

African Farming

and Food Processing

Coffee

Ensuring the 'kick'

Poultry

Turning by-products into high proteins

Fruit breeding

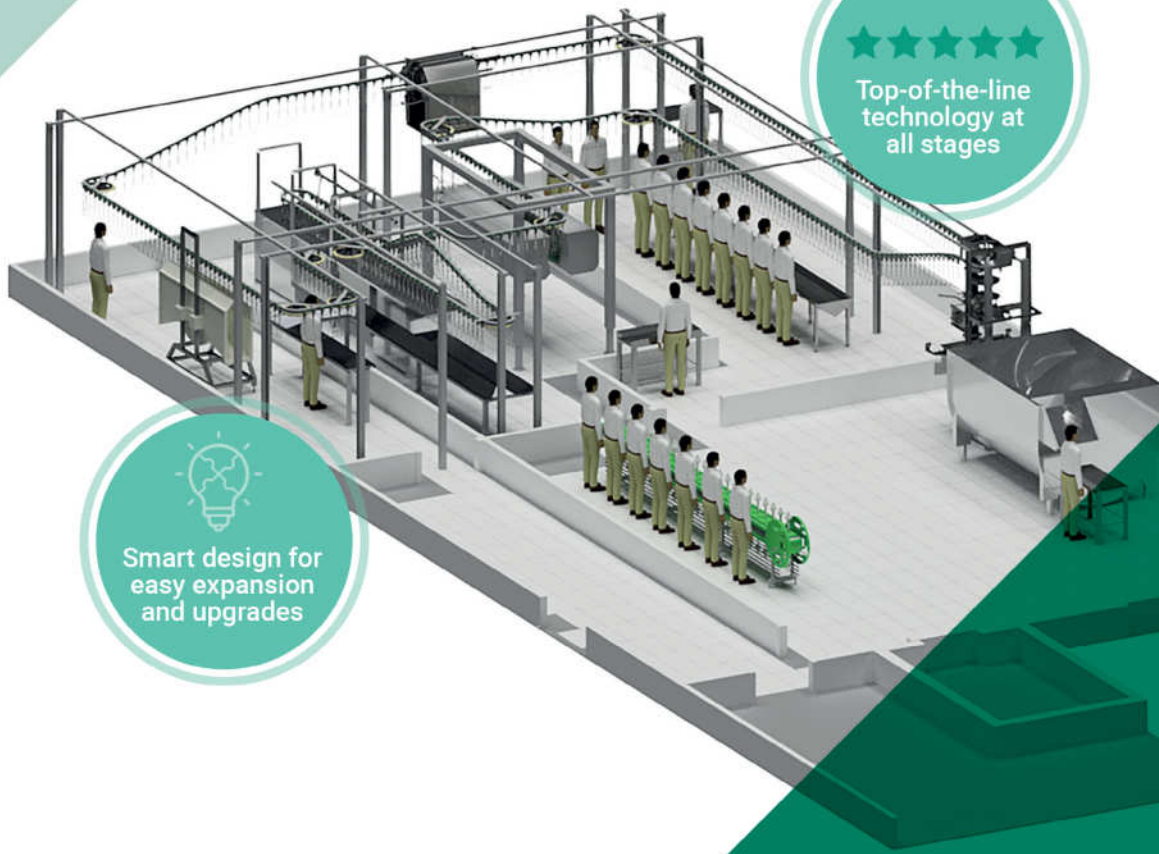
Tackling climate change challenges



Interview with Lionel Coetzee, head of marketing, AGCO Africa. p33

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AGCO's MF 2640 empowering every type of farmer



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DOSABOX Junior Advanced approaches fertigation in an economic and simple way. p23



The MF 2640 has been specifically engineered to be strong and capable of withstanding arduous conditions. p33

African Farming

and Food Processing

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Farming Calendar 2022

FEBRUARY

20-23 Sudan Poultry Expo KHARTOUM
<https://www.meyn.com/events/sudan-poultry-expo>

MARCH

10-12 IDMA and VICTAM EMEA 2022 ISTANBUL
<https://idmavictam.com/>

APRIL

7-9 AgriTech Expo Zambia ZAMBIA
<https://www.agritech-expo.com/>

13-14 Africa Agri Expo VIRTUAL
<https://africa-agriexpo.com/>

JUNE

15-17 7th Agritech Africa NAIROBI
https://www.agritecafrica.com/?wordfence_logHuman=1&hid=304C58122850422305C3D1533C813345

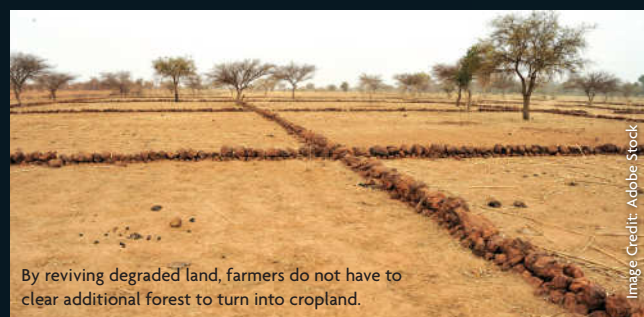
23-24 Africa Food Sustainability Summit NAIROBI
<https://ceobusinessafrica.com/green/>

SEPTEMBER

11-14 International Agricultural Exhibition for Africa and the Middle East CAIRO
<https://www.saharaexpo.com/en/home.html>

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

FAO lends support to revive degraded land



By reviving degraded land, farmers do not have to clear additional forest to turn into cropland.

Image Credit: Adobe Stock

IN AN EFFORT to aid farmers who are dealing with tough farming conditions and restore farmland, FAO has brought a state-of-the-art heavy digger, the Delfino plough, to the Sahel region.

This is a part of its Action Against Desertification (AAD) programme, and will be used to cut through impacted, bone-dry soil to a depth of more than half a metre. Four Delfinos have been introduced into four countries – Burkina Faso, Niger, Nigeria and Senegal – as part of FAO's Great Green Wall initiative.

The Delfino creates large half-moon catchments ready for planting seeds and seedlings, boosting rainwater harvesting tenfold and making soil more permeable for planting than the traditional - and backbreaking - method of digging by hand.

The half-moon is a traditional Sahel planting method which creates contours to stop rainwater runoff, improving water infiltration and keeping the soil moist for longer. This creates favourable micro-climate conditions allowing seeds and seedlings to flourish.

Moctar Sacande, coordinator of FAO's Action Against Desertification programme, said, "Restoring degraded land back to productive good health is a huge opportunity for Africa. It brings big social and economic benefits to rural farming communities. It's a bulwark against climate change and it brings technology to enhance traditional knowledge."

Bringing all components of grain and feed sectors under one roof

PARANTEZ INTERNATIONAL FAIR and Victam International, the organisers of events for the grain and feed milling sectors, have combined their expertise to form the IDMA and VICTAM EMEA exhibition, running from 10-12 March 2022.

The ninth International Flour, Feed, Semolina, Rice, Corn, Bulgur Milling Machinery and Pulses, Pasta, Biscuit Technologies Exhibition (incorporated under the name IDMA AND VICTAM EMEA) will be held at the Istanbul Expo Center, Turkey.

The two companies aim to create significant added value with this cooperation by bringing together all the components of the grain, feed and pulses sectors on a stronger and more extensive platform under the roof of IDMA AND VICTAM EMEA.

Parantez and Victam will provide exhibitors and visitors with great convenience and significant advantages in marketing, sales, and operational activities. It will also contribute to the faster growth of companies in international markets.

Zübeyde Kavraz, chairwoman of the Parantez, commented, "Thanks to this cooperation, in Istanbul we will exhibit the technologies of the compound feed and grain markets, of which annual trade volumes are US\$500bn and US\$165bn respectively, according to the International Feed Industry Federation (IFIF).

"This cooperation will prevent our participants and visitors from being divided into smaller events organised at different points and provide them with an opportunity to come together on a more efficient platform. This means a great deal of convenience and



Image Credit: Parantez and Victam

The two companies have set out to become an 'International event of the grain and feed milling industry'.

savings for companies in terms of operational activities and a much stronger and extensive marketing network," she added.

