technologies are becoming more widely adopted to increase crop yields and reduce the reliance on manual labour.


Satellite communications are gaining significance in giving farmers the reliable connectivity platform they need.

Food safety

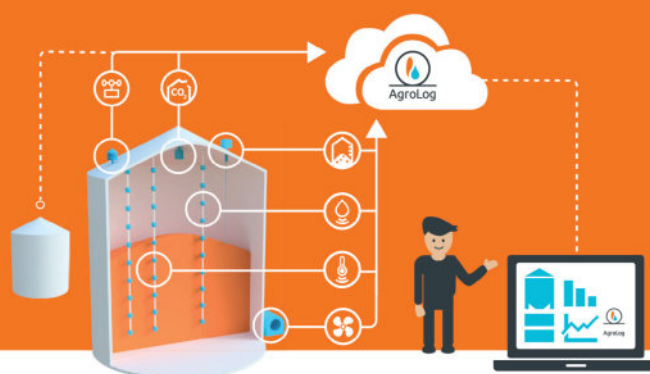
According to Lux Research's report, 'The Food Company of 2050', incorporating ubiquitous sensing is a megatrend more food companies are embracing as sensors become smaller, cheaper, and more capable. They are given roles of monitoring food quality, food safety, and even consumer health. "The global pandemic is



Simple, digital and smart technologies are enabling streamlined disease control and herd management.

generating renewed urgency around virus sensing and self-monitoring and has also changed the consumption habits of consumers," explains Hayes. "Understanding how consumption is changing, including the shift to fresh foods and plant-based proteins, and how allergens are impacting people's lives, will be key to future success." 

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In Ghana, online platforms such as Esoko, Farmerline, and Trotro Tractor provide farmers with accessible services.

Innovations such as crop-spraying drones are helping African farmers optimise their operations.

Scaling up spraying technology

AS ADVANCED FARMING techniques are increasing in Africa, the use of cutting-edge agri-machinery for proper application of agrochemicals is helping farmers.

Added to this, a shift from traditional to advanced farming techniques is accelerating more agricultural machinery usage, thus driving the overall market growth.

Agricultural machinery

For the first time since the beginning of the year, the agricultural machinery market in September showed positive signs. The data by FederUnacoma, the Italian association of manufacturers, on the basis of vehicles registered with the Ministry of Transport, has indicated an increase in sales for all the main types of machines during the month.

According to MarketsandMarkets, the agricultural sprayers market is projected to reach US\$2.63bn by 2022, growing at a CAGR of 7.12% from 2017, in terms of value. In terms of volume, the market is projected to reach 306.9 thousand units by 2022.

The fuel-based agricultural sprayer is witnessing swift uptake on account of its increased efficiency. The electric sprayers are also seeing surging popularity on account of the growing number of innovations in sprayers to make them more useful.

The segment of traction pneumatic sprayers is slated to dominate the market because of the high volumes of agrochemicals it can dispense.

Africa is anticipated to provide immense opportunities to the vendors of agricultural sprayers in the near future.

Sprayer innovations

In The Cereals Live 2020 event held in June, John Deere showcased precision agricultural technology solutions for arable farmers and contractors on the company's virtual stand. The company showcased the R4150i self-propelled sprayer with new ExactApply nozzle system featuring state-of-the-art pulse width modulation (PWM) in the online Sprays & Sprayers demonstration arena.



The data by FederUnacoma has indicated an increase in sales for all the main types of machines during September 2020.

Image Credit: Adobe Stock

The focus of these latest developments has been on improving sprayer output while ensuring that the highest possible application quality is maintained and also delivering an improved operator environment. The premium design cab offers a new generation operator interface with fully integrated technology, such as the John Deere universal 4640 display mounted on a new armrest.

Hardi demonstrated its ALPHA Evo II Self-propelled sprayer, NAVIGATOR i Trailed sprayer, MEGA Mounted sprayers, and a ZENIT OPTIMUS Mistblower, during the event.

Other innovations in the sprayers sector include LEMKEN's self-propelled field sprayer, Nova, which has a comfortable cab, essential for long working hours. The Nova is available with an optional


category 4 three-stage air filter system, which creates permanent positive pressure in the cab to prevent any fumes from entering.

Drones deployed in South Africa

This June, in Seafield Farm, located at the Midlands South region of KwaZulu-Natal, a new round of sugarcane harvest arrived. What made this harvest season special was that a commercial ripening trial was

conducted for the first time to compare the efficacy of using a drone and helicopter. Ripening refers to the process of applying chemical ripener to enhance the content of sucrose in the sugarcane plants usually six to nine weeks before harvest.

In this trial, different fields of the Seafield Farm were selected, each of which were divided into two areas between 1 to 5 ha assigned to different ripener applications. The drone used was XAG P20, which carried a custom spraying attachment and 12-litre smart liquid tank designed in a modular fashion. It followed the pre-set flight route, operated at a fixed height of 2 to 3m above the crops, and sprayed accurately into the target fields. The results show that the traditional manned helicopter was considerably outperformed by the XAG drone in both cane yield and quality of the harvested crops.

