www.africanfarming.net

African Farming and Food Processing

November/December 2018

Europe €14.50 - Ghana C1.3 - Kenya KSH150 - Nigeria N200 - South Africa R18 - UK £9 - USA $15

Improving poultry quality

Breakout analysis for 'clears'

Zinc factor

Increasing nutrition in rice

Boosting crop yields

How technology and tradition combine

AfricaSeeds: Ensuring seed security p27

Serving AGRICULTURE for 38 YEARS

MYSiLO®

Mysilo Grain Storage Systems

Erenler OSB Mah. Recep Tayyip Erdoğan Blv. No: 30 Aksaray / TURKEY

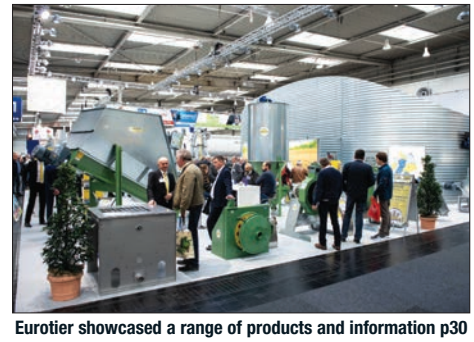
info@mysilo.com | www.mysilo.com | +90 382 266 22 45

MAX PORTER®

Contents

Image Credit: Adobe Stock

Maximising crop yields p24



Eurotier showcased a range of products and information p30

African Farming and Food Processing

Editor: Fyna Ashwath E-mail: fyna.ashwath@alaincharles.com

Editorial and Design team: Prashant AP, Hiriyti Bairu, Miriam Brtkova, Manojkumar. K, Nonalynka Nongrum, Praveen CP, Rahul Puthenveedu, Rhonita Patnaik, Samantha Payne, Deblina Roy and Louise Waters

Managing Editor: Georgia Lewis

Publisher: Nick Fordham

Sales Director: Michael Ferridge

Magazine Manager: Richard Rozelaar
Tel: +44 207 834 7676
Email: richard.rozelaar@alaincharles.com

Country	Representative	Telephone	Fax	Email
India	Satyanarayan Naidu	+91 98 33055655		satyanarayan.naidu@alaincharles.com
Nigeria	Bola Olowo	+234 8034349299		bola.olowo@alaincharles.com
South Africa	Sally Young	+27 (0) 824 906 961	+27 46 624 5931	sally.young@alaincharles.com
UAE	Graham Brown	+971 4 4489260	+971 4 4489261	graham.brown@alaincharles.com
USA	Michael Tomashefsky	+1 203 226 2882	+1 203 226 7447	michael.tomashefsky@alaincharles.com

Head Office:
Alain Charles Publishing Ltd
University House
11-13 Lower Grosvenor Place
London SW1W 0EX, United Kingdom
Telephone: +44 (0) 20 7834 7676
Fax: +44 (0) 20 7973 0076
E-mail: post@alaincharles.com

Middle East Regional Office:
Alain Charles Middle East FZ-LLC
Office L2-112, Loft Office 2,
Entrance B, PO Box 502207
Dubai Media City, UAE
Telephone: +971 4 448 9260
Fax: +971 4 448 9261
E-mail: post@alaincharles.com

Production: Srinidhi Chikkars, Nelly Mendes, Infant Prakash and Rakshith Shivakumar
Email: production@alaincharles.com

Subscriptions: circulation@alaincharles.com

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

Alain Charles Publishing
Serving the world of business

Farming Calendar 2019

FEBRUARY

15-17	AgroTecno East Africa *www.mxmexhibitions.com/agrotecno*	NAIROBI
	Agro & Poultry East Africa *www.mxmexhibitions.com/agropoultry_kenya/index.html*	NAIROBI

MARCH

26-28	Agrofood Nigeria *www.agrofood-nigeria.com*	NIGERIA
13-15	HortiFlora Expo *www.hortifloraexpo.com*	ETHIOPIA

APRIL

03-05	NIPOLI Expo *www.nipoliexpo.com.ng*	NIGERIA
11-13	AgriTech Expo Zambia *www.agritech-expo.com*	ZAMBIA

MAY

13-17	Panafrican Poultry Conference (PPC) *www.cersa-togo.org*	TOGO

JUNE

05-07	Fresh Produce Africa *www.hppexhibitions.com*	NAIROBI

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

Machinery and agrochemicals take centre stage at Nigeria's agricultural expo

NIGERIA INTERNATIONAL AGRO Chemical and Agro Equipment Expo 2018 was organised by UTEX Exhibitions & Marketing Services (P) Ltd in September 2018. NIAA WEST AFRICA Expo 2018 provided a platform for information exchange and trade cooperation in agricultural, chemical and equipment sectors.

Image Credit: UTEX

Agriculture remains the base of the Nigerian economy, providing the main source of livelihood for most Nigerians

It aimed to combine expert and trade pertaining to the agricultural, chemical, equipment and machinery industry in West Africa.

The event exhibited the latest products and technology of the agricultural industry globally, establishing an essential trade platform for technology cooperation, business and information communication.

It welcomed more than 5,000 participants from all over the world especially, companies who have investment and cooperation plans to tap into the productive agricultural system in Africa.

The exhibitors at the expo included various companies in diverse areas including crop protection, agricultural mechanisation and tractor side industry, seeds, sapling and horticulture, organic agriculture, water and irrigation technologies, agricultural services and fertilisers.

The visitors at the event included people from various sectors such as agriculture, farm plantation, government and industry departments, power generation owners and solution providers, traders and distributors, among others.

Africa's agribusiness sector to reach US$1 trillion by 2030

AS PROJECT SPONSORS, borrowers, lenders and investors gathered at the Africa Investment Forum to make deals on investment opportunities, leaders of the continent's top agribusiness companies shared their thoughts on the future of the industry.

Africa's agribusiness sector is predicted to reach US$1 trillion by 2030. Agribusiness will become the 'new oil' on the continent, African Investment Forum participants said, fuelling the motor of inclusive growth.

Jennifer Blanke, vice-president of the African Development Bank (AfDB) for agriculture, human and social development, said, "Understand that by transforming Africa's agriculture sector it will become the engine that drives Africa's economic transformation through increased income, better jobs higher on the value chain, improved nutrition and so on."

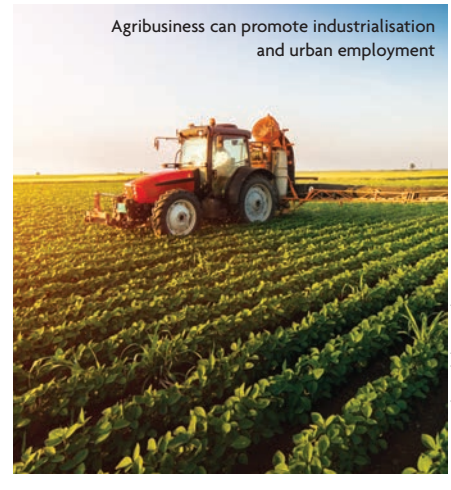
Some agribusiness leaders said there is a need to invest US$45bn per year to harness the power of agriculture and move up the value chain to create jobs and wealth. At present, only US$7bn is invested in the sector.

Participants in the agribusiness session discussed the industry's entire value chain. Leading the 'fireside chat' was a roundtable of experts that included Aliko Dangote, president and CEO of the Dangote Group; Zainab Shamsuna Ahmed, minister of finance of Nigeria; William Asiko, CEO, Grow Africa; John George Coumantaros, chairman, Flour Mills of Nigeria and TP Nchocho, CEO, Land and Agricultural Bank of South Africa.

"We need to do the research to produce the right solutions to the issues we might face along the value chain. Youth are particularly involved in this aspect as they know how to develop tools addressing issues such as water management and release," said Dangote.

Agribusiness can also promote industrialisation and urban employment, break the 'productivity gap' of development, and improve the quality of life for all Africans. Attendees said Africa's agricultural potential needs to be unlocked.

Session participants said they want to bring African agriculture to the next level. For



Agribusiness can promote industrialisation and urban employment

Image Credit: Adobe stock

the small and medium scale farmers, the main challenge remains access to finance.

Closing the session, Edward Mabaya, manager of agribusiness development at the AfDB, highlighted the vast investment opportunities in Africa's agribusiness .including seed, fertiliser, mechanisation, processing and storage.

Uralkali battles low nutrient efficiency with DripKALI

Uralkali[1] launches water soluble grade Muriate of Potash (MOP) for fertigation. The product is available for purchase and is marketed under the brand name DripKALI. Uralkali is focused on sustainable agriculture and the demand for increased crop production per acre of arable land. DripKALI developed and produced by Uralkali is focused on reducing the environmental impact of cropping systems by increasing water use efficiency in agriculture. It is well known that the simultaneous application of water and mineral fertilizers to a crop positively influences its growth and output. Fertigation allows to adjust mineral nutrients supply according to the specific crop needs in terms of application rates and application timing. This technique is widely used not only in arid regions, where water resources are scarce or limited, but is applicable in general for the purpose to have more flexibility in scheduling planting and other crop management activities, control additional applications of nutrients and agro chemicals, increase crop production. Nutrients applied to a crop with water are distributed more evenly compared to dry fertilizer. Furthermore, dry application makes growers reliant on weather conditions or simply on the amount of rain, which should be right enough to dissolve fertilizer, but leave it in a top 20-40 cm soil layer for assimilation by roots. MOP is commonly used in fertigation for a variety of crops, it is highly soluble in water and is the most concentrated source of potassium among potash fertilizers. It contains 62% K_2O compared to 50% K_2O in potassium sulphate and 46% K_2O in potassium nitrate. Besides, MOP is compatible with all types of water-soluble fertilizers and can be safely used in fertigation systems. DripKALI is completely water soluble and is marketed in branded 25 kg bags, which makes it recognizable and easy to handle. Moreover, bagged and labeled product makes it harder to falsify and avoids contamination while handling.

[1]Uralkali is one of the leading global manufacturers of muriate of potash (MOP), mineral fertilizer that contains potassium – one of the vital chemical elements for all living organisms. The company produces annually about 20% of total world MOP production. Uralkali controls the full supply chain, beginning with ore mining and finishing with shipping the final product to a customer. Export sales are done through Uralkali Trading SIA with its branch offices strategically located all around the globe. For more information about Uralkali products please visit www.uralkali-trading.com.

DripKALI

MOP 0-0-62

100% water soluble potassium fertilizer for irrigation systems

- 100% water soluble
- Maximum concentration of K_2O
- Compatible with all types of water soluble fertilizers
- Safe for irrigation system
- No heavy metals
- No dust
- 100% friability

www.uralkali-trading.com

Uralkali Trading SIA
62 Krisjana Valdemara Street, Riga, LV-1013, Latvia

Sales:
Tel. +371 67 152 055
sales@uralkali-trading.com

Technical questions:
marketing@uralkali.com

URALKALI

Farmtrac displays smart farming solutions at EIMA 2018

FARMTRAC TRACTORS EUROPE, global tractor producer, has presented its new products under New Escorts Tractor Series (NETS) ranging from 20-110 HP and FarmPower smart farming solutions at EIMA 2018, international agriculture and gardening machinery exhibition, in Bologna, Italy.

The new products are performance-inspired with advanced technology features.

The latest addition of tractor to the NETS includes series under compact, utility, narrow, CRDi and higher HP range. The compact tractors range is from 20 to 35 HP, utility from 30 to 75 HP, narrow from 60 to 90 HP and higher segment tractors from 80 - 110HP.

The company also showcased FarmPower, its new venture in the farm implements market which will serve as a solution provider and assist the farmers in better practices at all levels of farming.These implements will help increase productivity levels of crops as well.

Farmtrac also displayed for the first timje, the company's electric tractor with a mid-mower embedded technology.

Inmarsat research: Industrial IoT to help reduce environmental impact on agriculture

IMPROVING THE ENVIRONMENTAL sustainability of their operations through the adoption of Industrial Internet of Things (IIoT) technologies is a crucial priority for organisations in the agriculture sector, according to a new study by Inmarsat, one of the leading providers of global mobile satellite communications

With many agriculture organisations operating in remote regions, where terrestrial networks are not available, satellite communications networks are crucial to achieving the benefits that IIoT has to offer.

The research reveals that two of the largest drivers behind the adoption of IIoT-based solutions across the agriculture sector are monitoring of environmental conditions such as soil quality, pollutant emissions and environmental contamination (50 per cent) and improving resource efficiency (38 per cent).

The research also highlighted the good news that many agriculture organisations are realising their sustainability objectives through the use of IIoT. Two thirds (66 per cent) of respondents with fully deployed or trial-stage IIoT solutions stated they were achieving environmental sustainability improvements.

Access to reliable and resilient connectivity is essential for IIoT technologies to function, enabling the constant transmission of data to optimise operations. With many agriculture organisations operating in remote regions, where terrestrial networks are not available, satellite communications networks are key to achieving this and achieving the benefits that IIoT has to offer.

Reported early successes in achieving sustainability objectives have been seen in the implementation of technologies that optimise irrigation to reduce water consumption, detecting levels of pesticides in soil and improving operational efficiency. However, the research also uncovered that those organisations with unreliable connectivity were far less likely to be achieving improved environmental sustainability, reinforcing the importance of connectivity for successful IIoT deployments.

Image Credit: Adobe stock

The research highlighted that many agriculture organisations are realising their sustainability objectives through the use of IIoT

Commenting on the findings, Chris Harry Thomas, director of sector development agriculture at Inmarsat Enterprise, said, "The agriculture sector is faced with a multitude of challenges, tasked with increasing the amount of food and raw materials it produces while reducing its impact on the environment and adhering to stricter government regulations. Our research shows that agriculture organisations are adopting IIoT to help them achieve these goals, and that many are succeeding in this aim."

"However, it is clear that without the right connectivity networks, IIoT deployments won't succeed in delivering the improvements in sustainability they are capable of. The global nature of the agriculture sector means that organisations need reliable connectivity to gather mission-critical data from every area of their operations and analyse it in real-time, though patchy terrestrial coverage makes this challenging. With global and reliable coverage, only satellite communications offer the levels of connectivity organisations need to make IIoT a success."

FAO launches Forest and Farm Facility phase II in Ghana

THE UN FOOD and Agriculture Organisation (FAO) and Ghana's Forestry Commission have launched the Forest and Farm Facility (FFF) phase II in Ghana to empower forest and farm producers for sustainable development, poverty reduction and climate change.

With Forest and Farm Producer Organisations (FFPOs) as major agents of change, the FFF phase II specifically intends to contribute to the achievement of at least 11 of the 17 Sustainable Development Goals (SDGs), particularly, SDGs 1, 2, 5, 13 and 15 on livelihoods, food security, gender equality, climate change and life on land.

Speaking at the launch, FAO representative to Ghana, Abebe Haile-Gabriel said that the facility in Ghana would help rural producers diversify local economies, increase resilience, reduce poverty while restoring and managing landscapes.