For more information visit the website: <https://idmavictam.com/>

Plant-based material fabrics gain traction

FABRICS MADE FROM plant-based materials are set to boom in collections for the autumn/winter 2022/23 season, according to Textiles Intelligence's 'Survey of the European fabric fairs for autumn/winter 2022/23'.

Environmental sustainability remains important in fabrics for the autumn/winter 2022/23 season. However, unlike in previous seasons—when environmental sustainability often overshadowed design and aesthetics – collections for the autumn/winter 2022/23 season include environmentally sustainable fabrics which combine performance and higher added value.

Also, innovations in artificial leathers, linen fabrics and fabrics made using fibres derived from plant waste are plentiful in collections for the season and demonstrate the versatility of plant materials.

For example, Bananatex – a fabric producer based in Zürich, Switzerland – has produced a range of biodegradable and tear-resistant fabrics made using fibres derived from Abacá, a species of banana plant.

Abacá fibres are extremely durable and naturally resilient. In fact, they are so strong that they are typically used in the manufacture of shipping rope. The plant is native to the Philippine highlands and grown in sustainably managed forests by local farmers to whom Bananatex provides fair wages and secure livelihoods.

Bananatex is in talks with major apparel brands about how the fabric can be applied to accessories, apparel and footwear, having already collaborated with H&M Group. Bananatex is still a relatively young company, having been launched as recently as 2018 following three years of research and development (R&D).

Pyratex has also developed a plant-based fabric, called Element I, which is made using fibres extracted from the stalks of wild giant stinging nettle plants. Nettle fibres are naturally strong and breathable and, as a result, garments made from Element I are durable and comfortable to wear. The plants are native to the Nepalese Himalayas and the stalks are harvested annually, which helps to promote root growth and stabilise the soil.

South African raisin industry reports continued growth despite climate changes

REPORTS FOR THE South African raisin industry continued to show growth at the end of the 2021 season, despite climatic challenges.

Regardless of limitations faced by the industry, the export volumes of South African raisins to the UK are up once again, compared to 2020, which saw a huge increase compared to 2019. The UK imported 1,430,000 kg to the UK in 2019 vs 5,514,500 kg in 2020. 2021 saw an 18% increase with 6,626,996 kg exported to the UK.

The Orange River region, where 88% of the country's raisins are produced, experienced between 80mm and 170mm of rain at the beginning of last year. These conditions were exceptional for the Northern Cape, which usually experiences average temperatures of between 33 and 38 degrees C during harvest. Strategies were put in place at farm level to mitigate the impact of the rains on the crop, such as canopy management and constant monitoring of the situation.

Another product that was less impacted by the rains was the 'SA Sultana', formerly known as the 'WP raisin'. Raisins South Africa relaunched the variety this year after the gradual increase in production volumes as part of the diversification of their product range.

Raisins South Africa has now focused their attention on 2022 and are optimistic about the season ahead. The UK promotional campaign will once again concentrate predominantly on evolving connections with B2B and trade contacts, as well as communicating the benefits of South African raisins to consumers.



The export volumes of South African raisins to the UK are up once again.

Image Credit: Raisins South Africa

Arbor Acres holds virtual broiler and breeder management road show

AVIAGEN DISTRIBUTOR ARBOR Acres South Africa and the Arbor Acres Middle East and Africa (MEA) regional support team held a two-day webinar to bring the latest broiler and breeder flock management advice to customers throughout the Republic of South Africa.

During the webinar, Arno Van der Nat, general manager of Arbor Acres South Africa, Aviagen representatives; Riaan Le Roux; Aviagen technical manager; Dr Zoltan Marton, Arbor Acres veterinary services specialist; Tolga Erkus, incubation specialist; Zied Azzez, technical product data manager; Craig Morton, global director of products; Bernard Green, ventilation technical services manager and Xavier Azenio; poultry nutrition specialist, made up the support team that gave presentations to customers. Together they reviewed the performance data

and exchanged ideas and the latest practices in male management, breeder and broiler nutrition, and the future of Aviagen genetics. The Arbor Acres team presented a valuable benchmark analysis of year-on-year improvements in performance indicators such as chick numbers, livability, hatchability and feed conversion ratio (FCR).

Aviagen aims to strengthen Arbor Acres South Africa's customer success by helping maximise the performance and



The Arbor Acres team presented a valuable benchmark analysis of year-on-year improvements.

efficiency of Arbor Acres flocks in production.

Arno said, "Although this year's roadshow was virtual, it is still a great way for us to deliver critical production, genetic and health updates and insights on broiler performance to our customer base."

George de Kock, agricultural director, Country Bird Holdings (Supreme Poultry), added, "The benchmarking session allowed me to see what the field performance is within the region and check the criteria that we need to focus on to get more out of the genetic potential of our Arbor Acres flocks."

"The webinar highlighted the dedication of producers in South Africa, which has helped to progress the performance of broilers and breeders, as well as the popularity of the Arbor Acres brand," said Riaan Le Roux, Aviagen technical service manager, Sub-Saharan Africa.

US\$7mn boost to steer growth in aquaculture

LAKE HARVEST GROUP, an integrated aquaculture company from Africa, will receive a US\$7mn investment from Aqua-Spark and Norfund, to contribute towards the growth of the company's operations in Zimbabwe, Zambia and Uganda.

The farm adopts best practices that include education and training programmes for staff as well and the sale of by-products, antibiotic-free operations, and genetic improvement.

In addition to the financial backing, the fish distributor has attracted Aqua-Spark, the pioneer fund for sustainable aquaculture, as a new cornerstone investor. With this investment, the fund joins African Century Group and Norfund as shareholders of Lake Harvest.

EuroTier Middle East to exhibit latest tech in animal farming industry

FROM 21-23 MARCH 2022, the Abu Dhabi National Exhibition Center (ADNEC) will play host to EuroTier Middle East 2022, the only platform that includes animal expertise in all segments (Dairy, Cattle Poultry, Sheep, Fish, Goat and Camel).

At the second edition of this live show, exhibitors will have the opportunity to exhibit the latest offerings in the animal farming industry to a growing and dynamic market.

Themes in focus in this year's edition include:

- Breeding animals, breeding programmes, trade, reproductive technology
- Feed and other farm inputs

- Feed storage, feed production
- Animal housing and shed construction
- Keeping and feeding technology
- Climate and environmental technology
- Milking and cooling technology
- Technology for faeces, solid and liquid manure
- Transport vehicles, transport services
- Processing and marketing
- Equipment and accessories
- Management and consulting
- Veterinary Medicine
- Livestock environment protection.

Attendees will have the opportunity to meet the right professionals to achieve their business objectives, grow and enhance their network in the region and benefit from access to a wide variety of buyers and partners for their products and services – all under one roof.

EuroTier Middle East will be host to an expected:

- 120 exhibitors and 150 companies from 16 countries, including Saudi Arabia
- 11,000 visitors over three days from 40 countries
- 6,500 live animals and 175 breeders, the largest live animal show in the region.

In addition, the technical programme will cover a wide variety of trends and key topics and, across the three days, 30 global experts will provide their valuable insights and experiences.

For more information, visit the official website: <https://www.eurotiermiddleeast.com/>

Image Credit: EuroTier Middle East



6,500 live animals are expected to be present at the conference.

Sudan Poultry Expo to boost production of poultry and livestock in Africa

THE 12TH SESSION of Sudan Poultry Expo (SPE) will be held from 22-24 February 2022, at Khartoum International Fair Ground.

SPE is a specialised event dedicated to the development of poultry, livestock and agricultural production in Sudan and Africa, with the number of animals exceeding 120 million, the second largest in Africa and Middle East.

The event includes categories such as Sudan Dairy & Meat Cattle Show, Sudan Fish Tech Show, Milk Technology Show, Refrigeration Exhibition, Poultry, Meat and Milk Festival, and Agriculture Equipment Show. The event will host exhibitors and visitors from all sectors due to the constant development of the event and the rapid progress of the poultry industry in Sudan which survived the tough times with a promise for potential growth.

It will host a number of new exhibitors after doubling in the stands sold at SPE for this session with previous and new confirmations of its local and international clients.