"This means a lot to us. With higher sugar extracted from every tonne of sugarcane, we get paid higher and my farms become more profitable," said Kim Hein, the licensed operator of the XAG drone as well as cane grower who has been testing the feasibility of drone spraying solution in sugarcane cultivation. 

Croply's pandemic-proof online farmers market promotes sustainable solutions

CROPLY IS DEVELOPING an open access system that connects farmers and customers directly, thus boosting transparency, food access and local farm business development.

"There's such a huge disconnect between the public and the farmers who produce our food. We're rebuilding these bridges. Putting farmers out there, so the public can find them and buy from them direct," said Adam Eunson, founder of Croply. "With a huge shift in public food access, more than 50% of us have bought our groceries online this year, but only 12% of farms have their produce online for people to purchase. We're bringing communities together," Eunson added.

Eunson, together with Haider Ali, a digital development specialist, have put together a team of international designers, developers and experts, with a goal to provide an open access web platform, that not only offers possible solutions to the food access and distribution challenges faced by farmers and their local communities, but also addresses the sustainability and knowledge gaps within the agricultural and public sectors.

Croply's online marketplace aims to connect sustainable farmers with their local

communities, providing transparency and traceability for the public, while offering the opportunity to search for local produce and to connect direct with our local farmers.

Additionally, a social network and educational system have also been included to provide an insight into more sustainable practices that can help farms to work towards more environmentally-friendly food production.

According to Eunson, "Knowledge and understanding are the key to sustainability. Without realising the impact our food choices are having on the environment, health and the socioeconomic system, we will continue to be ignorant of the damage caused by the food we eat."

"Transparency is something that has slowly disappeared of late, but the demand is returning, and the public want to know more and more where their food is coming from. We're trying to address this with resources and traceability tools that can inform the public, not only where their food was produced, but also how it was farmed, and the scientific nutritional content it provides."

The additional social network also

demonstrates the importance the team put on community and connectivity within the Croply design. Integrated live chat and mailing systems connect not only farmers direct with their customers, but also farmers with other farmers. Providing a global network that offers the ability for users to help and learn from each other, and more importantly ask for help from others.

"Farming can be a very lonely and stressful business, and mental health issues are on the rise within the agricultural industry. Living on a farm ourselves, we have seen this first-hand. By connecting the global farming community, we can openly support one another. There's a world of experienced farmers and specialists, with a wealth of knowledge out there. It's important that other farmers know they are not alone."

The passion behind the project and its founder Adam Eunson are clearly evident, and Croply could be the beacon that demonstrates a hope in developing stronger local farming communities, and a more sustainable future for the global farming community as a whole.

Naïo Technologies collaborates with VARTA for agricultural robotics solutions

NAÏO TECHNOLOGIES, AN expert in agricultural robotics solutions, and VARTA, a specialist in innovation and key battery technology, have collaborated to create an autonomous transportable charging station for robots to offer higher-performing robotics solutions to farmers.

The aim of this collaboration is shared by both companies: to provide end-to-end solutions to remote charging stations where no electricity grid connection is required.

This will be possible due to wireless solar or regenerative solutions, which will reduce user interaction during operation. When robots run out of the battery, they navigate on their own to their charging trailers. Both Naïo and VARTA aim to give farmers the opportunity to use a robot for 24 hours without worrying about the power supply.

"Bringing our expertise and experience to agrobots means that Naïo Technologies as a market leader can focus on their core strength: making the combination of robotics and farming a full success. VARTA will enable the robots to work more efficiently, as our power management solution will make charging faster, more flexible and much easier, while our advanced battery technology will allow for higher performance," said Steve Saunders, key account manager the UK and France at VARTA.



Image Credit: Andrey Popov

Two proofs of concept have been launched to test the feasibility of solutions: the first will integrate VARTA batteries in Oz, the first Naïo Technologies robot dedicated to market gardeners and already used by more than 120 farmers. The aim of the robot is to gain more than 30% more autonomy. The second proof of concept is the creation of a solar charging station that can be used directly in the field. These field charging stations will be the world's first for agricultural robotics.

The first prototype will be presented at the FIRA 2020, International Forum of

Agricultural Robotics, taking place from 8-10 December 2020 on a digital platform.

"Thanks to our historical background in the agricultural robotics environment, we can easily exchange with VARTA about the existing challenges from a user point of view. As for all our robots, our priority is to offer to the end users, the farmers, an easy solution with the fewest possible constraints for their daily activities. Thanks to VARTA's renowned expertise, we are really excited to continue moving forward in this direction," concluded Gaëtan Severac, co-founder of Naïo Technologies.

New Holland Agriculture signs supply agreement with Maschio Gaspardo

NEW HOLLAND AGRICULTURE has signed a supply agreement with Maschio Gaspardo, one of the leading manufacturers of agricultural equipment for tillage, seeding and planting, fertilisation, crop protection, green maintenance and haymaking.

Under the agreement, selected Disc Harrow and Subsoiler models will be manufactured by Maschio Gaspardo for New Holland. The blue products will be sold under the New Holland name and will be available exclusively at the brand's dealerships.