The launch is timely as a growing number of governments are developing integrated climate responses and strategies for sustainable rural economies and reducing poverty.

In 2018, FFF is significantly increasing the scale and range of its impacts and this will strengthen the capacity of forest and farm producers and their organisations, deepen engagement in innovative cross-sectoral processes in government, and increase the delivery of landscape-scale climate responses.

LEMKEN launches new compact disc harrow

LEMKEN, A SPECIALIST supplier for professional arable farming has now launched the Rubin 10, which delivers a range of improvements including the new disc arrangement on both implement sides. This not only ensures directional stability, without lateral pull, and thus reduces fuel consumption, but also allows precise pass alignment, also using GPS.

The discs are arranged to produce symmetrical forces on both implement sides. The three central discs on the Rubin 10 have been offset along the longitudinal axis to ensure that they are able to work collision-free across the full width at a line distance of 12.5cm. This patented solution optimises the flow of soil and results in even cultivation across the full working width. The discs engage across their full surfaces from a working depth of seven cm. An undercut maintains optimal penetration and boosts mixing efficiency even further.

The Rubin 10 features surface-hardened DuraMaxx discs with a diameter of 645mm as standard. These discs have a service life that is 30 per cent greater than that of conventional discs. The new legs are 30mm thick and therefore substantially more robust than in the previous range. Their design with multiple bends provides plenty of clearance to prevent blockages. Each concave disc in the Rubin 10 is now equipped with an overload protection with damped return to minimise frame loads. The overload protection pockets are welded to the frame to keep the discs perfectly on track.

An integrated harrow behind the first row of discs improves the crumbling effect and distributes soil and organic matter in the driving direction, while the rear impact and levelling harrow distributes the soil to form an even, level surface.

The mounted Rubin 10 version is available with a Uni wheel for lower lifting force requirements and reduced loads on the rear tractor axle. Load is applied to the purely mechanical wheel system as the implement is raised, and no additional spool valve is required. This also allows heavier rollers to be used to achieve better reconsolidation.

Image Credit: LEMKEN

LEMKEN's Rubin 10

All folding versions feature hydraulic depth adjustment as standard. The semi-mounted compact disc harrows are optionally available with depth control wheels, which ensure even working depths in variable soils and precise pass alignment along slopes.

The Rubin 10 with working widths of 2.5- 7m will go into series production from 2019.

Don't mix your priorities.

Best results with MetAMINO®

Step up mixing precision – and cut out inefficiencies.

Some methionine sources are better than others at accelerating animal growth. In addition to proven superior bio-efficacy, you can count on dry MetAMINO® to eliminate caking on equipment and reduce maintenance costs. Delivered in dry crystalline form, MetAMINO® mixes easily and consistently with other feed ingredients. MetAMINO®: not just better – best results.

www.metamino.com

EVONIK
POWER TO CREATE

Kenya receives loans from African Development Bank to complete Thwake dam

THE AFRICAN DEVELOPMENT Bank's board of directors has approved two loans worth US$268mn for the completion of construction work on Thwake Dam on Thwake River in southern Kenya. This is a strategic water supply project for the large semi-arid area of Makueni County and surrounding regions, including the new technology city of Konza.

The package, which was requested by Kenyan authorities, comprises two loans – US$218.8mn from the Bank and US$49mn from the Africa Growing Together Fund (AGFT). This additional support follows a US$86.38mn loan granted by the Bank in 2013 to start building the dam as part of the Thwake Multi-Purpose Development Programme (TMWDP), which aims to provide drinking water, hydroelectric energy and irrigation.

Completion of the 80.5m high multi-purpose dam will enable the storage of 681mn cu/m of water, of which 625mn cu/ mwill be used for electricity production and downstream irrigation of agricultural land, 22mn cu/m for upstream irrigation and 34mn cu/m for human consumption. Construction in the initial phase of the TMWDP project should be completed in December 2022.

This will be followed by three further phases - the construction of hydraulic plants to treat up to 34,600 m3 of water for household use for 674,700 rural inhabitants and up to 117,200 m3 for 640,000 residents in the technology city of Konza, hydroelectric energy production, 40,000 ha of irrigation.

Water and sanitation operations account for about 22 per cent of the bank's US$3.8bn Kenya portfolio's value for the public sector.

ISO releases first worldwide drone standards

INTERNATIONAL STANDARDS ORGANISATION (ISO) has published the international draft of ISO standards for drone operations to determine how to use drones safely and effectively in compliance with regulatory requirements.

It is expected that the new standards will trigger a rapid acceleration of growth in the drone industry as organisations throughout the world are galvanised to adopt drone technology against a new background of reassurance on safety and security.

The announcement by ISO is the first important step in the standardisation of the global drone industry, encompassing applications for all environments-surface, underwater, air and space.

A prime characteristic of the ISO standards is the focus on air safety, which is at the forefront of public attention in connection with airports and other sensitive locations. The effectiveness of the standards in improving air safety will be further strengthened by the rapid development of geo-fencing and of counter-drone technology, providing frontline protection against 'rogue' drone use.

Empowered by standards, drones are set to provide the strategic to some of the most pressing economic, transport, security, environmental and productivity challenges faced by governments and industry throughout the world, reducing road traffic, easing congestion, saving lives through a reduction in accidents and reducing pollution in our cities. As well as speeding up the delivery of large-scale infrastructure projects, drones are expected to reduce the need for some major transport projects altogether. Further applications in areas such as agriculture, shipping, construction and energy are already transforming businesses.

Bühler's PolarVision technology ups the quality of raw frozen food

QUALITY AND FOOD safety are essential for Ardo, producers of fresh-frozen fruit, vegetables and herbs. They have invested in the latest SORTEX F optical sorters from Bühler, featuring the peerless SORTEX PolarVision foreign material detection system. In addition they have taken advantage of the PolarVision upgrade kit and saved significant costs by retrofitting the advanced technology into their existing SORTEX E sorters.

Ardo has 21 state-of-the-art production, packing and distribution sites in nine countries, employing 3,800 employees. It is a hugely successful business, with a turnover of more than US$1.13bn a year, processing 860,000 tonnes of high-quality frozen fruit, vegetables and herbs, which are sold to customers in more than 100 countries.

To ensure high quality and freshness, Ardo's production facilities are located near to fertile agricultural centres in Europe, close to where its carefully selected network of 3,500 growers operate. This helps to ensure that produce is as fresh as possible, while food quality and safety also remains high, because Ardo's production sites are certified to internationally recognised standards, while complying with strict food safety and HACCP standards.

Image Credit: Ardo

Sortex F uses PolarVision technology

"Food safety is hugely important – it's the cornerstone of our corporate strategy – and we invest in the most advanced technologies to help us to achieve this," says Steven Van Engelandt, Ardo's group project engineer. "We have been using Bühler sorting technology for many years and now have their PolarVision technology on our sorting lines around Europe. In our Belgium production facility, we have just finished upgrading our SORTEX Es with PolarVision, as we needed to enhance our ability to remove any kind of foreign material (FM)."

Ardo operates the pioneering SORTEX F optical sorter from Bühler, fitted, as standard, with SORTEX PolarVision – Bühler's specialist detection system, combining two pioneering proprietary technologies, to deliver unprecedented FM detection. They recently installed another two SORTEX Fs at their processing plant in Benimodo, Spain. Van Engelandt adds, "The SORTEX F perfectly meets our quality, safety and hygiene standards. Consumers everywhere are becoming more demanding. Quite rightly they expect high quality and safety from a leading brand such as Ardo.

Stefano Bonacina, segment development manager for fruit and vegetables in Europe and CIS, summarises, "Sourcing the finest local products, investing in the most advanced sorting solutions and upgrading where required ensures that Ardo's food safety and quality standards remain industry leading.

"Processors who want to achieve a greater sorting efficiency in terms of FM as well as colour defect removal, can choose from the SORTEX F fitted with PolarVision or if they already have the SORTEX E they can upgrade it.

"The PolarVision upgrade kit has been designed to be installed with minimum disruption and downtime, enabling the removal of notoriously difficult to detect FM, for a fraction of the cost of investing in a new sorter."

Symaga Silos eyes automation investment


Image Credit: Symaga Silos

Symaga Silos invests in new technology

AS A SUPPLIER for the largest storage projects in the world, Symaga Silos continues to invest in new technology and human capital.

In 2015, the automation rate of the production activities of Symaga Silos was 80 per cent. However, Symaga is now embarking on a plan to achieve full automation for the factory operation. The 2016-2018 investment plan will add an additional 30 per cent mechanisation and full automation of punching and profiling processes. These investments translate into a 30-40 per cent productivity increase for these lines.

Two robots now help in welding operations, reassuring quality and full compliance, while a new robot cell perfects compression rings, the most complex part of the hopper silos. In addition, die-cuts are acquired to improve welding quality, reddler supports and access doors. A new 4kw fibre laser and a folding cell, will enable Symaga Silos achieve productivity gains of more than 40 per cent in cutting and performing processes. In addition, a high performance punching line helps maintain the quality for the hoppers and support towers. A new profiling machine with automatic tool changing has also been acquired.

Totaling US$4.5mn in research and development investments help bring the company closer to the major goals of product quality. By 2019, the process of improvement in welding and bending lines is to continue, with plans for acquisitions of a high productivity drill for profiling.

The Symaga Group divides its portfolio into several business lines: Symaga Silos specialised in designing, manufacturing and marketing galvanised steel silos for storage; Growket, one line focused on livestock, poultry, pig and bovine equipment; and a third one specialised in manufacturing agricultural equipment such as water tanks and vineyard equipment named Agravid.

Symaga Silos has an international scope, specialised in designing, manufacturing and marketing of galvanised steel silos available for different industries such as breweries, animal feed, port facilities, flourmill, ethanol, drying, flourmills, and storage of raw materials for the plastic industry and biofuels.

Live poultry | turkeys transport crates

The largest worldwide range of collapsible (and non-) live chickens turkeys plastics crates.

Collapsible crates:
80x60x28 cms.
97x58x27 or 42
108x58x27
or 42 cms.

Non-collapsible crates:
99x58x26 or 42 cms.

Various number of doors avaible.
Sliding and swingin doors.
Dolid and perforated bottoms.

Systems

Various systems/containers for crops, meat, cheese, vegetables, for your processing plants and farms

Then day - old chick boxex, live quail crates, trays, etc.

INFO AVAILABLE ON
AUTOMATED LOADING, CONVEYING, WASHING, RESTACKING SYSTEMS.

POULTRY SPECIAL PLASTIC PACKINGS

Carfed S.A.®

HEADQUARTERS : Lugano Switzerland
Ph: 41.91.994.1579 • Fax : 41.91.994.1580
Email: info@carfed.ch • Web-site: www.carfed.ch

Carfed S.A. via Basilicata, 10 20098 S. Giuliano Milanese - Italy
Tel. +39 (02) 988.1140 • Fax. +39 (02) 982.802.74
Email: info@carfed.it • Web-site: www.carfed.it

Breakout analysis is useful in strengthening hatchery – breeder quality control programmes.

Clear any doubt about 'clears' with productive procedures

BREAKOUTS PROVIDE IMPORTANT insights into breeder nutrition, health, egg handling, incubating and hatching parameters.The information provided by this powerful diagnostic tool can help increase fertility, hatchability and chick quality. Breakouts can be used to aid troubleshooting, establish trends and optimise hatch results.

The more detailed and descriptive the breakouts can be, the more useful the information becomes.

One type of losses that occur in a hatchery are the 'clears', which are identified during candling. Clears can have different causes,but a breakout analysis is required to distinguish between these.

Image Credit: Adobe Stock

Egg breakouts take time and resources but are an essential hatchery operation to identify normal and abnormal patterns of development

What are 'clears'?

'Clears' are often taken to mean infertile eggs. However, it is not possible to differentiate between true infertile eggs and 'very early dead embryos' (before the blood-ring stage) by candling (whether done manually or using equipment).

A breakout analysis of a reliable sample of clear eggs, done by well-trained and experienced staff, is the only way to determine the percentage of true infertility and early mortality.

True infertility

If true infertility is the biggest problem, the cause has to be sought in the breeder farm and corrective actions undertaken there too. Pay close attention to:

- Quality and percentage of males
- Bodyweight of males and females
- Poor spiking practices
- Health
- Seasonal effects (such as high breeder-house temperature)
- Stress factors (e.g. inadequate feed and water space).

Very early dead embryos

A high number of 'clears' may be due to an increase of very early dead embryos, sometimes called 'membrane stage mortality', when a blood ring has not yet become visible. One possible cause is that the optimal temperature for incubation has not been reached in the incubator. Another cause can be serious (local) overheating during the first days in the setter. The most common cause, however, is sub-optimal egg management between laying and setting. Cooling down of embryos after oviposition may happen too slowly or too fast. And sub-optimal climate conditions (especially temperature fluctuations) during egg transport and egg storage will weaken the embryo. Other aspects that should be checked are rough egg handling (shocks and jolts) and poor fumigation practices.

Egg breakout analysis is useful for improving hatch and poultry quality. Fertility and hatchability are major determinants of profitability in the hatchery enterprise

- Candle a reliable sample of eggs regularly to monitor the percentage of clears in different flocks in relation to flock age and duration of egg storage
- Perform a proper egg breakout to distinguish between true infertility and early dead embryos before deciding on corrective actions
- Be aware that too many clears may be due to management problems on the breeder farm rather than in the hatchery
- Ask your technical advisor for help or use a troubleshooting list to track down the most likely cause of increased infertility or early dead embryos

Breakout analysisis is a useful hatching management procedure that provide valuable information to identify problems in the breeder and hatching programme.

With the results of the information from the breakout analysis, the hatchery and breeder manager can take appropriate corrective action to improve fertility, hatchability and chick quality.

Egg breakouts take time and resources but are an essential hatchery operation to identify normal and abnormal patterns of development. It is helpful when problems emerge. Thorough and frequent breakouts help to provide useful insights.

– *Source: PasReform*

A&G AGRO-MECHANICAL INDUSTRIES

Your One-Stop Agric Solutions Provider

PRODUCTS

1. Tractors-Implements
2. Combine Harvesters
3. All Tractor Spare Parts

SERVICES

1. Mechanisation Services
2. Agric Consultancy
3. Gap Training

Head Office: Mash Plaza 1st Floor - 840 Rice City
Gumani, Tamale Northern Region, Ghana - West Africa
+233 (0) 372 028 733 / (0) 508 446 800 | info@agromechanical.com

WWW.AGROMECHANICAL.COM

Calcium plays a significant role in phosphorus (P) utilisation, which is important for broiler production performance. Therefore, optimising available calcium levels, relative to phosphorus, can contribute to better diet results

Maximising phytase performance

Image Credit: Adobe Stock

Maintaining the Ca/P ratio requires a careful balancing act

WHEN CREATING A diet to maximise production profits, nutritionists have paid less attention to calcium (Ca), a cheap ingredient often extracted from limestone. The role of limestone in feed processing and formulation has traditionally been to serve as a carrier or filler material. Its role in phosphorus utilisation has been greatly undervalued.