With its spacious halls and gardens, Khartoum International Fair Ground can provide the organisers, exhibitors and visitors a wide range of services as it is



Image Credit: Adobe Stock

The event will witness exhibitors from all sectors due to the rapid progress of the poultry industry in Sudan.

considered as one of the leading venues in Africa and the Middle East.

The upcoming session of SPE will be held under the patronage of H.E. minister of Animal Resources and under the support of Ministry of Animal Resources, Ministry Of Trade, and Ministry of Agriculture and Animal Resources Khartoum State (Sudan).

SPE is supported by Sudanese Veterinary Association, Sudanese Agricultural Council, Sudan Poultry Science Association, Sudan Chamber of Commerce, Middle east & North Africa Poultry Magazine (MEAP).

For more information on the event, visit www.meyn.com/events/sudan-poultry-expo

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Small abattoirs important for transition to sustainable farming

SMALL ABATTOIRS WERE the focus at Oxford Real Farming Conference, with an expert panel including Defra, farmers, abattoir owners and campaigners. Chaired by John Mettrick, a small abattoir owner in Glossop and chair of the Abattoir Sector Group, panellists made a strong case for the importance of local infrastructure to support sustainable, high welfare farming systems.

Mettrick said, "The meat industry has become too centralised and too top heavy with animals backing up on farms. If we just talk about capacity and throughput, we are heading towards a system that is open to shocks and which doesn't serve more sustainable farming systems. We need a more resilient system."

GroPro, EBDA to develop a biological market in Egypt

GROPRO CORP HAS signed a cooperation agreement with Demeter Egypt (Egyptian Biodynamic Association (EBDA) to joint marketing efforts for promoting biological inputs in Egypt and help local farmers get informed about biological inputs application and advantages. Top managers of Demeter Egypt\EBDA and GroPro have met this January in Cairo to finalise the agreement details.

"Having several expanded trips to Egypt, establishing our products trials there, we in GroPro understand how huge biological market potential is in this country. And we want to become an active agent of the promoting bio-ag solutions and IPM on the Egyptian market, sharing our expertise and knowledge with local farmers in partnership with the EBDA," said GroPro's representative.

Aviagen gets into joint venture with Ross Breeders Zambia

AVIAGEN, ALONG WITH its regional distributor, Ross Breeders Zambia, is continuing to invest in the African region to enhance its developing supply chain and its 'global reach, local touch' strategy, with the creation of Ross Central Africa Limited based in Zambia.

The newly-created company, Ross Central Africa Ltd is a joint venture between Aviagen and Ross Breeders Zambia, which is a part of the Country Bird Holding Group. This expansion allows Aviagen to improve security of supply, and to enhance its service and support to customers on this continent.

Aviagen is a global poultry breeding company and implements efficiencies that make commercial chicken production environmentally and socially responsible and economically beneficial to producers. Country Bird Holdings is one of the largest poultry and animal feed producers in Africa. The company provides a complete range of services to cover all aspects of this industry, including breeders, broilers, eggs, hatcheries, feed, distribution and logistics.

Ross Breeders Zambia (RBZ) is already well established in the region and well-known as Aviagen's Ross distributor, developing the Ross brand and sales for more than 25 years. In order to further develop this supply base, both companies will invest together to further increase the production capacity and supply the high Parent Stock (PS) demand for the Ross 308 breed in the region.

Ross Breeders Zambia shares the same mindset as Aviagen in ensuring the continent of Africa is provided with a sustainable source of protein for the foreseeable future, and also to provide a number of employment opportunities for the local population.

Population growth and macroeconomic improvements are driving the demand for chicken meat. It is important for Aviagen to supply and service its customers from a local production base and be able to provide a secure food supply.

Enhancing customer service with a local production hub

Aviagen is continuously investing in R&D and technology to ensure it continues to deliver good performance in the future.

"Aviagen is the world's leading poultry breeding company and with this joint venture in Zambia, we are expanding our presence and our footprint in this region. With this regional hub, we can provide more local employment opportunities for people who understand the local business requirements and speak the local language, but most importantly, we can continue to feed the world and provide a sustainable source of protein," said Tom Exley, president, Turkey, Middle East and Africa (TMEA).

Jack Searle, managing director of CBH Africa Operations said, "We have been working with Aviagen for over 25 years and we already have a successful history in developing Ross PS markets in Africa. This I look forward to working alongside Aviagen to further develop the poultry market in the region together."



Ross Breeders Zambia is well-known as Aviagen's Ross distributor in the region.

LEMKEN's disc harrow can soon be combined with precision slurry spreader

FROM MARCH 2022, the LEMKEN Heliodor compact disc harrow will be available with a preparation set for attaching a Vogelsang DosiMat DMX precision spreader. The resulting powerful combination of two proven implements is ideal for the precise low-loss spreading and incorporation of liquid organic fertilisers such as slurry.

LEMKEN's product range includes tillage implements, seed drills, hoeing machines, fertiliser spreaders and smart solutions for agricultural data management. The Heliodor

offers a sound basis for this type of application, as it is compact and low-draught and therefore only places little additional demands on the tractor's lifting and traction powers.

The DosiMat DMX is known for its very even sloping and longitudinal distribution, which is consistently maintained even at extremely low and extremely high application rates. The way the two implements work together is very simple: Slurry is fed into the DosiMat from above, homogenised inside the device by a flow-optimised rotor equipped with cutting blades,

and then pushed into the individual outlets.

Fibre and foreign matter are shredded in the process - this enables the desired precise distribution. The slurry then passes via hoses to the area behind the first row of discs on the Heliodor, where it is injected into the soil and immediately incorporated by the second row of discs and the trailing roller without any delay.

In terms of economy, the Heliodor/DosiMat duo is exactly in line with current trends; with rising prices for mineral fertilisers many farmers want to utilise the nutrients stored in their slurry.



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MCIA signs lease agreement to build sugar warehouse

THE MAURITIUS CANE Industry Authority (MCIA) and Landscape (Mauritius) Limited have signed a lease agreement during an official ceremony at the Caudan Arts Centre in Port Louis, for the construction of a sugar storage warehouse facility of a capacity of 150,000 tonnes at Riche Terre. MCIA has also signed a MoU with the Development Bank of Mauritius (DBM) for an upfront crop financing loan to small sugar cane planters for cane replantation. Minister of Agro-Industry and Food Security Maneesh Gobin expressed satisfaction over both as they reflected the symbiosis among several institutions which, he said, previously operated in silos. He added the target of producing 250,000 tonnes of sugar last year indicated the long-term target of 400,000 tonnes per year.

Kubota unveils M6-001 Utility as MGX tractor replacement

KUBOTA HAS RENAMED its MGX range the M6-001 Utility series, which spans the same 104hp to 143hp segment to slot between the smaller M5-002 and higher-spec M6-002. Improvements have been made to exhaust after-treatment where diesel particulate filter regeneration can be achieved at lower engine revs – down from 2,000rpm to nearer 1,200rpm – and at a temperature of just 50°C. This makes regeneration much easier to achieve, with light engine loads, lower noise levels and a reduced fuel burn, said Kubota.

All M6-001 Utility models get a 40kph semi-powershift transmission with eight steps in three mechanical ranges and the option of a creeper range to extend the ratio count to 32. Other functions include auto-shifting in each range and a sensitivity dial.

UNCDF supports orange-fleshed sweet potato factory for economic development in rural Tanzania

MASWA DISTRICT COUNCIL (DC) has established a processing plant for orange-fleshed sweet potatoes (OFSP) to reduce malnutrition within the community in 2019. Now, through its Local Finance Initiative (LFI), The United Nations Capital Development Fund (UNCDF) is supporting Maswa DC with a US\$100,000 seed capital grant to cover the cost of connecting the factory to the national grid electricity, procuring high-capacity solar drying machines and working capital to operationalise the business.

Orange-fleshed sweet potatoes are rich in Vitamin A and can help boost the immune system. UNCDF has also worked with the local government to establish a company, which allows for shareholding of both Maswa DC and the local community.

Maswa DC is among the six districts of the Simiyu region, the second poorest region in Tanzania. Approximately, 57% of children under five and 53.7% of



The project has generated direct and indirect employment opportunities for the local community.

pregnant women aged 19-49 years have anaemic symptoms.