Carlo Lambro, brand president of New Holland Agriculture, stated, "With this agreement, we are bringing their first-rate products to our customers, further widening the choice of implements to meet their tillage requirements with high-quality equipment."

Mirco Maschio, president of Maschio Gaspardo Group, added, "Maschio Gaspardo already has a consolidated OEM supply partnership with New Holland. We are proud of this new prestigious project as it also confirms the high-quality standards achieved by Maschio Gaspardo for its products and the offered customer service. It is another important building block for our growth."

New Holland will introduce in season 2021 the first products to be supplied under the agreement: the SDM and SDH Compact Speed Disc Cultivators, and the SUM and SUH Subsoilers. The new product lines will offer models ideally suited to New Holland's tractor ranges from the T5 Series tractors up to the 300-hp T7 Heavy Duty.

The new products will first be launched in major European markets in Austria, Belgium, Denmark, France, Germany, Ireland, The Netherlands, Poland, Portugal, Sweden, Spain and the UK.

New Holland Agriculture is a brand of CNH Industrial NV, a global leader in the capital goods sector.

Global farm tractors market to reach US\$93.7bn by 2025

THE GLOBAL FARM tractors market is projected to reach US\$93.7bn by 2025, driven by the growing world population; the rising pressure on food production, productivity and yields; and growing importance of mechanised agricultural technologies against the backdrop of spiraling labour costs and labour shortages.

The aim is to increase land productivity; relieve the burden of labor shortages; decrease the environmental footprint of agriculture; increase crop quality and yield in unit area; efficient use of expensive inputs including seeds, fertilisers, pesticides and water; lower food prices and higher farm profits; and makes food security goals more attainable.

Some of the factors driving uncertainty in labour availability and putting food security goals at risk and accelerating adoption of agricultural machinery as a coping strategy include reducing share of population working in agriculture as countries develop; increased migration of population to urban cities; industrialisation and better employment opportunities in the manufacturing sector; aging society and unwillingness of the younger generation to participate in the agriculture sector; poor working conditions discourage participation in the agricultural sector; and inability of small farms and farm households to meet minimum wage requirements.

The USA and Europe represent large markets worldwide with a combined share of 39.9%. China ranks as the fastest growing market with a 8.2% CAGR over the analysis period supported by the emergence of smart agriculture as a new industry in the country. Farming methods and practices are rapidly changing in China.

Africa, with low farm mechanisation also provides opportunities for future growth.

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FAO, PhosAgro unveil joint Soil Doctors Programme

THE FOOD AND Agriculture Organisation (FAO) of the United Nations and PhosAgro, a leading producer of mineral fertilisers, have launched the joint Soil Doctors Programme in sustainable agriculture.

The programme aims to develop the skills of farmers in sustainable soil management and to establish regional networks of soil laboratories in Africa, Latin America and the Middle East, with a specific focus on assessing the quality and safety of fertilisers. The programme will allow farmers to make informed decisions on improving soil fertility, maintaining soil health, achieving a proper nutrient balance and protecting the soil from pollution.

The project will develop and distribute soil testing kits to 5,000 farmers in developing countries and provide training for farmers to use them correctly.

Eduardo Mansur, director of the office of climate change, biodiversity and environment of the FAO, stressed that the launch of the programme would have a major impact on crop production

and promote sustainable land use.

"We want farmers to increase their production of environmentally friendly products. Our goal is the best plant cultivation, the best food and the best environment for a better life. This programme will enable farmers to make agricultural production more efficient and to grow food in an environmentally responsible way," said Mansur.

Thanawat Tiesien, permanent representative of Thailand to the FAO and chair of the Committee on World Food Security, noted that the Soil Doctors Programme was launched in Thailand for the first time in 1992 and has been successfully implemented since then.

"It takes a long time to restore degraded soils, but rebuilding the soil is something we must do for food security, public health and future generations," Tiesien added.

The first deputy CEO of PhosAgro, Siroj Loikov recalled that, under the joint programme between the FAO and PhosAgro, a regional network of soil

laboratories in the Middle East and North Africa was launched in June. Another important move towards more sustainable farming will be to develop and distribute soil testing kits to farmers.

As a global company supplying mineral fertilisers that have unique environmental characteristics and are free of toxic substances to 102 countries around the world, we believe that food security and soil health are critical to achieving the UN's 2030 Agenda for Sustainable Development Goals," stressed Loikov.

"PhosAgro and the FAO share a common goal in that we firmly believe that farmers must be able to use their land efficiently with sustainable and efficient mineral fertilisers, grow quality agricultural products, maintain soil fertility and prevent soil degradation. People around the world must have access to safe food. We will therefore continue supporting the FAO's initiatives to promote technology and knowledge for sustainable agriculture," recapped Loikov.



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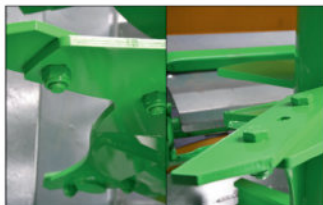


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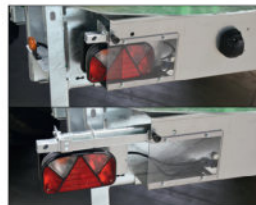
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