The link between Ca and P

The goal in feed formulation is often to meet an animal's minimum requirement for available phosphorus using the break-point method, also called the requirement estimate, which aims to reduce phosphorus excretion. An animal's calcium requirement is determined by an optimal calcium/phosphorus ratio, which is defined by the poultry breeding company. Maintaining the calcium/phosphorus (Ca/P) ratio demands a careful balancing act because there are complex molecular reactions involved. It is important to note that it is the ratio, not necessarily the calcium level itself, which has the potential to affect performance.

Too high a Ca/P ratio will lead to a decrease in performance. When phosphorus only meets the minimum requirement for growth, calcium will chelate with phytate in the small intestine making the phosphate from phytate inaccessible to the bird. The result could be a possible phosphorus deficiency and subsequent reduced digestibility and performance. High levels of calcium will also increase the pH in the proventriculus and gizzard, which will also negatively impact digestion. Excess calcium will have less impact when phosphorus levels meet or exceed an animal's minimal requirement.

However, the animal will excrete excess calcium through the urine, increasing the energy cost of maintaining the Ca/P balance. Phytase is an enzyme commonly used in the diet to break down phytate, releasing digestible phosphorus. Ideally the phytase should be highly active in the upper gut at low pH, so it will break down the phytate quickly and before it can bind with calcium. It is possible to maintain a balance of phosphorus and calcium in the presence of phytase.

Maximising phytase performance begins with an optimised calcium matrix

Calcium matrix

It is well known that calcium levels, as well as the particle size of the Ca source (a factor insolubility) can impact phytase efficacy. For example, in one study, adding just 0.5 per cent calcium from limestone reduced phosphorus digestibility by 63 per cent in the absence of phytase, by 26 per cent in a diet supplemented with a 3-phytase and by 41 per cent with a 6-phytase.

The impact of Calcium on phytase efficacy is directly related to phytase activity in the upper part of the gastrointestinal tract (GIT) where phytate is more soluble because of the low pH.

A phytase that is highly active at the low pH in the upper GIT will break down phytate more quickly and completely, thus less phytate remains to be bound by the excess Ca in the small intestine, which reduces the negative impact of excess calcium. In this way, availability of Ca is also increased by phytase.

For that reason, a defined calcium contribution number, or matrix value, would be desired in order to maintain proper Ca/P balance when phytase is used in the diet. Without it, a Ca/P imbalance may occur, thereby negatively impacting

digestion and performance. As each phytase has a unique pH profile, calcium matrix values should be defined for each individual phytase. In two studies, the optimal total Ca: dig phosphorus contribution ratio for Axtra PHY in broiler diets was determined. One study demonstrated that a calcium/dig phosphorus contribution ratio of 1.25:1 optimised feed conversion, while the other showed that increasing the calcium/dig phosphorus contribution ratio increased ileal phosphorus digestibility.

Efficacy with fast-acting phytase

Maximising the efficacy of phytase plays an important role in animal production because phytase has the ability to do much more than liberate phosphorus.

Phytase has been shown to increase the availability of amino acids, energy and minerals – key drivers of improved growth performance and feed efficiency.

The faster phytase is degraded, the better the outcome in the animal. To make that possible, the phytase must be highly active in the acidic environment of the upper GIT.

In one study, the activity of six different phytases were examined in vitro based on pH to determine the level of activity under normal gut conditions. Axtra PHY was most active at typical stomach pH, demonstrating its ability to degrade phytate faster than competitive products. Axtra PHY's superior bio-efficacy was further demonstrated in a second in vitro study, which showed that it required less incubation time at pH 2.5 to reduce calciumphytate precipitation in the small intestine.

This fast action is important as transit time through the upper part of the GIT is typically very short. In addition to rapidly degrading phytate in the upper GIT for better release and faster absorption of nutrients, Axtra PHY has also been shown to increase bone mineralisation, amino acid digestibility and overall nutrient uptake.

Tools for optimised dosing

While some feed producers leverage available calcium to formulate diets, most still rely on total calcium levels. However, it is clear that a well-proven, customised calcium contribution for phytase is an important component of maintaining an optimal Ca/P ratio, as more is not always better.

In fact, an unrealistically high Ca contribution number may possess a risk of leg weakness, especially when using a limestone with poor Ca digestibility.

The optimal Ca contribution value for phytase is a function of dietary composition, age and species of animals and dietary Ca levels. Using an optimal Ca contribution value may contribute to additional feed cost savings of US$0.4-US$0.7 per ton of feed.

Achieving success with tailored dosing requires continuous investment in research and innovation to generate species, life stage and diet-specific data that can be applied by nutritionists.

Danisco Animal Nutrition supports optimised phytase dosing for maximum performance with the Optimise Feed program. Optimise Feed is a unique online tool that uses matrix values based on a meta-analysis of 10 broiler trials looking at ileal P, Ca digestibility and total tract retention of P and Ca. It calculates the optimum phytase dose for optimising performance and cost. For example, the cost saving per ton of feed is up to US$4 when using the recommended dig P and Ca matrix, and up to US$13 when including also the energy and digestible amino acids

Africa represents a high growth market for the livestock and agricultural industries but more investment is required to fully unlock the potential. Martin Clark reports

Moving up the livestock value chain

With Africa projected to be home to a quarter of the global population by 2050, agriculture and food production will continue to play a major role in the region's economics and development

Image Credit: Adobe Stock

THERE WAS A time when Africa's agricultural and livestock industries were deemed little more than trouble areas – now they are billion dollar opportunities.

What's more, the potential for long-term growth is enormous, experts reckon.

Indeed, the African Development Bank (AfDB) estimates that agribusiness overall – from farming and livestock through to processing activities - to be worth a cool US$1 trillion by 2030. That's just 12 years from now.

Agriculture, in all shapes and forms, is now a priority for the bank under its Feed Africa initiative.

According to some, agribusiness could even become the 'new oil' on the continent, driving future growth and investment in the coming decades.

The cattle per capita ratio in Africa is closer to the developed than to the developing countries, exceeding by far the world average and the ratio for small ruminants in Africa is the highest in the world

That's in part driven by emerging growth in the local market itself: Africa's growing, and the increasingly affluent, population's demand for meat, milk and eggs will double, triple, or even quadruple in the next few decades, the UN Food and Agriculture Organisation (FAO) says.

"Understand that by transforming Africa's agriculture sector it will become the engine that drives Africa's economic transformation through increased income, better jobs higher on the value chain, improved nutrition, and so on," Jennifer Blanke, the AfDB's vice-president for agriculture, human and social development, told a recent investment forum.

For that to happen, however, total investment will need to accelerate rapidly.

At present, around US$7bn is invested in the sector each year; the AfDB estimates this needs to rise to about US$45bn

ACCESS YOUR FIELDS AT ALL TIMES

FLOTATION. RELIABILITY. PROFIT.

ST-1000

For Combine Harvesters

BRING IT ON

VERSATILITY. PRECISION. DURABILITY. PROFIT.

S-TECH 612-616

Designed for your Fields

RDO EQUIPMENT AFRICA, LTD.

www.rdoafrica.com.zm | amower@rdoafrica.com

RDO Equipment Africa, LTD
Farm 2297A, Great North Road Kabwe
PO Box 80771, Kabwe, Zambia
TL: +26 09739-36092

annually to move up the value chain.

It already supports dozens of livestock and agricultural projects right across the continent.

Business interests

Businesses too are waking up to the opportunity, often with backing from some unusual sources.

This has meant increasing commercialisation of the industry, and the opening of new sophisticated markets to improve trading.

In Kenya, USAID recently helped to fund a new upgraded Lodwar Livestock Market to improve the market's infrastructure and water system.

American companies are likewise picking up on the opportunities.

New York-listed Elanco Animal Health Inc. is working on a food security initiative in eastern Africa made possible via a US$3.1mn grant from the Bill & Melinda Gates Foundation.

This enables the registration, manufacturing and distribution of affordable high-quality veterinary products, along with intensive training initiatives for smallholder farmers and channel partners.

The so-called East Africa Growth Accelerator (EAGA) project encompasses Tanzania, Kenya and Uganda.

"The EAGA project is focused on assisting smallholder farming families in East Africa increase livestock production by providing them with access to high-quality, reliable veterinary medicines and knowledge to combat livestock disease," says Elanco's Maria Zampaglione.

"As the project leader, I realise how much supporting these farmers reduces hunger and poverty in a sustainable way, improves their income and livelihoods while opening new market segments for Elanco."

The company's goal is to enable more than 240,000 dairy and poultry smallholder farmers to access small sized quality products by 2020.

Facing up to threats

The challenges facing Elanco, farmers and others operating in the livestock industry are numerous.

Livestock disease remains a significant threat to achieving food security in eastern Africa, where currently 25 per cent of protein from farm animals is lost due to animal illness, reducing the supply of high quality milk, meat and eggs and creating significant economic losses for farmers.

According to the FAO, 34 per cent of the people in east Africa remain undernourished.

Dr Moses Gitonga, a dairy farmer and director of Kenyan retailer Jesmo Agrovet Ltd, which deals with veterinary and agrochemical products, is also involved with the EAGA project.

He said work had already helped farmers with the elimination of flies and ectoparasites – a menace in the semi-arid Kajiado County.

"The intervention has seen a radical decrease in the fly population and our dairy cows are now at peace during feeding and milking time," he said.

"Tick-borne diseases are now also very rare and the fly menace affecting households and livestock is effectively controlled. These measures have translated into improved hygiene and livestock production in terms of meat and milk output, significantly impacting the sustainability of our dairy farm and livestock."

Stock theft is one of South Africa's most persistent crimes with about 4,00,000 domestic animals, according to the SA Society for Animal Science

Technology and sustainability

As well as vaccinations, education and training to look after the health and welfare of livestock, technology is likewise playing a part in drawing new investment into Africa.

This includes innovation against another common threat: livestock theft.

South Africa's Xplosive Solutions now offers a ranger of farm protection tools. It is also in the final stages of development to produce a collar for the protection and tracking of livestock.

MTN South Africa and Huawei Technologies have partnered to launch the Connected Animal solution, an Internet of Things (IoT) innovation aimed at solving the rampant problems of stock theft and rhino poaching.

Launched in Cape Town at Africa-Com, the continent's largest telecommunications, media and technology event, the MTN solution allows the livestock farmer improved animal management and health-screening through activity and movement-monitoring, and analysis.

Farmers will receive actionable insights and early warning information to make decisions that help them manage their livestock, better improving efficiency and reducing costs.

Wanda Matandela, chief executive of MTN SA's enterprise business unit, said by using the IoT, farmers have near real-time visibility of their livestock, which acts as a deterrent to stock theft.

The solution would also help farmers track straying animals.

Stock theft is one of South Africa's most persistent crimes with about 4,00,000 domestic animals, according to the SA Society for Animal Science.

Dean Yu, president of Huawei Southern Africa Carrier Business Group, said they had leading technology, ecosystem and expertise on IoT business.

"We are working closely with local partners to help telcos quickly launch successful IoT businesses in China, Asia Pacific and Europe. We are ready to utilise our experience and understanding of Africa markets to working with telcos in Africa and to bring digitisation to every person, family and organisations on the continent," Yu said.

Ntuthuko Shezi, founder and chief executive of Livestock Wealth, is trialling the Connected Animal solution. He said the IoT innovation would help them build more trust in their business models with existing and prospecting investors.

"With such solutions we can also expand the ecosystem of farmers to more areas and allow small scale and communal farmers to be incorporated into our value chain in an efficient way," Shezi said.

Other global trends are also set to boost the outlook for Africa's livestock sector.

"Producing affordable food, generating employment, reducing the environmental footprint of farm animals, ensuring their health and welfare, along with the responsible use of antibiotics can all be seen as a move toward greater sustainability," said Jan Vanbrabant, chief executive of ERBER Group, ahead of the 2018 World Nutrition Forum in Cape Town in October.

With Africa projected to be home to a quarter of the global population by 2050, agriculture and food production will continue to play a major role in the region's economics and development - the perfect storm perhaps for investment and growth.

The FAO's Africa Sustainable Livestock 2050 blueprint brings together many of these global trends, challenges and opportunities.

It highlights that, together with enormous growth and demand for animal source foods, other factors are also at play: it says 75 per cent of new emerging human infectious diseases are zoonotic, while livestock contribute around 14.5 per cent to all human-induced greenhouse gas emissions.

"The future of African livestock will influence the development trajectory of the African continent as whole," the report concludes.

BioTestLab
Animal Health

DISTRIBUTOR WANTED

VACCINES:
for poultry, bovine, swine, rabbits

- injectable
- oral
- drops

PHARMACEUTICALS:
for farm and domestic animals

- injectable
- oral solutions
- powders

DISINFECTANTS:
strong action in low concentrations

- spray
- foaming
- fogging

FEED ADDITIVES:
vitamins, microelements and hepatoprotectors

- oral

25-A, Ushinskogo Str., Kyiv, Ukraine, UA-03151
tel.: +38044 245-77-25
www. biotestlab.ua info@biotestlab.net

Increasing food security across three East African countries

ELANCO ANIMAL HEALTH Incorporated is progressing a project to provide sustainable development solutions to address food insecurity in East African countries – Tanzania, Kenya and Uganda. The East Africa Growth Accelerator (EAGA) is Elanco's first pure 'Shared Value' project and enables the registration, manufacturing and distribution of affordable high-quality veterinary products, along with intensive training initiatives for smallholder farmers and channel partners.

"At the intersection of business value and societal value we find 'Shared Value': the EAGA project is focused on assisting smallholder farming families in East Africa increase livestock production by providing them with access to high-quality, reliable veterinary medicines and knowledge to combat livestock disease," explains Maria Zampaglione, Elanco One Health and Shared Value advisor.

Image Credit: Adobe Stock

Sustainable solutions to beat food insecurity are vital for East Africa.

"As the project leader, I realise how much supporting these farmers reduces hunger and poverty in a sustainable way, improves their income and livelihoods while opening new market segments for Elanco," she adds.