Using working capital provided by UNCDF, Maswa DC purchased 23.88mt of raw OFSP from local smallholder farmers. This intervention has provided a reliable market and a source of income to 58 individual local farmers (18 women), three primary schools, one secondary school and one farmer group with 12 members.

Through the project, farmers can now sell their produce to

the factory, enabling them to get money to support their families and meet their basic needs. Improvement in food security has enabled access to reliable, safe, affordable and reliable solar energy to power the factory, which has an installed capacity of processing 10mt of raw potatoes into flour per day. The purchase of solar drying machines enables the factory to hold 3mt of sliced potatoes at once. The solar food dryer improves food security by

allowing more extended food storage after drying and reducing post-harvest losses.

The project has generated direct and indirect employment opportunities to the local community of Maswa. During construction of the solar drying stations, the plant employed 14 local people (three women), contracted 14 casual labourers (six women) in processing the raw materials in the factory and two professional workers, who are both women.

Through the Maswa project, the government was able to finance different special groups to open a small baking factory that consumes the raw material from the industry.

As one of the few potential projects in the Simiyu region, under a Special Purpose Vehicle operated by the District Council, the Maswa OFSP factory will help the local government to increase own source revenue which is key for local development.

Swift aid needed for drought-affected farmers and herders to avoid a hunger crisis: FAO

THE FOOD AND Agriculture Organisation of the United Nations (FAO) has released a comprehensive response plan to gather support for agriculture in the rural communities of the Horn of Africa. FAO said more than US\$138mn in urgent funding is required to assist 1.5 million vulnerable people whose fields and pastures have been hard hit by an extended drought.

In a region already prone to food insecurity associated with weather extremes, natural resource limitations and conflict, the COVID-19 pandemic and 2020-21 locust invasion have stretched the coping capacities of rural communities to the limit, undermining agricultural productivity.

Now a third season of drought driven by La Niña is raising concerns that a large-scale hunger crisis could break out if the

region's food producing rural communities do not receive adequate assistance timed to the necessities of upcoming agricultural seasons.

FAO's Horn of Africa Drought Response Plan calls for more than US\$138mn to help rural communities withstand this latest threat – with US\$130mn of that total urgently needed by the end of February to provide time-critical assistance to highly-vulnerable, agriculture-reliant communities in the three most impacted countries. The drought response plan seeks to target support to rural populations in Ethiopia, Kenya and Somalia. For crop-reliant families, FAO aims to distribute seeds of drought-tolerant early-maturing varieties of sorghum, maize, cowpea and protein-rich mung bean and nutrient-dense vegetables and arrange for pre-planting land-ploughing services and access to irrigation as well as training.

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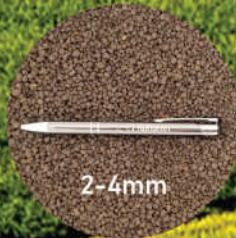
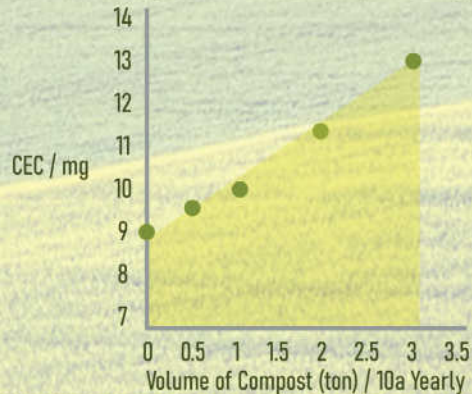
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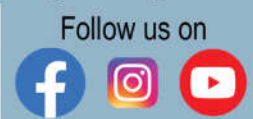


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Animal welfare in poultry farming is an essential part of poultry production. Hence, it is necessary to ensure their welfare during transport.

Your guide to transporting birds safely

WHEN BIRDS HAVE finished their productive cycle or there is a change in the development stage, they must be moved. For this reason, the mobilisation of animals must comply with animal welfare parameters that ensure their comfort. For this purpose, poultry transport containers are manufactured under technical standards that provide safety, comfort, and ease in the transport operation.

Animal welfare in poultry farming is an essential part of poultry production. Hence, it is necessary to guarantee welfare and comfort conditions during transport. To achieve stress-free birds, a good choice of transport containers is necessary. Therefore, the containers in which the birds travel must meet all legal, ethical, and technical standards.

Carfed International offers a range of options for seamless poultry transportation. Mondial Carfed (80x60x28 cm) is a special plastic crate for live poultry transportation and is easy to assemble using the special joints on the top and on the sides.



Image credit: Adobe Stock

Transport boxes or containers for poultry should be manufactured and designed according to the animal welfare laws of the country.

Maxi Carfed (99x58x42 cm) is a plastic live turkey crate with ribs for good ventilation and easy washing. It is built with big openings so that birds are not bruised. The Super Carfed JOLLY (99x58x26 cm), Super Carfed 2P (99x58x26 cm) and the Mini Carfed (65x46x11 cm) are other strong crates that are used for transportation. Multi carfed 'T' is a removable, collapsible and strong cage for transporting turkeys.

Transport containers for poultry should be properly arranged, adjusted, and ordered in the transport vehicle. Mondial Carfed is a special plastic crate for live poultry transportation and is easy to assemble.

The loading and transport process should avoid injuries to the birds. Injuries and wounds generated in birds are detrimental to animal welfare in poultry farming.

Ensuring a good transport container for poultry offers productive and economic advantages.

Recommendations for safe poultry transport

- The transport vehicle should be thoroughly washed and disinfected before loading the birds and correctly positioning them in the marked areas.
- Temperature stability in the transport vehicle should be ensured to avoid stress due to temperature changes in the birds, which affects animal welfare.
- Birds should not be deprived of feed or water, before and during the transportation phase.
- Steps should be taken to protect birds against adverse weather conditions, especially over long distances. Birds should be loaded during hot weather and transported during the cooler






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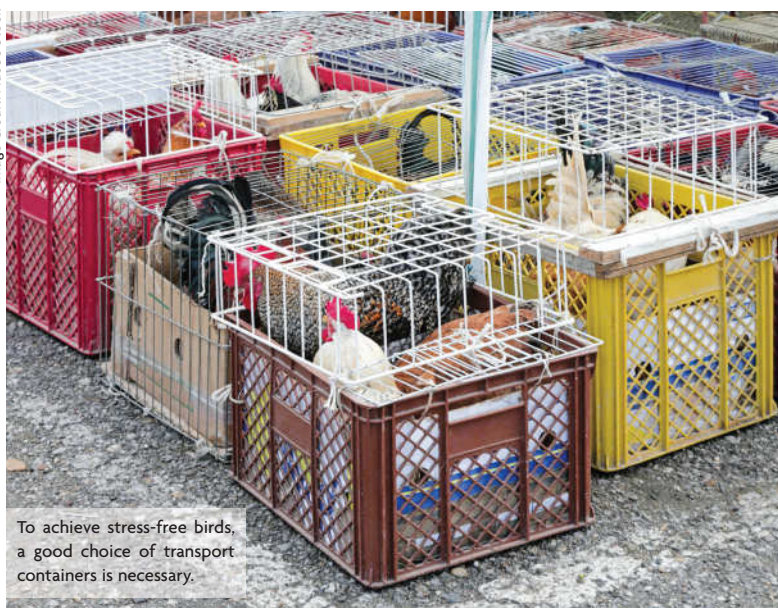
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To evaluate animal welfare in poultry farming, it is important to consider the stocking density. These stocking density figures for poultry transport may vary depending on some factors — the weight, size and physical condition of the birds.

parts of the day — early morning, late afternoon or at night.

- Transport boxes or containers for poultry should be manufactured and designed according to the animal welfare laws in poultry farming in each country.
- Drying transport crates for an extended period could be effective in reducing the microbial load.
- Preference should be given to poultry transport containers made of resistant, hygienic material that allows proper ventilation.
- Transport containers for poultry should be properly arranged, adjusted, and ordered in the transport vehicle. This prevents accidents and guarantees animal welfare during the journey.
- The containers, crates, baskets or purpose made wire mesh cages in trolleys used during transportation should be clean and designed for the handling and transportation of the birds. The stacking of the containers should not obstruct air movement.
- It is recommended that operators be trained in poultry handling and animal welfare.
- Only healthy and vigorous chicks should be transported. Climatic conditions, duration of the journey and design of a

Image Credit: Adobe Stock



container, all these factors should be considered while determining the stocking density.

Importance of stocking density

To evaluate animal welfare in poultry farming, it is important to consider the stocking density. Stocking density figures may vary depending on some factors such as the weight, size and physical condition of the birds. The weather conditions must be considered to establish the density and how the animals will be transported. **E**

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Free-range poultry production as a profitable business is appealing to an increasing number of farmers across Africa. Here is a look at some initiatives that are helping sustainable poultry production in the continent.

Growing concerns on animal welfare and consumer preference for meat that is naturally fed, reared or grown, are driving the demand for free-range poultry.

Fuelling the passion for poultry

Image credit: Adobe Stock

POUULTY FARMING ADDS great value to the livelihood of the rural population in Africa. It offers an attractive avenue due to requirements of smaller investments and flexible land space.

For farmers, the income generated from rearing poultry presents a significant share of household income and provides an inexpensive protein source for their families.

Growing concerns on animal welfare and consumer preference for meat that is naturally fed, reared or grown, are driving demand for free-range poultry. The two main benefits of free-range farming are the higher value of products and relatively low input costs.

Supporting poultry farmers

We look at some initiatives that are boosting sustainable production of poultry across Africa:

- The Food and Agriculture Organisation (FAO) of the United Nations has received financial support from the Fleming Fund of the United Kingdom and the MARS Global Food Safety Centre to undertake a capacity building programme targeting poultry farmers in Zambia and Zimbabwe.

The online course launched through its Virtual Learning Centre for Southern Africa (SFS-VLC), aims to strengthen the capacity of farmer field school (FFS) facilitators and master trainers in the Southern African countries to prepare

and run quality poultry-focused FFS.

The capacity built through this training will contribute significantly to improving production and productivity of smallholder poultry, leading to better food security, nutrition, reduced threats to human health as well as reduced poverty," said Patrice Talla, FAO sub-regional coordinator for Southern Africa.

- The Sustainable Access to Poultry Parental Stock to Africa (SAPPSA) project was designed to provide better supply and genetic solutions for African poultry farmers. Through this project, Hendrix Genetics is providing support to local farmers in feeding the growing population with nutritious protein.

The online course launched through FAO's Virtual Learning Centre for Southern Africa (SFS-VLC) aims to strengthen the capacity of farmer field school (FFS) facilitators and master trainers in the Southern African countries to prepare and run quality poultry-focused FFS.

- Making More Health is a global initiative by the pharmaceutical company Boehringer Ingelheim in cooperation with Ashoka, a non-governmental organisation. With an aim to improve health for humans, animals and communities worldwide, Making More Health pursues a multitude of approaches to find solutions and tailor them to specific projects.

With the Bag2theFuture competition hosted by Making More Health (MMH) every year, the Animal Health team has collaborated with the NGO Healthy Entrepreneurs to support smallholder farmers in rural areas. The group's focus is to introduce a sustainable approach to poultry farming and help farmers manage their poultry business efficiently. With that, The Village Poultry Project was created to pilot in Homa Bay, Kenya.

- In Zambia, poultry farming serves as a major source of income and nutrition for more than 1 million farmers and households who keep chickens. In efforts to scale up sustainable and market-oriented poultry production the AGCO Agricultural Foundation (AAF) granted US\$150,000 in 2020, to Self Help Africa to support local communities in Lusaka Province, Zambia. This sustainable poultry production project in Zambia aims to help small-scale farmers increase their sustainable and market-oriented poultry production.

In the case of South Africa, free-range poultry production is an important component of the country's poultry market. Producing free-range chicken under the best conditions with plenty of food and freedom, ensures the production of healthy birds for one of South Africa's largest poultry companies, Elgin Free Range Chickens.

The introduction of the new poultry sector masterplan in the country, announced by the Department of Trade and Industry (DTI), aims to stimulate local demand, boost exports and protect the domestic chicken industry. The master plan has increased poultry production as well as demand in South Africa, according to 2021's final Poultry Quarterly from the international food and agri bank Rabobank.

For South Africa, free-range poultry production is an important component of the country's poultry market.

Challenges

Smallholder poultry farmers encounter several challenges, including rising costs of farm inputs resulting from competition for important raw materials.

The inability to control poultry diseases because of increasing vaccine costs and lack of vaccine and disease knowledge and management also pose several problems.




Switching to free-range chickens is a great way for African smallholder farmers to tap into a more lucrative niche market.

In conclusion

The growth in demand for poultry is expected to continue at an even faster pace in the coming decades as population and urbanisation increase and incomes rise.

"Driven by a rising middle class and rapid urbanisation, a more modern poultry industry is taking shape in Africa," according to Rabobank senior animal protein analyst Nan-Dirk Mulder.

Switching to free-range chicken is a great way for African smallholder farmers to tap into a more lucrative niche market, and open up further avenues for value adding and more diversified farming business. 

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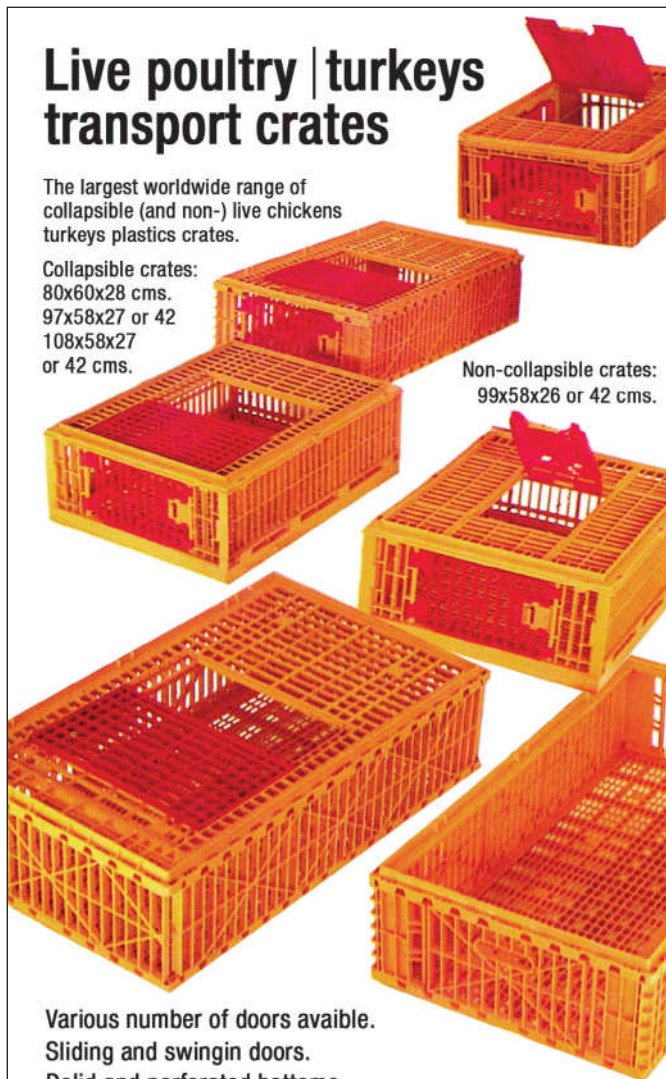
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Poultry rendering focuses on by-products of the slaughter process which are suitable for use in pet food industry and animal feed. Mavitec offers designing, engineering, manufacturing and installation of high quality process systems for this purpose.

From by-products to high proteins

WITH A GROWING global need for proteins and energy, processing animal by-products is an essential part of the answer to this problem.

Animal by-products are products from the meat production chain which are not considered to be edible. Its composition and quality may vary from country to country, depending on the cultural and/or eating habits. However, before using them in other processes, they have to be treated and processed first. Mavitec offers high quality process systems for the recycling of animal by-products and aims to maximise the value of by-products in the most economic, ecologic and ergonomic way.