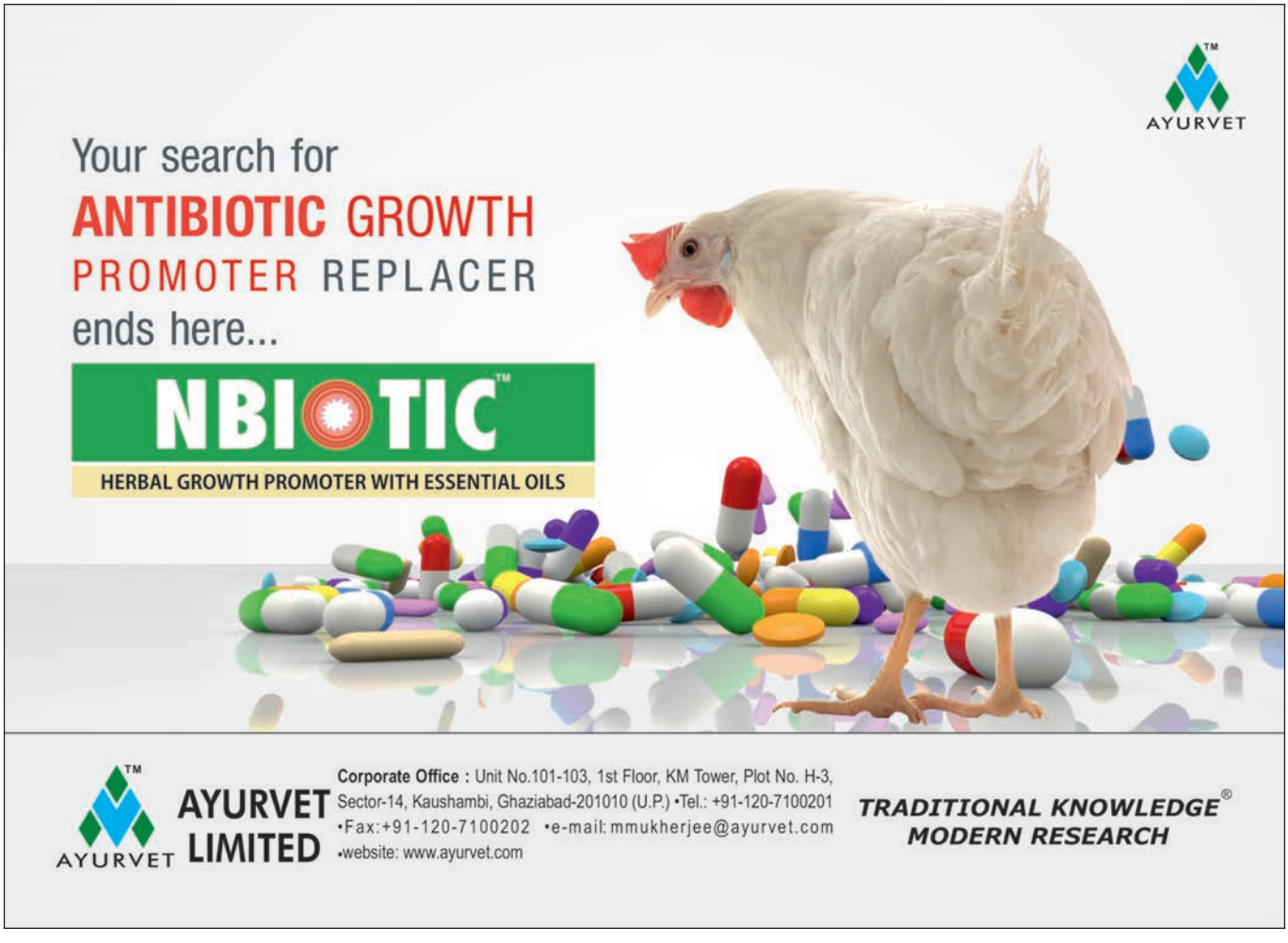
Livestock disease remains a significant threat to achieving food security in East Africa where currently 25 per cent of protein from farm animals is lost due to animal illness, reducing the supply of high-quality milk, meat and eggs.

"We have just 12 short years to achieve the UN's Sustainable Development Goal (SDG) 2 – which is about ending hunger by 2030," said Julie Lawless, senior director of Corporate Affairs at Elanco.

"With global hunger trending up in recent years after a decade of decline, we must increase capability and capacity in developing regions to meet this goal. Supporting smallholder farmers in East Africa is Elanco's concrete contribution to reduce hunger and poverty in a sustainable way, while opening new business growth markets".

The company's goal is to enable more than 240,000 dairy and poultry smallholder farmers to access small-sized quality products by 2020. The grant from the Bill & Melinda Gates Foundation further helps achieve this goal of improving the lives of smallholder farmers through sustainable livestock production.

Elanco is a global animal health company that develops products and knowledge services to prevent and treat disease in food animals and pets in more than 90 countries. With a 64-year heritage the company innovates to improve the health of animals and benefit customers.



Premier Fishing reports a 20 per cent increase in profits

PREMIER, ONE OF the largest managed fishing businesses in South Africa, has announced that the company's revenue increased by 20 per cent from US$28.01mn to US$33.46mn compared to the previous year.

According to the company, this is mainly as a result of increased sales volumes in the lobster and squid segments.

Premier delivered on its promise by concluding the acquisition of 50.31 per cent of Talhado during the 2018 financial year. Talhado is the largest squid company in the country and the deal is said to complement Premier's diversification strategy and extend its product basket. Further benefits from this transaction are expected to be realised over the next few years including synergies to enhance shareholder value.

The group experienced increased landings due to good catch rates for the lobster division as well as bigger size mix for south coast rock lobster (SCRL). The bigger size mix resulted in the group achieving an increase in US dollar pricing for SCRL as compared to the prior period.

In general, the increased landings resulted in increased sales volumes for the company as compared to the prior period. The good catch rates, increased market prices and volumes resulted in the division maintaining its margin despite the strengthening of the Rand against the dollar in the first half of the financial year.

Reflecting on last year, Samir Saban, CEO of Premier, said, "These financial year-end results were realised as an outcome of excellent performances across most of the group's operating divisions which exceeded Premier's expectations, by increasing its overall catch volumes, achieving better pricing, efficient cost and vessel management."

Premier holds medium to long-term fishing rights in west coast rock lobster, south coast rock lobster, small pelagics, hake deep-sea trawl, hake long-line swordfish, tuna as well as squid. Saban reiterated that the planned expansion of the abalone farm has already increased its capacity during the year under review from 120 tonnes to 160 tonnes. Premier expects to double its abalone spat production because of the expanded hatchery on the abalone farm.

"During the year, the abalone farm already employed 60 new employees and a further 200 additional employment opportunities will be made available over the short to medium term. This is in line with the group's strategic growth plan to increase much-needed jobs and shareholder value as well as meeting its global demand for our product. The expansion will also further provide additional direct benefits in the communities in terms of job creation," said the company.

Image Credit: AdobeStock

Premier Fishing is now making plans to boost revenue even further.

Shortage of zinc is one the most commonly occurring micronutrient deficiencies in a wide range of crops including rice. Dr Terry Mabbett reports

The zinc link to nutrition

Image Credit: Omex

Zinc may be plentiful in the soil but largely unavailable for uptake by plant roots

RICE IS A uniquely important provider of essential minerals, nutrients and vitamins for human growth, development and health. Rice consumers and growers constitute some of the world's poorest communities where rice is the undisputed staple food.

Rice growing countries generally use the produce to feed their own population, making rice the least internationally traded of all mainstream cereals. As a result it is the most sensitive to changes in supply and demand and therefore price movements. During the global shortage and price spiral of 2008, the commodity rose rapidly to US$1000+/tonne causing hardships and civil disorder in many rice consuming nations.

Rice protein is high in quality but modest in content compared with other food grain cereals. The lack of key minerals, nutrients and vitamins lead to deficiency diseases, especially among children. Many rice eating communities are also vegetarian which antagonises and aggravates human nutrition and health problems caused by eating low quality rice.

Importance of this was recognised in 2004 with the establishment of the internationally acclaimed HarvestPlus Programme which focuses on two micronutrients and one vitamin – zinc [Zn], iron [Fe] and beta carotene [vitamin A] – recognised by World Health Organisation as the most limited and limiting nutritional factors in human diets.

Zinc deficiency in soils and crops like rice is directly linked to subsequent zinc dietary deficiency affecting millions of people

The HarvestPlus programme foresaw biofortified crop varieties as the answer, with the funding for research provided by the Bill & Melinda Gates Foundation and The World Bank. Rice was recognised as one of the main crop vehicles that enabled planned improvements in diet and nutrition and the alleviation of suffering for billions of the world's poor.

Biofortification as a broad concept includes genetic biofortification by breeding rice varieties with high zinc grain content, agronomic biofortification through application of zinc based fertilizer to the soil or soluble zinc products sprayed on the foliage. Fortification of rice based foods by supplementing with targeted nutrients, minerals and vitamins is a useful last resort option.

Zinc in rice

Global HarvestZinc Fertiliser Project was established in 2008 under the HarvestPlus programme. Zinc is an essential micronutrient for plant growth and development and for human growth, development and the maintenance of health. Zinc deficiency

in soils and crops like rice is directly linked to subsequent zinc dietary deficiency affecting millions and responsible for child blindness among other.

Genetic biofortification with zinc is a sustainable way forward up to the point of planting but thereafter clearly relies on farmers being willing to plant these varieties. However, the necessary incentives may be absent if they are not the highest yielding varieties on offer and/or are more prone to pests and diseases than standard varieties. Supplementation of processed rice based foods with zinc is a useful last resort but not in line with current thinking on naturally produced and sourced food.

Image Credit: Omex

Omex zinc products increase rice yields and zinc content of the harvested grain

Zinc cannot be considered in isolation from other nutrients

Agronomic or fertiliser biofortification appears to be the most attractive of the three, not least because of farmer incentives from higher yields and superior quality grain, through targeted application and optimum utilisation of zinc as an essential plant micronutrient. Zinc is one the most commonly occurring micronutrient deficiencies in a wide range of crops including rice mainly due to its high immobility in soils and because of its tendency to become 'locked up' in alkaline (high pH) soils. Zinc may be plentiful in the soil but largely unavailable for uptake by plant roots.

Global HarvestZinc Fertiliser Project is supported by a group of companies including Omex Agrifluids an international research and development company in the United Kingdom. Omex has supplied a number of foliar zinc fertilizers for field trials and is the only foliar fertiliser company supporting the project.

"The Global HarvestZinc Fertilizer Project is about using biofortification to enhance the zinc status of cereals like rice for maximum high quality grain. High zinc content in rice grain translates as dietary zinc into human well-being and health," says Peter Prentis, managing director at Omex Agrifluids. Agronomic Biofortification is a logical way forward with foliar application of soluble liquid zinc formulations the most rational route, given the relatively high immobility of zinc in soil says his colleague Alan Lowes Regional Director, Omex and whose remit covers Africa. "Soil applied zinc may help to improve plant growth but it does not get into the grain as quickly and to the same level as that from targeted sprays of foliar applied zinc," adds Peter Prentis.

Omex Zinc trialled in Turkey

"Our research and development department is actively involved in the Global HarvestPlus Zinc Project to increase the zinc content of cereal grain yields," says Alan Lowes citing a research programme on wheat in Turkey. This project went on to identify Omex Zinc applied as a foliar spray as most effective route to harvested grain with a sufficiently high zinc content for the maintenance of human health*.

Zinc as Zinc Sulphate (Zn SO4) and Omex-Zinc (a patented soluble zinc formulation for foliar application) were applied by spraying to greenhouse grown wheat plants (cv. Adana 99) in a range of Zn concentration and at different plant growth stages. Zn SO4 was used at 0% (control), 0.1%, 0.3% and 0.5%. Omex Zinc treatments exactly matched those of ZnSO4 in the per cent of Zn used.

Plants were sprayed once at the early milk stage or twice, at heading as well as the early milk stage. In a separate trial, flag leaves of wheat plants were soaked in 0.3% Zn SO4 or Omex Zinc containing an equivalent concentration of active zinc. Flag leaves (up to five to six cm from the tip)

MASCHIO GASPARDO
Growing Together
TROTTER round baler
The most suitable baler for your work requirements: ALTERNATIVE FEEDER – ROTARY FEEDER – ROTARY FEEDER TOP CUT – ROTARY FEEDER ULTRA CUT. The forming chamber in Trotter model comprises 17 reinforced rollers for the 110 CUT and 19 for the 120 PRO; each roller features a particular profile to ensure the best traction in any condition and with any product, including prunings.
RESIDENT COUNTRY MANAGER
Mr. ALBERTO TONIOLO
Mobile +27 72 0969759 - email atoniolo@maschio.com
www.maschio.com
TROTTER
Official South Africa Importer
SOUTHTRADE LTD - southtrade@iafrica.com www.southtrade.co.za

on plants at milk stage were immersed in the respective solution for 10-12 seconds each morning for eight consecutive days.

Grain concentrations of Zn were significantly increased by ZnSO4 and Omex Zinc (compared with the 0% zinc control), with highest responses shown by plants receiving Omex Zinc. Superiority of Omex Zinc was most marked at the highest concentrations and when plants were treated once only at the milk stage. For instance, plants treated with 0.3% Zn SO4 applied at the milk stage showed an increase in grain Zn concentration of 12 mg kg-1 while those treated with Omex Zinc responded with a 21 mg kg-1 increase in grain Zn.

"10mg kg-1 is known to be the minimum elevation in grain Zn required to achieve a measurable positive impact on human health," says Prentis. "For enhanced human zinc nutrition cereal grains should contain around 40-60mg zn per kg whereas normally they will typically contain only 10-30mg per kg", he adds.

Omex focus on rice

Zinc deficiency is often a hidden problem. There are well-documented instances of yield reductions of up to 20 per cent without deficiency symptoms being shown in the leaves. Root development is a core function of zinc which must be available at the critical seed germination stage when plants grow first roots. Then accurately placed foliar sprays, synchronised with the appropriate growth stage, ensure rapid uptake of soluble zinc by the leaves and its transport to developing and filling grains throughout the reproductive phase of the rice cycle.

Omex Zinc products used in the formulation of rice fertilisation programmes are:

- Primer Zn Bio, a high concentration suspension seed treatment containing 700gm/l (70% w/v) Zn and a natural biostimulant sourced from seaweed.
- Kingfol Zn, a flowable foliar applied nutrient containing 700gm/l (70% w/v) Zn. In the form of ZnO as small particles and formulated with enhancers to optimise uptake by foliage and plant nutritional performance over time

Application of Primer Zn Bio as a sprayable seed dressing ensures rice crops receive required levels of Zn for production of enzyme and structural proteins. The seaweed component stimulates rapid root development by providing the correct balance of natural auxin and cytokinin growth regulation. Treated seeds benefit from early root and shoot development, and uniform germination with rapid uptake of water and nutrients to sustain growth beyond the germination stage. Established plants are better able to cope with stress and to attain full yield potential. Follow up treatment with Kingfol Zn as a foliar spray, post-transplanting at the tillering stage, ensures rapid uptake and utilisation of Zn, including transfer to the panicles for incorporation into developing and filling grains.

TABLE 1 Complete foliar feed programme for rice

Location/application	Timing/Growth stage	Treatment/Omex product/rate	
Seed dressing	Seed	Primer Zn Bio (3ml/kg	
Nursery/spray	Seedling	Bio 20* (3 l/ha)	
Post-transplant/spray	Tillering	Bio 20 (1-2 l/ha)	Kingfol Zn (0.5 -1.0 l/ha)
Post-transplant/spray	Panicle initiation	CalMax* (2-4 l/ha)	Micromax* (1.0 l/ha)
Post-transplant/spray	Spike emergence	NK 60* (1.0-2.0 l/ha)	Boron 15* (0.5 l/ha)

*Bio 20: NPK 20:20:20 with Magnesium (Mg) and trace elements
CalMax: Calcium (Ca) as CaO (22.5%) and Nitrogen (N) 15% with Mg and trace elements
Micromax: A comprehensive trace element profile plus Mg and Sulphur (S)
NK60: 39% K20 with 11% N
Boron 15: 15% Boron (B) chelated with ethanolamine
All percentages in the table and footnotes are w/v (weight/volume)

Complete foliar feed programme for rice

Zinc cannot be considered in isolation from other nutrients. Omex has designed a complete foliar feed programme for rice based on research conducted in rice growing countries around the world.

Tried and tested worldwide

Individual Omex products and the complete Omex foliar feed programme for rice have been tried and tested worldwide. Using the local rice variety Taroum in the Middle East, Omex Bio 20 increased rice yields by around 750 kg/ha with positive crop responses in root mass density, stem number and height and improved plant health.

Omex Calmax applied in Peru to crops at the spike emergence stage and at 1.0 l/ha increased yields by 60 per cent and halved the number of split grains. Applications in Thailand made at the tillering, booting and milky stages increased yields reduced lodging and relieved aluminium toxicity in rice.

Tissue analysis of rice leaves clearly shows the effectiveness of the Omex Foliar Feed Programme for rice. Nutrient analysis of the flag leaf at panicle initiation and five days prior to harvest demonstrated higher levels of key essential nutrient elements. Net overall result from the Omex Foliar Feed Programme was a 17 per cent increase in grain yield.

Peter Prentis and Alan Lowes at Omex sum up the benefits of Zinc biofortification through fertiliser application and especially soluble Zn by foliar application. "Evidence from 40 field trials over eight countries show Omex Zinc foliar applied products increase rice, wheat and maize grain yields by around five per cent. Moreover, grain zinc concentrations were enhanced by up to 60 per cent. After two years of field trials which compared a range of zinc fertiliser treatments, HarvestZinc concluded: Foliar application of zinc is superior to soil application for increasing its concentration in brown rice and cereal grains in general."

Zinc micronutrient profile in rice

Zinc is an essential trace element for normal growth and development in all organisms. Shortages of plant-available zinc reduce crop yields and rice grain. Zinc, as an essential plant micronutrient, has important functions as a constituent of cell organelles and a regulatory co-factor for a wide range of enzymes controlling important biochemical pathways. These are primarily concerned with –

- Photosynthesis and polymerisation of sugars into starch
- Synthesis of structural and enzyme proteins and control of enzyme function, all for rapid growth
- Production and regulation of plant auxin for normal growth and development
- Maintaining integrity and selectively of cell membranes
- Formation of pollen grains
- Increasing plant resistance to infection by specific pathogens

Rice crops respond to severe shortages of available zinc with a range of deficiency symptoms including uneven stunted growth, brown blotching and streaking on lower leaves and spikelet sterility.

Plants experiencing moderate or marginal zinc deficiency may respond with greatly reduced yield without displaying obvious visible symptoms. Without visible symptoms, deficiency can persist for years unless detected by soil and/or plant analysis.

A à Z PERFORMANCE

MAKE ALL YOUR TECHNICAL PROJECTS ACCESSIBLE

SERVICE

A à Z is here to provide you technical services and training for industrial vehicles operators in Agriculture, Construction, Forestry rail and Cargo Handling.

SKILLS

Our technicians are proficient in English and French with experience in estates, remote areas incl. Short to long term appointment.

TRAINING

We train you for mechanics and drivers, for maintenance program implementation, for fleet inspection and repair and for technology implementation.

CONTACT US :
julien.houdayer@aaz-performance.fr
+33 611 74 63 86

www.aaz-performance.fr

OMEX

Pioneering Plant Health

- **Suspension** fertilisers
- **Clear Solution** fertilisers
- **Soluble Powder** fertilisers
- **Organomex** range
- **Fertiliser Coatings**-MDS
- **Health** promoters
- **Seed** treatments
- **Bio**-fertilisers
- **Bio**-stimulants
- **Kingfol** range

www.omex.com
OMEX Agrifluids Ltd, Saddlebow Road, King's Lynn, Norfolk, UK
Tel: +44 (0)1553 817500 Email: agrifluids@omex.com

INTRODUCING THE NEWLY LAUNCHED TRACTORS FROM VST!

VST SHAKTI

VIRAAT 2W AGRIMASTER 27HP

viraaj XP 50 HP 9054DI

/vsttillers
http://bit.ly/VSTVideos
/company/vst-tillers

We are looking for Dealers across Africa & South East countries

V.S.T. TILLERS TRACTORS LTD.
Plot No- 1, Dyavasandra Indl. Layout, Whitefield Road, Mahadevapura Post, Bangalore-560048, Karnataka, INDIA.
Phone: +91 - 80 - 67141418/23 | +91 - 80 - 67141111, Fax: + 91 - 80 - 28510221, e-mail: sagar.gupta@vsttillers.com,
CIN: L34101KA1967PLC001706. www.vsttillers.com | www.vstexports.com

Technological breakthroughs, such as hybrid seeds, can improve yields in drought-prone conditions, but seeking out traditional solutions is important too. Georgia Lewis reports on developments in maize and sorghum

Boosting dry weather crop yields with technology and tradition

MAXIMISING CROP YIELDS in predominantly dry climates is an ongoing challenge for farmers across many regions of Africa.

With the ongoing threat of climate change, developments in technology, such as utilising big data, drones and satellites can help farmers identify weather patterns, access remote areas in harsh conditions, and communicate effectively with other farmers and experts for advice on managing in environments that can be increasingly hostile for agriculture.

While it is important for all stakeholders, in public and private sectors, to work together to mitigate and ideally reverse the effects of climate change, developments in seed breeding are helping farmers make the most of their land during periods of little or erratic rainfall.

An example of this is Water Efficient Maize for Africa (WEMA) by Monsanto. WEMA is a project, in collaboration with smalholder farmers, which incorporates the development of a hybrid maize seed that uses water more efficiently and resists pests. The seeds are available to African seed companies of all sizes, royalty-free, so they are affordable for smallholder farmers. To date, these seeds have been approved for release in Kenya, Mozambique, South Africa, Tanzania and Uganda.

Image Credit: CIMMYT/Peter Lowe

Maize crops have proven a resilient staple across Africa. Here, Neema Mulua harvests her maize crops at her family's farm near Kiboko, Makueni County, in Kenya

It is important to recognise the importance of farmer-led seed systems for food security and to take the best of technology and traditional knowledge to find solutions.

However, hybrid seeds are not a total solution to food insecurity created by crops which fail in dry conditions. Rachel Wynberg, associate professor and DST/NRF Bio-economy Research Chair, University of Cape Town wrote an arricle for The Conversation to reflect discussions at a seminar convened by the Seed and Knowledge Initiative (SKI) in 2016.

In this article, she points out that hybrid seeds cannot be replanted from year to year like traditional seeds because they lose their vigour, and they generally require chemical inputs to be effective.

Professor Wynberg calls for governments to recognise the importance of farmer-led seed systems for food security; provision of extension services to offer farmers advice relevant to their needs withour relying on seed and chemical companies; for gene banks ot be reimagined to better serve the needs of smallholder farmers; and taking the best of technology and traditional knowledge to find the best solutions.

Researchers at the Centre of Excellence in Food Security (CoEFS), a joint project by the University of the Western Cape and the University of Pretoria, have been examining the drought-resistance properties of maize, sorghum, soybean and cowpea crops. Maize and sorghum are staple crops for many African countries, particularly as they contribute to high-protein diets for humans and animals when mixed with legumes.

Researchers at CoEFS, led by Professor Ndiko Ludidi of the University of the Western Cape's Department of Biotechnology, focused on the vegetative stages of these four grain crops, where plant survival is vulnerable to a lack of rain and high salt levels in the soil. The research team has used genomics and proteomics to identify the genetic determinants of drought tolerance and sensitivity of the four crops. They have already made a breakthrough with the research into maize by identifying and analysing two maize genes that contribute to the regulation of droight responses. These genes nelong to the RD22 family of transcription factors and they encode proteins to regulate the levels of expresskion of other genes involved in water intake by roots and prevention of water loss via the leaves.

For some crops, looking to traditional solutions may be just as important as leveraging technology. The quest to improve sorghum yields in drought-prone areas of Uganda, for example, could have a solution in one of the recommendations made by Professor Wynberg. She suggested using the best of traditional knowledge along with technology – in the case of sorghum in Uganda, this could be as simple as encouraging use of available manure as fertiliser.

A Forum for Agricultural Research in Africa study found that 40.8 per cent of sorghum farmers surveyed did not use any fertiliser, either organic or inorganic on their crops. Of those who used fertiliser, onoly 13 per cent used inorganic fertilisers while 34.8 per cent used farmyard manure, which the researchers said should be further encouraged to boost productivity.

The new way to kill pests – Thermaculture

AFTER A TWO-YEAR study, Caltech Ag scientists has revealed that Agrothermal Systems heat treatments can be equal or more effective than pesticides and are used at lower costs per acre.

Tome Martin-Duvall of Caltech Ag concluded, "Heat will do as good of a job of insect control as the grower standard treatments for both whitefly and thrips control and in the case of a population explosion, heat-treatments can reduce the population better than the grower standard over time."

She further noted, "There are two consecutive studies with more than ample, consistent data to conclude that the heat treatment process developed by Agrothermal Systems significantly reduces populations of white fly and should be viewed as equal to or even better than traditional pesticide routines."

Martin-Duvall estimated that the cost of the propane to produce the heat ran US$5-US$6 per acre per pass and there were seven heat passes during the crop production cycle. Thus the total cost for the propane used was less than US$50 per acre.

According to Martin-Duvall, "Not only was the thermaculture process effective, but the cost was amazingly low compared to pesticides."

She also worked on Powdery Mildew control for wine grapes, a study that will be released shortly. She concluded, "These recent studies on Thermaculture are historic in that they open up a whole new way to approach pest control on crops. For years, we've searched for non-chemical approaches and there is no doubt in my mind that this technology is a breakthrough that will change the way we grow many crops."

Agrothermal Systems CEO Marty Fischer commented, "We have known for several years that heat when properly delivered at the correct temperatures and frequency will devastate many insect populations and mildew complexes. Caltec Ag and specifically Tome Martin-Duval have provided publishable data that confirms there are choices other than pesticides to effectively control such problems. We are very grateful for their work and will be continuing this kind of research on other insects and diseases in the years ahead."

Image Credit: Adobe Stock

Not only is the thermaculture process effective, but the cost is low compared to pesticides

Agrothermal Systems has developed machines that are row crop capable and plans to begin marketing this technology to the produce industry soon. Fischer added, "The primary aim and benefit of Thermaculture is to reduce or eliminate insecticide and fungicides in food production. We are looking for customers that want to offer the consumer and retail trade cleaner produce and at lower input costs. Our initial goal is to work with a few crops where we know we can easily control the pests and with companies who are eager to break the mold. We expect to start treating select produce crops by the end of this year."

Christabel Blanch, sales manager at Alvan Blanch, talks to Fyna Ashwath about the focus of the company in Nigeria, its major market in Africa and future plans for the continent.
Alvan Blanch specialises in the production of machines and integrated systems for the primary and secondary processing of agricultural produce and waste materials.

Improvising farm mechanisation

Image Credit: Alvan Blanch

Alvan Blanch is expanding the grain storage capabilities in Uganda

African Farming (AF): Please give us an overview of the projects of Alvan Blanch in Africa.

Christabel Blanch (CB): Africa has been an important market for Alvan Blanch, for more than 50 years, leading to the establishment of a very strong brand name. We have handled hundreds of projects to both private and state sectors, covering the storage and processing of grain across Africa.

Alvan Blanch products improve farm mechanisation, and in particular post harvest crop preservation and processing. Our main activity in the region relates to designing and supplying complete systems for the processing, drying, cleaning of crops such as cocoa, coffee, rice (parboiled/milled), maize (flour milling), commercial cleaning of sorghum, groundnut, sesame, as well as cassava processing.We also process fruit and tomato (juice, concentrate and paste), as well as waste processing.

Image Credit: Alvan Blanch

Clients with Christabel at Alvan Blanch

Feed Milling for the on-farm and commercial production of mash and pellets for poultry, fish and flaking for cattle – is another important line. We also supply a wide range of tractor operated farm machinery including threshers and shellers, which last a lifetime.

Alvan Blanch has a huge client base in Africa which is one of the predominant markets for the company. Our specialised and experienced team has been providing technical support to the dealers and clients in the region for over 50 years. We are now establishing offices in West and East Africa to meet the growing demand for technical support and modernisation of the post-harvest processing sector.

AF: What about your activity in the rest of Africa?

CB: Uganda, Kenya, Liberia and Cameroon are all busy markets this year for us. Our systems most in demand in these countries include those used for grain trading, cleaning, drying and storage, as well as value addition like- mango processing, rice milling and soya processing.

AF: What are some of the major challenges you have faced with respect to sales of products in the African region?

CB: The main challenges relate to the limitations of the political and financial environment in many African countries. Our clients can face some challenges in making cash payments. Lower lending rates would improve opportunities for agribusiness.

AF: Please tell us about the expansion plans or strategies for Alvan Blanch.

CB: We are investing heavily inhouse through upgrades of robotics and manufacturing. In Nigeria and the African region as a whole, we will be looking at increasing production and expanding into new markets.

Ensuring seed security in Africa

THE ACHIEVEMENT OF seed security through a competitive and efficient seed system should be considered as a potent tool to address the challenges that African agriculture is facing and to support progress towards shared prosperity and improved livelihoods in Africa.

AfricaSeeds and seed sector development

AfricaSeeds is the implementing agency of the African Union Commission's seed programme. In recent years, it has been restructured and strengthened to support its new mission as a fully fledged AU agency in charge of the implementation of the AU Seed Program. AfricaSeeds is based on principles and values aimed at promoting a more coordinated, sustainable and inclusive approach to initiatives in the seed sector.

Africa Seed's governing board is made up of individuals with outstanding and varied expertise and experience in seed sector development. The overall objective of the organisation is to promote the development of efficient and sustainable seed systems and a dynamic and competitive seed industry in Africa in order to ensure the access to quality seeds by all categories of farmers.

To significantly impact on food and nutrition security, AfricaSeeds will lead in initiatives on all crops (open and cross-pollinated and vegetatively propagated). It will also address challenges at all levels, supporting formal, intermediary and informal seed systems, as well as ensuring involvement of both public and private sector stakeholders.

AfricaSeeds is the only intergovernmental seed organisation with a continental mandate. This is both a huge challenge and a sizeable opportunity to greatly impact on African agriculture. AfricaSeeds aims to occupy the vacant position of an overarching body that coordinates the empowerment of the seed sector in Africa through the concentration of efforts where they are most needed, the promotion of sustainability and subsidiarity in decision making and the reporting on progress to African Union Commission for evidence based planning at the continental level.