Nutrient management

Mavitec is specialised in designing, engineering, manufacturing and installation of high quality process systems for the rendering of animal by-products. They supply solutions by taking by-products from one process and recycling them into valuable products for further applications.

According to Helmus Damen, Sales Director of Mavitec, the way of processing determines the value of the end products. "This is why we say that rendering is not waste handling, it is nutrient management. With our extensive experience, technology and processes, we are able to extract the highest possible protein out of feathers, blood or other poultry by-products."

Poultry rendering

Mavitec specialises in poultry rendering, a

process that handles all by-products of the slaughter process. There are different ways of poultry processing and the quality of end-product depends on the raw material composition you put in the system.

Poultry by-product processing starts with five possible product flows – feathers, blood, soft by-products (heads, legs, intestines), Doa's and farm/hatchery by-products.

Damen informed that the company provides solutions for small abattoirs as well

Mavitec machines turn animal by-products into high quality proteins and oils such as meat and bone meal, poultry meat meal, feather meal, suitable for use in animal feed.

as high-end solutions. Their machines turn animal by-products into high quality proteins and oils such as blood meal, meat and bone meal, feather meal and poultry oil. These protein products are suitable for use in pet food, animal feed, oleochemical and or pharmaceutical industry.

Speaking about some of the success stories, he added, "Amor Farm in Nigeria has been running for three years now with our rendering container solutions. This is a fully functional rendering plant in a container, designed to process small quantities of poultry or red meat by-products. Thanks to the smart design and small footprint, this is saving them a lot in their feed budget. Most of our rendering

plants also process red meat, and soon there will be for fish too."

He said, "The main objective is to stabilise the products by driving off the moisture, sterilise the product and turn it into a combination of protein (meal) and oil or only a protein. By following the processes described in EU legislation 1069/2011 guarantees can be given in terms of end-quality and the security to be free from any salmonella, e. coli or clostridium."

Damen added that each product has its own specific process that can be designed, based on capacity in a batch or continuous process.

"Volumes above 50 tonnes of raw material per day are mostly processed in continuous systems, while smaller volumes are processed in a batch process. Poultry meat meal has an average protein content varying from 62-68% with a digestibility above 80%. The oil content can be used as feed additive or for biofuel industry," he explained.

Speaking about some of the challenges that the company faces in Africa, Helmus added, "We have several rendering plants running in North and South Africa, from Sudan to Egypt. There have been some issues related to prices (over/under priced). Some other hurdles include those related to import or export, which is usually country specific."

Mavitec's latest innovation is a new in-line method to analyse and optimise the quality of these meals and oils. The in-line Near InfraRed Spectrometer provides real-time data for moisture, protein, tallow/fat/oil, ash and FFA. **D**

Mavitec machines turn animal by-products into high quality proteins such as poultry meat meal and feather meal, suitable for use in animal feed.

Image Credit: Mavitec

Researchers find that majority studies do not take into account the changes smallholders go through and the brunt on them.

Understanding farmer experiences for better feeding

STUDIES SHOW THAT greater understanding of smallholder farmers' experiences could help improve livestock feeding and aid productivity and income.

A team of researchers, led by the International Livestock Research Institute, assessed data from previous studies on improved livestock feed options implemented by small-scale producers. Their study was carried out under the Ceres2030 initiative, which aims to bring together experts in science and policy to target world hunger, in line with the United Nations' Sustainable Development Goal 2 of Zero Hunger.

The study, published in *Nature Plants*, was carried out in collaboration with the Global Academy for Agriculture and Food Security in the UK, Cornell University in the US, the College of Business Education in Tanzania and the international Center for Tropical Agriculture in Colombia.

The team found that from more than 22,000 studies relating to the topic of feed interventions, only a few addressed the brunt of changes. These took into account the data of changed practices, the effect of the change on livestock productivity, and how it affected farmers' livelihood.

The team suggested that a crucial step in making improvements to feeding is to understand smallholder farmers' experience and identify farmers who are likely to make the necessary technological investments.

Those involved in supporting farmers to improve livestock production should consider whether farmers are likely to use their available land and labour resources for purposes other than feeding animals, the team found.

Productivity in smallholder farming in developing countries is low – cow milk



Improved livestock feeding has been identified as the most important step towards higher productivity.

yields in Western Europe are 20 times higher than in Eastern Africa – and improved livestock feeding has been identified as the most important step towards higher productivity. It is important to study how the changes can benefit farmers and their animals in the best way.

Whether farmers have the social and economic incentives and knowledge to succeed should also be a consideration, the research showed.

A tool for better nutrition

The African Dairy Genetics Gains platform that was started in Ethiopia and Tanzania to share genetic information on dairy cattle has recently launched the ADGG Dairy Tool. It is a free interactive digital short course, covering cattle breeding and health management practices, developed by the livestock genetics team in partnership with Learn.Ink.

Aimed at farmers and extension agents, the free interactive micro-courses, which are accessible through smart phone devices, are available in any country. Kiswahili translations of the tools are especially targeted for farmers in eastern Africa.

After a simple registration process, which includes inserting the mobile phone number and verification code sent by SMS, users of the tools can generate their profiles by selecting their country and location. After completing the set-up, farmers can access courses at their


fingertips.

The content is being translated into Amharic for users in Ethiopia. On completion of the course, users receive a certificate of completion via the app/tool.

Some of the courses offered include: Raising healthy calves 1: Feed and housing, including information on how to feed and house calves from newborn through to weaning phase.

Raising healthy calves 2: Routine practices on calf health and common ailments and routine management such as vaccination, dehorning, tagging, and removing extra teats for females or castration for male calves.

Julie Ojango, International Livestock Research Institute (ILRI) scientist and author of the courses, said, "The app provides significant hands-on information for farmers to help them in animal and herd management at crucial times in the production cycle and provides information in an engaging way to appeal to young farmers. The questions and quizzes in the tool are also exciting for schoolchildren, who can use it to learn that managing cattle involves more than taking them to pasture or feeding them.

"Using the knowledge gained from the ADGG Dairy and other tools, livestock keepers and other livestock producers can contribute to improving the productivity of their livestock, which in turn will improve their livelihoods," she added. 

The ADGG Dairy Tool is a free interactive digital short course, covering cattle breeding and health management practices.

El Mehdi El Ouahli, global solution application manager at Adisseo, says it is crucial to know the different factors affecting the stability of vitamins in animal feed and highlight different solutions to conserve it.

Best practices to store vitamins

SINCE THE DISCOVERY of the vitamins and its utilisation in animal feed, their stability remains to be the main concern of research and developments due to their high nutritional importance and high cost.

The storage of the vitamins involves different processes where it might be damaged easily. Therefore, it is crucial to know the different factors affecting the stability of vitamins during the process, highlight the different solutions to conserve it, and consequently save money and achieve the desired quality.

Factors affecting the stability of vitamins

In addition to storage time, the stability of vitamins can be affected by chemical and physical factors also. Usually, chemical factors affecting the stability of vitamins come from their reaction with water and other ingredients, which cause redox reactions. Water used to accelerate redox activity by transferring the ions involved in this reaction is originated either from the relative humidity of the air absorbed by hygroscopic ingredients or from the free water of high-water activity raw materials. Otherwise, the water comes from the process itself such steam and condensation.

Other factors accelerating the redox reactions are:

- The pH of the premix: Since all vitamins and other ingredients have different pH range, each vitamin has a resistance zone and another sensitive one, leading to degradation. Dominancy of the carrier and the presence of acidifiers with different pH range can accelerate the quality deterioration of the vitamins by speeding up the dissociation of cations and anions (positively and negatively-charged atoms) from soluble components when the water amount is



It is crucial to know the factors affecting the stability of the vitamins during the process of producing animal feed.

- favourable for this reaction.
- Presence of catalyst: Such minerals and trace minerals in the mixture can favourise vitamins degradation due to their chemical behaviour, bioavailability and hygroscopicity.
- Presence of light: It promotes the oxidation of the vitamins.

The physical factors which promote vitamin degradation are the forms of vitamins. Larger the size of vitamins, the more they are exposed to redox reactions and stressing forces. The coating of the vitamins can protect them from these unwanted reactions, controls their release and improves handling.