AfricaSeeds: Towards seed security

Image Credit: Adobe Stock

AfricaSeeds works for more productive, sustainable and resilient seed sectors, which can contribute to the achievement of sustainable development.

LEMKEN mechanical seed drill Saphir 7

The Saphir 7 mechanical drill enables the timely and exact placement of fine seeds to give plants the ideal head start. A reliable mechanical metering system is combined with double disc openers to ensure that seeds are drilled at constant depth, even in tough, dry or reduced tillage conditions. The Saphir 7 mechanical seed drill can be combined with the Zirkon 8 rotary harrow to create the ideal seedbed, or with roller frame only.

3 reasons for combining tillage and seed drilling into one pass

1 Saves time...
Not only can it save time, but it can also greatly reduce fuel consumption. On top of time and fuel savings it makes it easier to get the seed into the soil whilst conditions are just right.

2 Conserves moisture...
By reducing the amount of tillage passes needed to form a good seedbed, evaporation can greatly be reduced whilst increasing the water holding capacity of soil.

3 Minimal tillage...
The combination of the Saphir 7 mechanical seed drill and Zirkon 8 power harrow makes one pass tillage possible. The double disc openers on the Saphir 7 are designed to cope with reasonable amounts of trash.

Contact us to find out more about our LEMKEN products:
Rainer Sy, +49 28 02 81-383, r.sy@lemken.com
Yves Desjardins, +49 28 02 81-607, y.desjardins@lemken.com

africa@lemken.com

LEMKEN
The Agrovision Company

African Farming's 2nd Edition Agroinvestment Summit takes place in Shehu Musa Yar'Adua Foundation Conference Centre, Abuja, from 3-4 December 2018.

Creating synergies in agriculture and food markets

Agroinvestment Summit embraces content for a wide range of stakeholders

Image Credit: Alain Charles Publishing

ACROSS AFRICA, GOVERNMENTS are seeking to encourage public and private sectors to invest heavily in agricultural development. Market and investment opportunities for the Nigerian agriculture and food markets are increasingly dynamic due to population growth, urbanisation, income growth and higher output services. On an annual basis more than US$10bn is committed in agriculture, food, beverage products and services. However, despite the output growth over the past 30 years, supply response has not kept up with the demand growth.

The 2nd Agroinvestment Summit, organised and researched by *African Farming*, in association with Federal Ministry of Industry, Trade and Investment, Federal Ministry of Agriculture and Rural Development as well as Nigerian Investment Promotion Commission, aims to combine the skills and resources of multiple groups to help achieve more in increasing productivity and output, funding for agro development and value addition, cross – border trading, improving rural infrastructure and technology.

The content is specifically designed to embrace a wide range of stakeholders such as government officials, importers, distributors, agribusiness owners, C-level executives from food companies, trade union members and manufacturers and suppliers of agricultural equipment, machinery and services.

The summit will create a cohesive platform for trade and investment opportunities, attracting major investors and buyers from across the globe.

The focal points include the achievement of integrated finance for African agricultural development via cross border partnerships amongst financial institutions, harnessing processing and packaging opportunities via public-private partnerships for agro-development and how tariffs will affect future trading and agro food relationships in Nigeria with special focus on the attraction of foreign direct investments/partnerships.

The summit will create a cohesive platform for trade and investment opportunities

Speakers include Muhammadu Damakka Abubakar, president of the Commercial Dairy Ranchers Association of Nigeria (CODARAN), Dr Emmanuel Ijewere, vice-president of the Nigeria Agribusiness Group (NABG), Dr Muhammad Kagu, Group head, Agric Finance(Corporate banking) First Bank of Nigeria Ltd and Eric Nyikwagh, country representative of the young professionals of agricultural development (YPARD) Nigeria.

Day 1 of the event will include a presentation that looks at promoting long-term finance for agriculture in Sub-Saharan Africa (SSA) from a global perspective, and a session on the intensive animal farming and livestock production. There will be a panel discussion on attracting foreign investment.

The highlights of the second day of the event are a Ted-style talk on the language of investors to help position businesses to be better prepared. Attendees can look forward to a keynote presentation on product incubation and entrepreneurship.

The second Agroinvestment Summit will provide a comprehensive experience on West African farming – current market trends, opportunities and threats as well as excellent networking opportunities with agribusiness stakeholders, investment/finance executives, government officials and commercial agribusiness from around the world.

For further information and to register, see the website at www.agroinvestmentsummit.com.

The 43rd edition of EIMA, the world exhibition for agricultural machinery, was held in Bologna, Italy from 7-11November 2018 with a large number of visitors

EIMA International continues to gain significance

EIMA INTERNATIONAL, THE International Exposition of Machinery for Agriculture and Gardening was hosted at the Trade Fair Center of Bologna, Italy from 7-11 November 2018. It is organised by FederUnacoma, the Italian Agricultural Machinery Manufacturers Federation in collaboration with BolognaFiere.

The five-day event showcasing the latest advancements in agricultural and gardening machinery and services included agriculture processing machinery, chemical fertilising and spraying equipment, grain processing machinery as well as irrigation systems and equipment.

The event was characterised by some social issues, in particular, the occupational safety and employment opportunities for young people.

Water scarcity and new smart irrigation systems were also discussed by experts in the sector.

A conference called The Mozambique Project: A model for the development of agriculture, was promoted. Speakers included Alessandro Malavotti, president of FederUnacoma. This project was created to reduce hunger and poverty through the development of the dairy and agricultural sector, as well as improving the nutritional education of the population in one of the poorest countries in Africa.

The area dedicated to technologies for the energy use of agricultural and forest biomass was one of the most interesting in the 2018 edition of EIMA International.

Speaking at the event, Giorgio Cantelli Forti, the president of the National Academy of agriculture reaffirmed, "The National Academy of Agriculture wants to promote correct information to consumers who should become aware of the right dietary habits."

New machinery and devices presented included the display of the latest products by global tractor producer, Farmtrac Tractors Europe.

Kohler presented the Kohler Hybrid Energy Module (K - HEM) hybrid electrical and mechanical combined power generation unit.

The safety of mechanical means, digitalisation of agriculture, management of water resources and the focus on young farmers were principal issues of discussion at the exposition.

The organisers have estimated that visitors to the exhibition were more than expected.

Eurotier, a leading trade fair for animal production, was held at the Hanover Exhibition Grounds from 13-16 November 2018.

Eurotier demonstrates the prospects for animal production

EUROTIER 2018 ORGANISED by DLG was held in Hanover, Germany, from 13-16 November 2018. It includes exhibitors from across the globe showing solutions to the challenges facing modern animal husbandry in the future. With its unique range of product and information offerings, it aims to provide direction for animal farmers.This year the guiding theme was 'Digital Animal Farming'.

"Eurotier has demonstrated its importance as the world's leading trade fair for animal production, " said Dr. Reinhard Grandke , CEO of DLG (German Agricultural Society) at the conclusion of the show.

Eurotier's visitors constituted professional animal producers from all sectors. The new digital solutions offered have the potential to significantly improve farming management and also ensure health of animals and enable transparency along the entire value chain.

The events comprised special features, conference and forums focused on concepts and perspectives that ultimately benefit animal health. Several livestock industry solutions and practical concepts were presented.

The Young Farmers Day at Eurotier takes place at every edition of the trade fair and attracts young farmers as well as students from across Europe. The event offered opportunities for networking, career planning and discussions about sustainable agriculture.

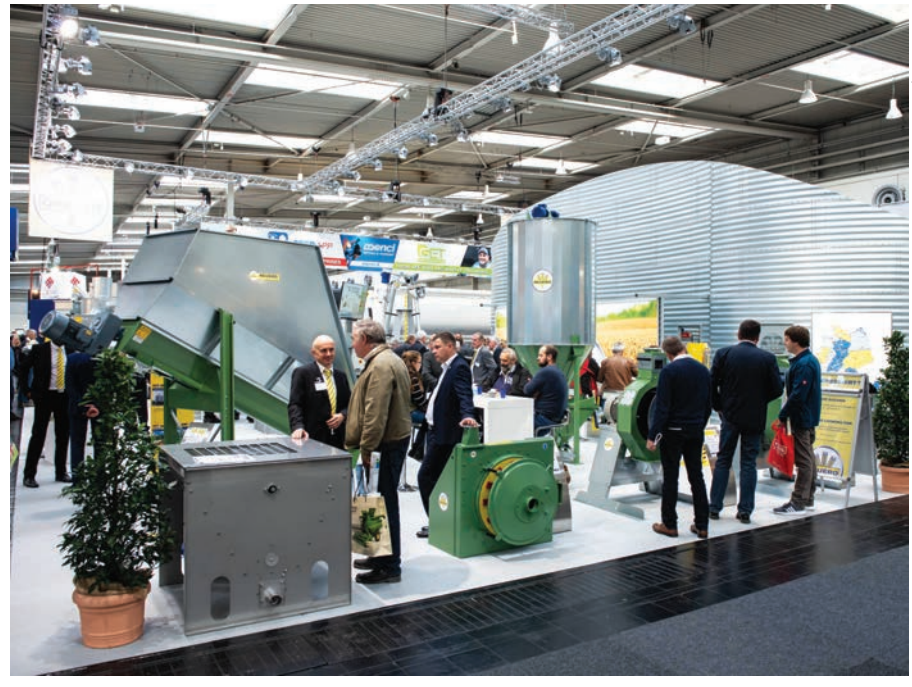


Image Credit: Eurotier

Eurotier showcased a range of product and information offerings

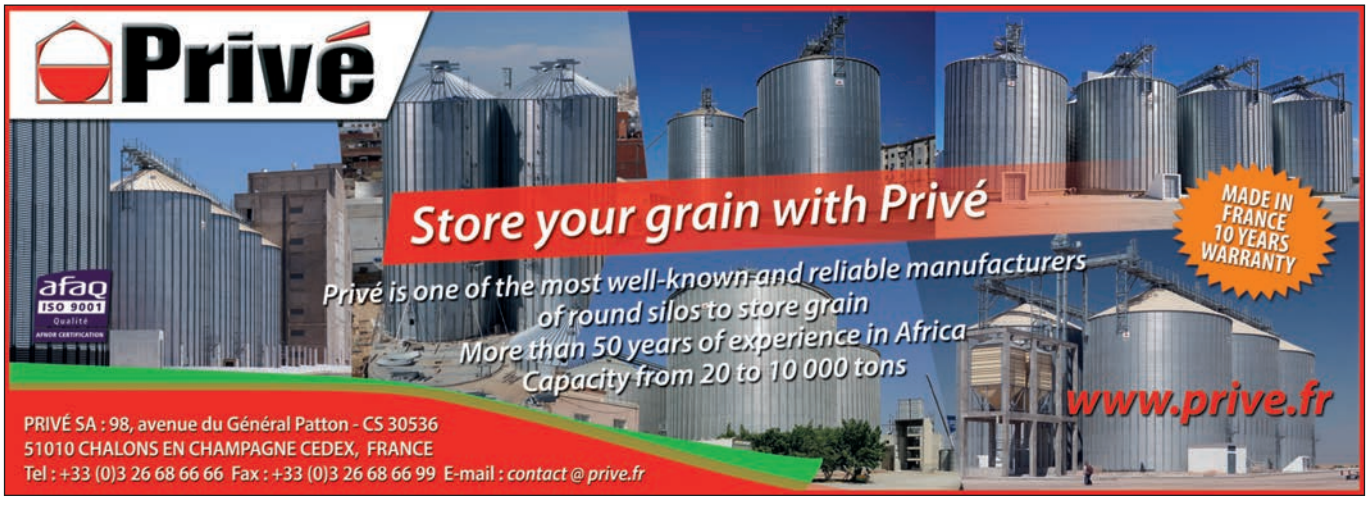
Representatives from the world of science and research, consultancy, industry and practical farming presented current trends and important developments.

The programme included a comprehensive and technical program to supplement the presentations offered by exhibitors.

The range of feed and animal health products was particularly noteworthy this year.

The next EuroTier, including EnergyDecentral, in Germany, will take place from 17 to 20 November 2020 in Hanover, Germany

Eurotier 2018 presented innovative solutions and practical concepts across various livestock sectors



African Review

of BUSINESS and TECHNOLOGY

Serving business leaders across Africa

African Review has been the dominant publication for the continent's construction and mining industries for over 54 years and is circulated by qualified subscription including buyers and specifiers in government departments, equipment importers, construction and mining companies across Africa.

54 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964

Sign up for the **FREE** fortnightly e-newsletter on **africanreview.com**

Circulation claims independently verified by ABC audit

Alain Charles Publishing
Serving the world of business

MENA	Tel: +971 4 448 9260
ASIA	Tel: +91 80 6533 3362
USA	Tel: +1 203 226 2882
EUROPE	Tel: +44 20 7834 7676

e-mail: post@alaincharles.com
web: www.alaincharles.com
www.africanreview.com

Pulses, oilseeds and spices main focus of Ethiopian conference

AN INTERNATIONAL CONFERENCE was held in Addis Ababa from 23-24 November 2018, aimed at strengthening and expanding market destinations for Ethiopian pulses, oilseeds and spices.

Opening the two-day conference, minister of trade and industry Fetlework Gebregziabeher said the economic growth of Ethiopia is attracting global attention.

"The government is committed to sustain this growth and wishes to see a private sector that can be the backbone of the economic transformation, particularly in the agricultural sector," she pointed out.

Fetlework stated that Ethiopia is endowed with vast untapped cultivable land and huge young working force that could help achieve the targets set by the country in bringing agricultural transformation.

Image Credit: Adobe Stock

The conference aims to strengthen and expand market destinations for pulses, oilseeds and spices

Ethiopian Pulses, Oilseeds and Spices Processors-Exporters association president, Haile Berhe stated that "the main aim of the conference is to strengthen existing market destinations and expand to other emerging market destinations for Ethiopia's diverse pulses, oilseeds and spices exports".

Haile stated that the association is working on export diversification and value adding. Ethiopia has over 55 destination countries, India being its biggest importer.

The country earned US$420mn, US$350mn, and US$16mn from oilseeds, pulses and spices, respectively, last budget year, the president revealed.

Indian specialist in indenting of pulses at Shree Laxmi Trading Corporation, Kabra Dhruv, has commented that Ethiopian products imported to India are of premium quality that could even compete with international standard products.

He said, "We import sesame seeds, beans and pulses, among others, from Ethiopia, especially products that come from Gojjam and Birsheloko are of very good quality."

Indian Jindal Overseas Corporation conveyor, Pradeep Jindal, stated that this international conference will create a platform for discussion and sharing of experiences that helps some low quality exporters to improve their performances.

The conference is organised jointly by Ministry of Trade and Industry and Ethiopian Pulses, Oilseeds and Spices Processors-Exporters Association.