In addition to storage time, the stability of vitamins can be affected by chemical and physical factors also. Usually, chemical factors affecting the stability of vitamins come from their reaction with water and other ingredients which cause redox reactions.

Stress forces such as shearing, friction and pressure, applied during handling, storage and processing may change the form of the vitamin particles, which consequently promote redox reactions. Temperatures above 20°C affect the kinetics of the particles which will accelerate their movements. As a result, more particles

will be exposed to abrasion and therefore promote redox reactions.

How to receive your vitamins properly?

The procedure of the receipt of vitamins is very important to their future utilisation and stability, it starts by:

- Training the staff about the importance of vitamins in feed formula, highlighting their high-cost and sensitivity to the storage conditions to identify any abnormalities or failures.
- Identifying the bags received, checking their conditions, number of bags, net weight per bag and the total weight of the delivery.
- Issuing an identification number to the received lot linked to each bag.
- Storing the received bags in the appropriate area with the appropriate labelling.
- Updating complete details into a MRP system and keeping raw material quality records for better traceability.

In this way, feed manufacturers can easily discover the majority of the quality issues originated from the supplier and avoid issues caused by shipping or poor warehouse management in the meantime.

Challenges of vitamin storage

- Infestation by insects
- Deterioration in quality
- Rats and birds propagation
- Loss of weight due to damage of bags and moisture loss
- Fire hazards
- Product expiration
- Product consumption variations due to the sales demand changes.
- Packaging damages caused by handling,

poor bags staking policy or vehicle movement.

- Cross contamination with other ingredients
- Human errors while handling, transporting, and storing.

How to store your vitamins?

Vitamins store facility requirements:

- Storage facility should have restricted access to authorised personnel only, equipped with temperature controlling and monitoring system.
- Avoid storing in multipurpose storage facilities or old buildings as it is favourable for rodent, insects, and birds' breeding.
- For hygienic reasons, keep floors surface smooth, seal roofs and walls properly to avoid the infiltration of water.
- Keeping distance between pallets for better aeration, easy access, and better pest control management.
- Keep rejected or in hold material separated from the used vitamins in a well identified area to avoid misunderstandings.
- Warehouse should be well marked with vehicles pathway and safety signs.
- Vitamin silos are preferred to be made from stainless steel as it has a smooth surface which has lower electrostatic activity than plastic, making it easy to clean and resist to corrosion.
- Bin filling system should be dust free to minimise contamination risks.
- Silo inlet should be closed properly and preferably have the access to barcode system.
- In hot areas, an air-conditioned premix plant is recommended to avoid heat affecting raw materials handling and quality.
- Preparation room should be cool, dry and equipped with ventilation system, thermometer and hygrometer.

Vitamins storage recommendations:

- Always store vitamins in cold store with a temperature below 20°C.
- Always store vitamins in a dry area below 60% HR condition.
- Always store in a well aerated location.
- Keep the vitamin bags closed after use.
- Always use the original bags as vitamin bags are designed to protect the vitamins from interaction with external factors.
- In case of bag damage, keep the damaged sack inside another bag to prevent containment loss and use it in priority after investigating the causes of the damage.
- Do not stack bags on the pallets more than it is recommended by the supplier, to avoid bag damage and minimise lump formation.

- Always keep the vitamin bags elevated from the ground by using pallets.
- Always use good quality pallets to store the vitamins to minimise bags damage or pest propagation.
- Bags should be stored in a bird-free and rodent-free area.
- Newly received material should be kept in quarantine until the quality is approved.
- Rejected materials must be stored separately to prevent any confusion
- Always maintain the identity of the stored vitamins (labels, quantity, FIFO...).
- Silo content should be labelled and recorded properly for traceability.
- Stock taking and visual inspection of the silo at the end of each shift is highly recommended to monitor the consumption and to confirm silo content.
- Utilisation of a cleanout procedure for product changeover is highly recommended.



El Mehdi El Ouahli, global solution application manager at Adisseo

Stock management:

- Always use FIFO (First in first out) for the produced products to prevent vitamins from losing their activity due to aging or other factors.
- Do not produce more than what you require.
- While storing different batches of vitamins, ensure that always present the 'near to expire' vitamins in front and give it an easy access to be taken first by the operators.
- Train your team about the importance of stock rotation system and how it works.
- Plan periodic Inventory Replenishment to control the stocks and the consumptions.
- Plan to empty vitamin micro bins frequently after the end of each lot.
- Allocate appropriate bins for vitamins.

Implementation of traceability system serves to protect the business from frauds, complaints.

- Use barcode system for traceability to avoid mistakes.

Packing material:

Packing is crucial for maintaining the stability of vitamins, either as raw material or in premix. It protects the vitamins from the factors affecting its stability. Vitamins are mainly packed in multiple layers of either paper or plastic with an internal layer of aluminium film or tinted low-density polyethylene (LDPE) and some suppliers use cartons or drums as per the sensitivity of the vitamin. Bags should be heat sealed to avoid cross contamination with treads.

Traceability and record keeping:

Implementation of traceability system serves to protect the business from frauds, complaints. It facilitates product recall and shows commitment toward regulations, society and increase business confidence. These benefits are assured by keeping information related to vitamin origin, production, expiry date, storage conditions, lot number and supplier contacts. This also implies to record the formulas in which it has been used, finished feed lot number, production date and to which customer it was sold.

Conclusion

Adisseo experts recommend that their customers willing to preserve the quality of vitamins during different types of storage, should follow a combination of measures starting by understanding the factors affecting the stability of the vitamins, knowing their process, following manufacturers recommendations, investing on appropriate storage facilities, implementation of a stock management system and utilisation of a quality control plan to maintain the traceability and the quality of the vitamins. **E**

After joining Adisseo in 2021 as global solution application manager in R&I, El Mehdi as a specialist in grain milling industry, served in flour and feed milling industries for more than 20 years, allowing him to gain expertise in animal feed production and development of solutions to increase the productivity and profitability. He supports Adisseo engineers and customers in providing solutions on feed technology, product applications and works with R&I team for the development of new solutions.

Coffee processing is extremely important in determining how the final product turns out. Dr Terry Mabbett elaborates the two methods that are used in this procedure.

Ensuring the 'kick' in your coffee

CUPPED COFFEE IS an infusion of many different chemicals made by mixing boiling hot water with roasted remains of coffee beans – the seeds of the coffee tree (*Coffea* sp). Prominent among them is caffeine, a stimulant, which gives mainstream coffee drinkers the much sought-after 'kick start' or stimulus to their metabolism. Coffee contains a huge range of additional chemicals occurring in specific concentrations and combinations to give each coffee origin (type) its own distinctive taste, aroma and flavour.

Some coffee chemicals like caffeine, remain unaltered from their natural state in the fresh and living coffee bean. Others develop during processing from naturally occurring precursors that undergo chemical changes, during 'wet processing' on the farm, or later at the factory during roasting. All of them have one thing in common – they are soluble in water. Natural coffee chemicals must be soluble in water to exist and to move in solution in the living coffee tree and its constituent parts (e.g. coffee berries and beans).



Image credit: Dr Terry Mabbett

Red-ripe coffee cherries of *Coffea robusta* ready for harvest and on-farm processing.

Cupped coffee chemicals have to be soluble in water to contribute to taste, aroma and flavour and in case of caffeine metabolic stimulation. The final coffee product – dry roasted beans for 'real' or percolated coffee or coffee granules and powder to prepare soluble (instant) coffee – may well be dry, but water plays an important part in the beginning stages of processing, at least for some coffee origins.

Commercially-grown coffee is generally two types – Robusta or Arabica. Robusta has a higher caffeine content, which is reckoned to afford significant protection against insect pests and diseases. Coffee Arabica, with a lower caffeine content, has less tolerance for pests and diseases, is more discerning of growing conditions. Arabica bushes tend to thrive at higher altitudes where the air and water are cleaner, temperatures are moderated, and pests and diseases less prevalent.

Compared to Arabica, Robusta is considered to be inferior in taste, flavour and aroma. It is used for making soluble coffee products sold as powder or granules and for 'instant' mixing with water. On the other hand, Arabica is reserved for making the percolated product, and is therefore marketed as whole dry beans, which are ground before treatment with hot water.