Due to its importance as a major export commodity the area coverage and production of sesame has increased in the last consecutive years.

After coffee oilseeds are the second largest export earner for the country and already more than three million smallholders are involved in its production.

Exports actually consist of sesame and niger seed, for which there is a growing demand in the world market. But also castor, linseed and safflower have good export potential.

The growing demand in the world market for these specialty products and the available capacity to expand production could make oilseeds turn into one of the engines of economic growth of Ethiopia.

The participants at the international conference looked at addressing ways to increase quality, productivity and marketability to reap maximum benefits from their endeavours to build stronger economies.

The challenges affecting the business of pulses, oilseeds and spices as well as outlets to expand opportunities also formed a part of the discussions during the conference.

Market developments continue to boost the growth of Agrofood Nigeria

NIGERIA'S 5TH INTERNATIONAL trade show on agriculture, food processing, packaging, ingredients, bakery and confectionery as well as food and hospitality will take place from 26-28 March 2019 at the Landmark Centre in Lagos.

Nigeria is the fifth largest oil exporting and the 11th largest gas exporting country. It is also Africa's most populous country and the seventh most populous country in the world.

Agrofood Nigeria 2019 will be organised by German trade show specialists fairtrade Messe together with its partner event Plastprintpack Nigeria. DLG, German Agricultural Society also brings in its agro and trade fair expertise.

The event will be supplemented by a three-day programme full of presentations and conferences. It is an international trade fair covering the entire value chain from field to fork, consisting of three sub-events – agro AgroTech Nigeria, food + bev tec Nigeria, and food + hospitality Nigeria.

As of 2018, many global leaders have already renewed their participation for the 2019 event. Belarus will be represented for the first time at Agrofood Nigeria 2019, while China, Germany, France, Italy, the Netherlands, South Africa, Switzerland and Turkey will again present themselves with official group participations.

Many exhibitors have committed to returning in 2019

Image Credit: Agrofood Nigeria

Agrofood Nigeria 2019 enjoys the strong support of the following Nigerian and international institutions including the German Federal Ministry for Economic Affairs and Energy, IOPN Institute of Packaging Nigeria, Netherlands African Business Council, Nigeria Agribusiness Group and the National Agency for Food and Drug Administration and Control. The three-day event will gather international and Nigerian industry leaders, investors, experts, academics and journalists to discuss the latest technologies.

Thousands of B2B meetings created high satisfaction rates among exhibitors and visitors in the Agrofood Nigeria 2018 event.

Grow your business in Iran, Iraq and sub-Sahara Africa

DLG International
AGRO TECH

3 agro AgroTechs organized by fairtrade & DLG:

5th Nigeria agro
26 – 28 March 2019
Landmark Centre - Lagos
agro AgroTech Nigeria
www.agrofood-nigeria.com

3rd Ethiopia agro
09 – 11 May 2019
Millennium Hall - Addis Ababa
agro AgroTech Ethiopia
www.agrofood-ethiopia.com

6th West Africa agro
19 – 21 November 2019
Accra International Conference Centre
agro AgroTech West Africa
www.agrofood-westafrica.com

1st iraq agro
15 – 17 April 2019
Baghdad International Fair Ground
agro iraq
www.iraq-agrofood.com

26th iran agro
18 – 21 June 2019
Tehran International Fairgrounds
agro iran
www.iran-agro.com

fairtrade

Contact for Iran & Iraq Shows:
Mr Paul März • Tel.: +49-6221-4565-13
p.maerz@fairtrade-messe.de

Contact for Africa Shows:
Ms Leonie Ganser • Tel.: +49-6221-4565-14
l.ganser@fairtrade-messe.de

www.fairtrade-messe.de

Image Credit: Adobe Stock

ICTs not only have the potential to enhance agricultural productivity in Africa, but they can also do so in a way that advances a "green" agriculture in the continent

Smart farming practices will help drive better business as well as push job creation that will ensure food security and better social security among the African youth.

'Digital is the only road to job security'

MIGRATION, BOTH TO urban areas and abroad, risks depriving African countries of the young people they need to modernise their agriculture sectors, which are important to achieving growth and prosperity, according to Food and Agriculture Organization (FAO) director-general José Graziano da Silva.

"It is crucial that African countries also look at rural areas for agro-industrialisation that can provide more opportunities for young people to find employment and remain in small villages and rural areas," da Silva said, pointing to a recent FAO report showing that those who migrate from rural to urban areas are five times more likely to move abroad.

Trends in agricultural activity inclusion has focused on rural inhabitants with older folks dominating in many countries across the continent, denoting that the younger folks in these rural areas, together with people from the urban centers are not quite interested in this sector. It is no surprise that even the unemployed who are surrounded with agricultural opportunities refuse to see them, even if they do, they are reluctant or do not take advantage of them.

According to FAO, the agricultural sector including the related food systems and value chains, and use of ICTs in agriculture, can create wealth and generate employment for the youth to help curb migration.

The FAO director-general noted that economic growth in many African countries has slowed down in recent years and that the impact of climate extremes has intensified, while conflicts continue to cause social disruption in some areas.

He stressed that in this context, it is important for countries to define joint strategies and implement common actions, such as the recently approved African Continental Free Trade Area. In particular, agro-industrialisation can contribute to addressing Africa's historical dependency on food imports.

In terms of Africa's digital agriculture journey, mobile connectivity and applications help farmers access market-related information, digital financial services, and innovative services, including tractor sharing

Leveraging ICT to transform agriculture

Africa's agribusiness market is projected to reach US$1 trillion by 2030 from more than US$313bn in 2013, according to the World Bank.

Such progress is expected to bring more jobs, greater prosperity, food security and significantly more opportunities enabling African farmers to compete globally.

FAO has teamed up with the International Telecommunication Union (ITU) to identify and support innovative solutions to address challenges around food and agriculture.

The organisations came together recognising innovative business models and new technologies to unlock the largely

untapped reservoir of youth employment opportunities in food and agriculture in Africa.

In terms of Africa's digital agriculture journey, mobile connectivity and applications help farmers access market-related information, digital financial services, and innovative services, including tractor sharing. Further, the combination of ICT solutions, such as precision equipment, the Internet of Things (IoT), sensors, geo-positioning systems, data analytics, and drones, is changing the way in which traditional farming is conducted in Africa.

Mobile phones can also be very useful at the pre-cultivation stage with regards to crop selection as well as for taking inventory and obtaining weather information on the planting calendar. It can generate valuable information on land preparation and sowing, crop health, input management – particularly the choice and use of fertiliser – and pest and water management, thereby increasing productivity and production while decreasing maintenance costs. Researchers can also contribute to these platforms, adopting more easily agricultural best practices and disseminating them to farmers.

AgriPredict digital platform is able to forecast the probability of pest invasions such as Fall Armyworm (FAW), a crop eating and destructive pest, which can cause significant damage to crops if not well managed. The solution will provide users, such as smallholder farmers and commercial farmers, extension services providers, non-governmental organisations, government institutions and environmental agencies among others, with adequate information for them to take preventive measures to mitigate effects.

The application was developed in Zambia and is being run by a team of young innovators led by its founder Mwiza Simbeye.

This information will be easily accessible via the web, mobile phones and social media. It will have both voice and visual features that will be user-friendly to anyone including persons with disabilities.

STES Group, a local company based in Kicukiro District, Rwanda, has developed a technology that uses sensors to gather real-time data from farm allowing farmers to manage farming practices remotely.

With the technology, the irrigation system is automated and can be turned on/off remotely by the farmer. Using information displayed on their phones or computers, the farmers can regularly keep track of the weather-forecasts, the real-time factors changes and can irrigate accordingly.

In addition it collects and analyses data on nutrient value or fertility status in the soil so that the farmer can keep track of fertility of the farms accordingly.

Image Credit: Adobe Stock

Agriculture is one of the sectors in the continent with a reasonably high level of revenue from export activities. Export commodities such as cocoa, coffee, timber, cashew and maize are some known produce that earn the continent much of the foreign exchange revenue

FAO has teamed up with the International Telecommunication Union (ITU) to identify and support innovative solutions to address challenges around food and agriculture

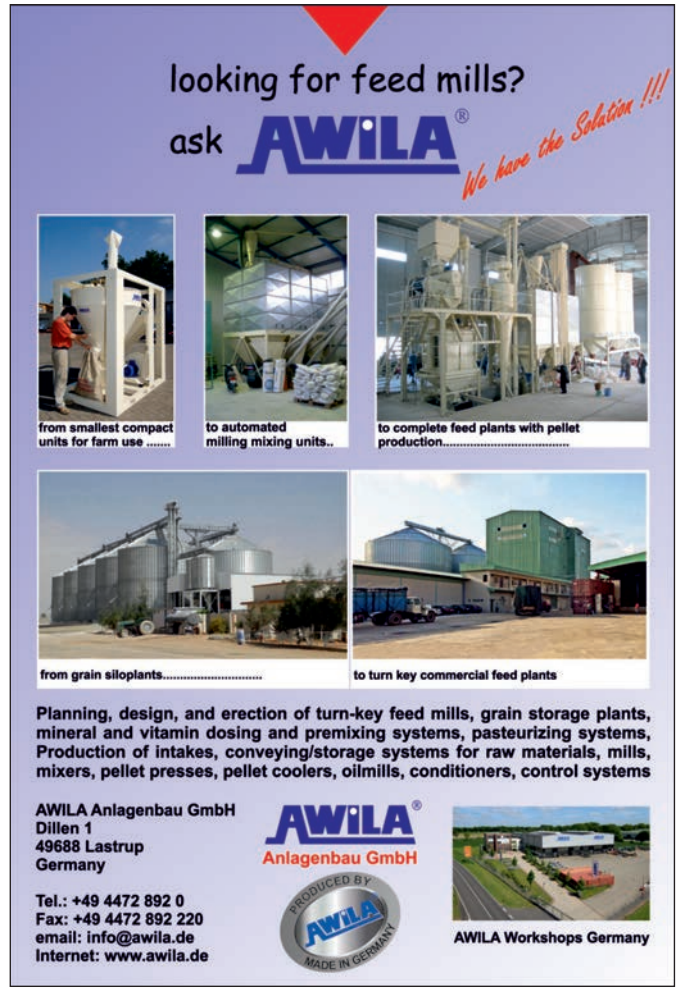
This technology helps farmers interact and act on the soil parameters, predict agricultural yield, produce with an aim to satisfy international market standards, said a STES Group team led by Arsene Simbi.

ICTs not only have the potential to enhance agricultural productivity in Africa, but they can also do so in a way that advances a "green" agriculture in the continent. They can provide the tools to manage natural resources and reduce environmental risks while contributing to sustainable agricultural development in Africa. Remote sensing and satellite imagery applied to insurance companies operating in agriculture can mitigate the risks against weather adversity and climate change and convince operators to invest more in farming activities, which in turn will protect the livelihoods of individual farmers.

da Silva added that due to continued population growth, rapid urbanisation and dietary changes accompanying rising household incomes, Africa's food demand is projected to grow in the coming years by more than 50 per cent, providing "an invaluable and untapped potential" to address youth unemployment challenges, albeit amid numerous constraints.

"In the coming years, more and more of the agricultural activities and employment will require digital skills," he said.

He called on cooperatives to figure out "the best way to provide farmers and young professionals with technical assistance, capacity building, and access to modern technologies."



Italian headers arrive in Africa

ITALY-BASED NARDI HARVESTING, producer of all types of combine harvesting headers for corn, sunflower, sorghum-milo, soybeans etc, has launched its service offerings in Africa to help farmers harvesting different crops.

"Africa is going to see an important growth in the agriculture considering vastness of the country, size of lands and extreme weather conditions. The mechanisation is a fundamental and delicate passage."

L Nardi, director of Nardi company, explained, "Knowing that a bearing can stop a combine, couple of trucks and 10 people for days, our goal is to supply reliable technologies to optimise working flow."

Nardi Harvesting is a brand owned by Pegaso S.r.l., a company located in the north-east of Italy. It is active for 35 years in designing, production and distribution of professional equipment for combines: combine headers and header trailers. The company distributes in Central Europe, East Europe, the USA, Ethiopia, Sudan and South Africa and now is increasing its presence also in the African continent.

Nardi harvesting pick-up headers are universal and compatible with all models of combine available in the market today. They operate with a pump with different speed and an adjustable spring.

Nardi provides farmers with reliable headers to harvest different crops including corn, sunflower, sesame, chickpeas, sorghum, soybeans and castor oil.

Image Credit: Nardi Harvesting

Nardi Harvesting's headers aim to help African farmers to harvest different crops

Farming solutions

"Nardi developed different technologies based on farmer's needs like harvesting down crops, reducing time on the field, increasing productivity, transporting different type of heads with a single trailer, using one header to successfully harvest different crops and reducing maintenance costs," said Nardi. All machines developed by Nardi have a strong structure, long-lifetime and are easy to use and maintain.

Maizestorm is the corn header, easy to use, strongly built and easy to repair. It gives a wide range of solutions and is designed for maximum performance over the time.

Sunstorm pans and Sunstorm rows were designed to harvest sunflowers. Sunstorm pans is a free row system that works like a comb and makes it possible to harvest sunflowers and sorghum, in some cases, in all directions with a maximum speed up to 15km/h.

Nardi also produces trailers to transport headers on the road up to 40km/h built only with high-quality steel. The company provides 10 years of warranty and many options available such as tandem axles for a perfect ground reading, telescopic frames, four steering wheels, high ground clearance and patented system to quickly and safely lock the heads on the trailer's supports.

"Plus our unique design permits to ship them together with our heads to break down shipment costs," noted the director.

For more details, please visit www.nardi-harvesting.com

Image Credit: Nardi Harvesting

Making an infinite impact

Across the globe, Jains have always belived that the farmer comes first.
So at every stage we ensure that he is provided with
relevant technology - the right product at the right price.
This has resulted in his continuing prosperity, which has positively impacted
the rural economy. All this while causing no harm to the environment and
ensuring a sustanable future for the society.

JAIN®

Jain Irrigation Systems Ltd.

Small Ideas. Big Revolutions.®

www.jains.com

Volvo Penta engines power ROPA machineries

HARVESTER MANUFACTURER ROPA in collaboration with Volvo Penta is gaining a growing share of the market, owing to the popularity of the latter's Tiger 6 and Panther 2 engines.

"In terms of reliability, our machines are the best in the market," says Michael Gruber, head of technology at ROPA. "Because of the customer service we provide, standstill times are shorter, and this is essential if the machine is to be profitable for our customer."

ROPA is one of the leading manufacturers with a broad range of products for harvesting sugar beets and potatoes that are used in more than 40 countries.

In 2016, ROPA began using two of Volvo Penta's 16-litre engines in its Tiger 6 and Panther 2 models – its premier sugar beet harvesters. The main reasons for the selection were the engines' reliability and good fuel efficiency. But it was also important to ROPA to be able to access help easily from Volvo Penta at its production plant, and for its customers to be able get their machines serviced conveniently anywhere in the world from the Volvo Penta global dealer network.

"Our goal is to have engines that can operate between 13,000 and 15,000 hours without major repairs," adds Gruber.

The three-axle Tiger 6 is the world's most powerful sugar beet harvester and has won several awards for its performance, efficiency, and innovative design. The two-axle Panther 2 is a smaller, more compact machine for use where extra mobility is required.

Image Credit: Volvo Penta

The ROPA Tiger 6 is the most powerful sugar beet harvester in the world, and is powered by a 16-litre Volvo Penta engine

"The success of our engines in ROPA's machinery has been shown through the popularity of the Tiger 6 and Panther 2," according to Jochen Engelmann, head of industrial sales for central Europe at Volvo Penta.

Hendrix Genetics's new robot capable of egg grading

HENDRIX GENETICS HAS launched the Eggxaminator – a robot capable of egg grading, by automatically measuring egg quality traits. The invention was created in partnership with a Netherlands firm.

Innovations in the field of animal breeding do not only apply to the genetic methods and models that are used in the day-to-day genetic evaluations, but can also be implemented in the most essential part of running a breeding programme: the collection of data. Accurate data collection is at the heart of the breeding programmes of Hendrix Genetics. Whether it is the traditional or Genomic selection, data on an individual or family level is needed in order to calculate (Genomic) breeding values that will deliver enhanced performance traits.

Image Credit: Hendrix

The Eggxaminator

This need for accurate data has led Hendrix Genetics to develop the Eggxaminator.

The Eggxaminator is able to automatically grade and inspect eggs with the focus on ten different exterior egg quality traits.

Hendrix Genetics Innovations, an R&D division, was created a few years ago in order to identify useful innovations that can be applied to the agricultural sector to bring in new perspectives through collaborations with partners and their know-how on new technologies that can be used in animal breeding.

Through the use of advancements in the field of robotics and sensor technology, the Eggxaminator uses Machine Vision in the grading of eggs derived from laying hen breeding programmes of Hendrix Genetics. Machine Vision involves the use of imaging-based automatic inspection and analysis. By adopting this technology, it has been made possible to generate more accurate data on exterior egg phenotypes, removing the possibility of human error and subjectivity. Each evaluation can now be completed with a high amount of measurable consistency.

The Eggxaminator was recently installed in the egg lab of the company, and it is also planning to scale up the technology for full implementation in the layers breeding programme. According to the company, customers would benefit from more first quality eggs during the bird's laying cycle, with extra focus towards the end of the cycle.

KOHLER's new hybrid unit for agriculture

KOHLER'S NEW K-HEM (KOHLER Hybrid Energy Module) hybrid electrical and mechanical combined power generation unit is ideal for agricultural purposes. In light of the changes that the new emissions directive will bring to the off-road applications sector starting 1 January 2019, Kohler has added a product to its array that is capable of meeting the new needs of equipment manufacturers in this sector.

K-HEM generates power using a combination of a KDW 1003 18-kW diesel engine, compliant with Stage V standards and without DPF, and a 48-volt electric engine that guarantees 15kW of peak power and nine kW of continuous power. This means that the unit is capable of providing over 30kW without the need for exhaust gas aftertreatment systems. Also, K-HEM can operate as a generator for energy accumulation systems.

The features that the K-HEM hybrid unit offers have been designed to satisfy the needs of all those types of equipment that are distinguished by intermittent duty operation cycles that call for power peaks (welders, mowers and tractors with implements) and machines that run continuous low load operation cycles, which prevent them from reaching the temperatures necessary for passive regeneration to occur inside the particulate filter (aerial platforms and forklifts). With K-HEM, the power base is provided by the combustion engine, while the power peaks are guaranteed by the electric engine.

All of this translates into lighter, more compact and better-performing machines – less complex engines; absence of aftertreatment systems; ability to store and use excess energy due to the built-in alternator; ability to manage operations using the master control unit; reduction of gas emission, noise and consumption rates; improved performance and power modulation, because of the integrated management of each operation.

Latest phytogenic innovation from BIOMIN

BIOMIN HAS LAUNCHED its newest phytogenic feed additive (PFA) – Digestarom DC – as it introduces the next generation product to feed and livestock producers throughout Europe, the Middle East and Africa.

"Digestarom DC introduces targeted delivery of plant-based compounds that aim to maximise beneficial effects in farm animals," said Antonia Tacconi, global product manager Phytogenics at BIOMIN. "Pelleting stability, ease of handling and a documented mode of action all make Digestarom DC the next generation of phytogenic solutions of choice for poultry and swine producers."

The feed converter

Certain combinations of plant-derived bioactive substances can have synergistic effects that translate into a number of benefits when applied to farm animal diets.

"Profitability, improving the low digestibility of alternative feed ingredients, antibiotic reduction, counteracting stressors, and overcoming environmental challenges – these are a host of modern production issues that are all tied to feed conversion improvement," stated Dr Tacconi.

Digestarom DC was initially introduced at VIV Asia in 2017 with the slogan 'The Feed Converter' and has seen uptake by customers in markets across Asia Pacific. The brand has had commercial success and been applied to farm animal diets since 1989.

"Digestarom DC builds upon considerable research and development from the BIOMIN research centre, along with the knowledge and proven results embedded in the Digestarom product line," explained Dr Tacconi.

John Deere and Granular introduce new farm management tool

THE NEWEST DEVELOPMENT from the ongoing John Deere-Granular product development and marketing collaboration is Profit Maps, now available to producers through the John Deere Operations Center.

Profit Maps is a free tool to help farmers view average cost, revenue and profit map layers at the sub-field level in the Operations Center.

Harley Janssen, product manager with Granular, says Profit Maps combines the power of machine and production data with Granular's business management capabilities to help farmers more quickly and easily view field-level profitability.

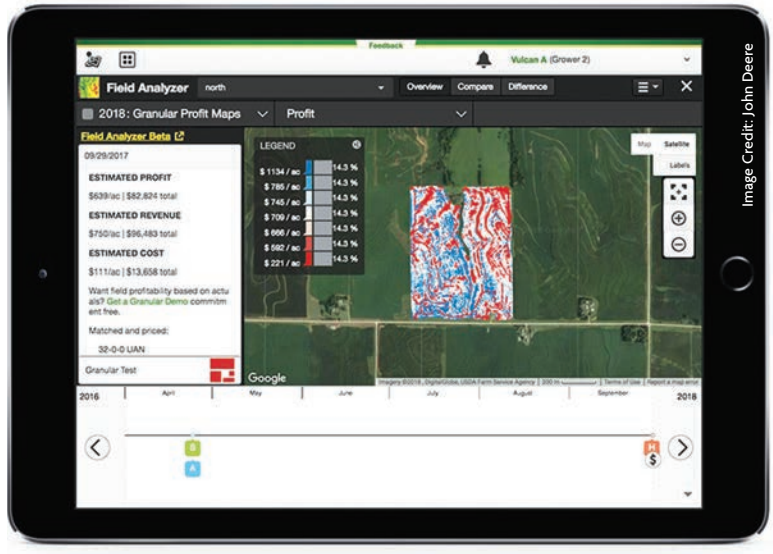


Image Credit: John Deere

The Profit Maps tool helps farmers view average cost, revenue and profit map layers at the sub-field level

"Understanding a farm's financial health at the field level is one of the most important jobs of every producer," Janssen explains.

"Profit Maps is a free tool that goes a step further and helps farmers assess the financial return on farming practices at a more granular sub-field level."

Brad Silva, product manager with John Deere, adds, "Advances in technology have allowed farmers to develop agronomic plans that turn variability across their fields into opportunities to improve their bottom lines. Profit Maps helps farmers see the financial impact of those decisions and adjust their management practices accordingly."

Profit Maps is the first release of a multi-phased approach from the Deere and Granular collaboration. Customers can opt-in to Profit Maps by clicking the Granular Profit Maps icon on the tools menu in the Operations Center. From there, they can view average cost, revenue and profit maps in the Operations Center's Field Analyzer tool.

Granular is an agriculture software company dedicated to building stronger and more profitable farms. With web and mobile apps grounded in advanced data science technology, Granular helps farmers make data-driven, real-time business and agronomic decisions with greater confidence.

Case IH wins double awards for ease, efficiency and style

THE CASE IH Maxxum 145 Multicontroller won the 'Tractor of the Year 2019' and 'Best Design 2019' at EIMA International in Bologna, Italy.

Launched in 2017, the highlights of the 145hp Maxxum 145 Multicontroller include its ActiveDrive 8 eight-step semi-powershift transmission and the Multicontroller armrest and joystick, attributes recognised by TOTY judges for aiding ease of operation and enhancing efficiency. Maxxum tractors are also available with four-step powershift and continuously-variable transmissions.

The winning formula

Complementing the existing ActiveDrive 4 four-step semi-powershift and CVXDrive continuously-variable transmissions, the key development on the new Maxxum Multicontroller range is the ActiveDrive 8 three-range/eight-step semi-powershift. The transmission and many other tractor operating functions can be controlled through the Multicontroller armrest and joystick.

Image Credit: Case IH

The TOTY award builds on the Maxxum 145 Multicontroller's previous achievements

The TOTY award builds on the Maxxum 145 Multicontroller's previous achievements, including the lowest average specific fuel consumption recorded in the field work section of the PowerMix test conducted by Germany's DLG testing station.

"We are delighted to have been awarded the Tractor of the Year 2018 accolade for the Maxxum 145 Multicontroller," says Thierry Panadero, Case IH vice-president for Europe, Africa and the Middle East.

"It's a fitting recognition that greater transmission efficiency and ease of control both have parts to play in not only making farming more profitable, but more sustainable too. Helping to make operations easier, more efficient and more environmentally-friendly is a core criteria in the design of our machines, so it's gratifying to see the Maxxum Multicontroller's features recognised in this way."

NARDI HARVESTING. All crops. All combines.
High-productivity headers from Italy arrive in Africa.

Italian design. Strong construction. Built for all combine models...since 35 years.
NARDI headers can harvest with efficiency and versatility your crops. We offer a wide range to harvest all crops: sunflowers, corn, soybeans, chickpeas, sesame and castor oil. We also produce a line of trailers to safely transport up to 40 km/h all the header types on your courtyard to the field.

Contact us. +39 0457665570 + 39 3485843861

WE ARE LOOKING FOR DEALERS IN AFRICA.

baldan.com.br

PanTrade UK
+44 208 090 1072
info@pantrade.co.uk

Baldan Brazil
+55 16 3221 6555
+55 16 98124 5129
abossini@baldan.com.br

PANTRADE BALDAN 90 YEARS

Agriculture drones will see a boom by 2023: Dronitaly

BY 2023, AGRICULTURE could become the second largest user of drones in the world. The forecast comes from the conference 'New technologies and greater efficiency. Agriculture today uses drones', at EIMA.

As the Italian drone industry explains, already today "the use of drones in agriculture has drawn attention to the need to reinvent traditional professional figures in the sector to bring agriculture towards the 4.0. era. In the context of climate change, drones can prove to be valuable allies of farming communities, as well as all the tools and technologies that allow accurate, rapid and timely information to be gathered. Today, drones are particularly useful in the cultivation of melons to map weeds and evaluate the degree of ripeness of the fruit."

A PwC report (2016) estimates the current value of the agricultural drone market at $32.4bn.

Cognitive robots to revolutionise poultry processing sector

FLEXCRAFT, A DUTCH university research programme concerning cognitive robots for flexible agro-food technology, has been awarded a major government funding of US$4.57mn. The programme manager of FlexCRAFT is Wageningen University & Research (WUR), in cooperation with TU Eindhoven, TU Delft, University of Twente, and University of Amsterdam. The programme also includes representatives from the business such as Marel Poultry and Celler Land.

The challenge of the FlexCraft project is to equip robot technology with active perception, planning, control, gripping and manipulation; capabilities needed to deal with the conditions in a robust way. "We develop generic skills for robots to handle agro-food products with diverging shape, size, and firmness," says WUR programme leader Prof Eldert van Henten. "Such actions may be simple for a human being, but tough challenges for a robot. The robot needs to understand what kind of food products it perceives, what condition they are in, and how to approach and treat them. The sensors collect information and add that to their domain knowledge to create a so-called 'world model', comparable to the knowledge and experience that people build."

ADVERTISERS INDEX

Subscription Form

I wish to subscribe to
AFRICAN FARMING AND FOOD PROCESSING
for 1 year (6 issues) starting with the next Issue.

Europe € 94.50, Kenya Ksh1500, Nigeria N2800,

South Africa R210, United Kingdom £57, USA $111

Enclosed is my cheque/draft.❑ Please send us the invoice ❑
Please debit my: Amex ❑ Visa ❑ Mastercard ❑

Card number: ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Expiry date: ☐☐/☐☐ **Security Code:** ☐☐☐

(Please note that we will debit your account in sterling).

Name..... Position .....

Organisation .....

Telephone..... Fax .....

Address .....

.....

Country..... Email .....

Signed ..... Date .....

Send this subscription form by airmail together with cheque payable to:
Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place London, SW1W 0EX, UK

Subscription order can also be placed via the web: www.alaincharles.com or email at circulation@alaincharles.com

YOUR BUSINESS

- 01 Government/Public/Diplomatic Services
- 03 Education/Research Institutes
- 06 Commercial Services
- 08 Import/Export Agents, Distributors
- 09 Farms & Plantations
- 11 Food Processing
- 12 Aid Organisations
- 13 Agricultural Equipment & Material Manufacturers
- 16 Others, Please specify .....

African Farming's 2nd Edition Agroinvestment Summit

3rd - 4th December 2018

Shehu Musa Yar'Adua Foundation Conference Centre, Abuja

Endorsed By

FEDERAL MINISTRY OF INDUSTRY, TRADE & INVESTMENT

Researched & Developed by

African Farming and Food Processing

FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT [FMARD]

NIGERIAN INVESTMENT PROMOTION COMMISSION

Summit Partners

ICC INTERNATIONAL CHAMBER OF COMMERCE The world business organization

NABG NIGERIA AGRIBUSINESS GROUP

BUSINESS COUNCIL FOR AFRICA

Sponsors & Exhibitors

TOPAN

NABG NIGERIA AGRIBUSINESS GROUP

RDO EQUIPMENT AFRICA, LTD.

InvestJigawa ...tune to the future

Bronze Sponsor

Ingreen IRRIGATION SOLUTIONS

Silver Sponsor

AB ALVAN BLANCH Processing the World's Crops - Since 1952

Contact us now

United Kingdom: comms@africanfarming.net | **Tel:** +44 20 7834 7676

www.agroinvestmentsummit.com

#WeAreJacto

HISTORY HAS BROUGHT US TOGETHER. AGRICULTURAL VOCATION MOVES US.

Jacto. High quality and efficiency in spraying from **Brazil** to **Africa**.

jacto.com.br

jacto | 70 YEARS BELOVED LAND, GRATEFUL HEART, INSPIRES THE NEW

2design