Due to a perceived higher quality and greater potential for taste, flavour and aroma, the Arabica coffee bean tends to be treated differently during its initial stages of on-farm processing.

Immediately after picking, the red ripe cherries (berries containing the beans) undergo the procedure of pulping, washing

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and soaking, with clean cold water, which leads to partial fermentation of the bean. This is sufficient to bring out an early 'chemistry' in the Arabica coffee bean and to lay down the basis for a favourable taste, flavour and aroma profile. This is consolidated during roasting to give a claimed superiority over Robusta in the cupped coffee infusion. Wet processing produces 'washed' Arabica beans, which are considered to be the premium in the world of coffee. In some countries such as Brazil, Arabica beans do not undergo the washing and soaking treatment, and are therefore termed 'unwashed' Arabica. These are processed in the coffee estate by the dry processing method.

Wet processing is much more expensive than the dry method and the quality (taste, flavour and aroma) of Robusta coffee is not generally considered to be sufficient to warrant use of the wet method. Dry processing involves enforced drying of picked coffee berries in the sun (or artificially) to produce dry coffee cherry. This is cleaned and hulled to remove the husk (dried pulp and integument) from the bean.

Mechanics of wet processing

Wet processing entails the following steps:

- **Sorting and cleaning:** Even after careful harvesting of ripe coffee, many immature coffee berries are left behind with stones and soil. These are removed by a separation operation which uses a series of sieves.
- **Pulping:** Cherries are pressed in a machine between fixed and moving surfaces to remove the soft outer tissue. Distance between the moving surfaces is constantly adapted to avoid damaging the beans. Beans still enclosed in their parchment are separated from the unwanted residue using screening machines and from where the beans are passed to water channels where the final separation is carried out by 'flotation', although a small amount of pulp remains attached.
- **Fermentation:** Final traces of pulp are removed by fermentation in which the beans are placed in large fermentation tanks so that any unwanted residues can be broken down by natural enzyme




Small-scale wet processing of coffee in Tanzania

action (fermentation), after which they are washed away. There is speculation that fermentation may actually improve the final flavour of manufactured coffee but if it takes too long in the tank, the flavours may turn sour.

- **Washing and drying:** In these final steps, the coffee beans are first washed thoroughly with clean water in tanks or specialised coffee washing machines to produce wet-processed or wet-parchment coffee.

Last but not least, these 'wet' beans are dried to 12.5% w/w (weight of water) moisture content by sun drying, mechanical drying or a combination of the two. Net result is 'dry parchment coffee' which is lightly hulled to remove the remaining thin integument (parchment or hull) to produce so called 'washed green coffee'.

Mechanics of dry processing

- Dry processing is an altogether simpler and more basic method and claimed to be the traditional and natural way of processing coffee cherries and beans on-farm. After the preliminary stage of sorting and cleaning, as described for wet-processing but carried out by hand, the ripe coffee cherry is exposed to an extended period of sun-drying. It is laid out in the sun on a concrete drying patio or platform for almost three weeks. The now thoroughly dried coffee cherries and beans are mechanically hulled to remove the husks and produce the so-called 'unwashed green coffee'.
- Green coffee beans, whether produced by wet or dry processing, is now ready for factory processing and first entailing cleaning and sorting. Sorting aims to classify 'good' beans into grades according to size ready for roasting. 

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Dr Chris Owens, IFG's lead plant breeder, speaks with Tulana Nayak about the challenges of fruit breeding and what the future holds.

Fruit breeding, the answer to climate change?

What is the future of fruit breeding?

The future of fruit breeding consists of a consumer focus and considering the impact of climate change in agriculture. Climate change has a direct effect on our global food supply. It affects the locations where products can be grown today and in the future, thereby impacting the capacity to meet retailer and wholesaler programmes. Fruits and vegetables respond to warm and cold temperature changes. These changes affect how plants and food grow. Anything that makes significant changes to the environment will have crucial impacts on agriculture.

IFG's mission is to create an incredible eating experience by starting with the consumer and working our way backward. Consumers have evolved and become much more educated on the fruit varieties available. They are looking for more options in their eating experiences. Table grapes are no different than potatoes and apples in that they are being sold by their variety names. Not only are they being sold by different names, but consumers also have preferences now.

Shed some light on IFG's upcoming projects in Africa.

IFG is looking forward to continued expansion in the table grape-producing areas of Africa. Currently, IFG is established in licensing in South Africa, Namibia, Egypt and soon to expand into Morocco. Several advanced selections of raisins will be fruiting this season, and we are looking forward to the results. In addition, IFG's cherry varieties are beginning to take off in many regions, so we are excited to see some growth in South Africa.

With IFG being the trendsetter in creating fruit that delivers out-of-this-world eating experience, we want to start looking at furthering flavours for the consumer palate. We need to think about the next 10 to 15 years, to foresee what consumers will want. We then communicate our vision and mission to our growers to help us execute it.

Andy Higgins, IFG CEO

What are the challenges in fruit breeding. How is IFG tackling them?

It takes about ten years to develop a new grape variety. Once planted, it takes a couple more years to sell the fruit commercially. One of the biggest challenges fruit breeders face is predicting consumer trends ten years down the road. With that in mind, the company constantly follows consumer trends and tries to understand demographics. We have learned that younger consumers are interested in sweet eats, requiring IFG to look at



Image Credit: IFG

IFG has been monitoring climate change consistently as it impacts how crops grow.

trends in the snacking category. These trends have taught us that there is room for flavoured cherry varieties like 'Cotton Candy' among younger consumers.

Climate change has affected agricultural production to a great deal. How is IFG handling this in Africa?

Due to climate change and recent developments in fruit breeding programmes, the industry is witnessing an increasing growth in regions where certain fruit varieties were not grown in the past, such as in South Africa. Climate change is at the forefront of many conversations in agriculture, which is where IFG's work helps – breeding new varieties of fruit that will grow in warmer climates with more minor water requirements. As the planet undergoes changes, there is a possibility of lesser fruit production. IFG is focused on breeding varieties that ensure consistent cropping in a changing climate.

Are there any worrying trends in the fruit breeding sector currently?

Climate change is something that we monitor consistently. It is a significant challenge, both short and long-term, for the agriculture industry. However, it is an issue that plant breeding can mitigate. **E**

Irritec fertigation systems combine practicality and reliability with a modern injection system of nutrient solutions.

New green skin for automation and fertigation sector

FERTIGATION HAS ADVANTAGES like frequent supply of nutrients to reduce fluctuation of nutrient concentration in soil and efficient utilisation and precise application of nutrients according to the nutritional requirements of the crop. Irritec fertigation systems combine practicality and reliability with a modern injection system of nutrient solutions. Some of their solutions are:

DOSABOX Junior Advanced

DOSABOX Junior Advanced is an Irritec tool to approach fertigation in an economic and simple way. This fertigation unit allows the management of the fertigation recipe according to the formula defined by the operator for the automatic the injection of nutrients into the water, improving the efficiency and effectiveness of the whole irrigation system.

The fertigation unit can be launched in three ways: manual, semi-automatic and automatic (for example through a common irrigation control unit).

The supplied Commander NPK, unique in its range, makes the unit extremely versatile as it allows the operator to choose the best injection method to be used according to the needs of the crop among: proportional, by volume or by EC and PH target. The unit also manages the fertiliser agitation system and up to four digital meters (one for water and three for fertilisers).

Commander NPK

Commander NPK is an innovative and smart controller for the modern management of fertigation. It facilitates and simplifies the daily activities, while transforming the system into an innovative and highly professional solution. Available in different configurations, it allows managing the fertigation proportionally, by volume or by EC and pH target. It allows to manage the fertiliser mixing system, up to four meters and to run the fertigation programme on demand by means of an external command.

The Commander NPK controller has an integrated EC pH transmitter with double insulation that allows probes to be connected directly to the controller without using any external transmitter.

Commander FLT

The Commander FLT has been specially designed for the management and control of the filter station and it is normally used on irrigation, agricultural or industrial installations. Thanks to its ease of use, control functions and versatility, it is able to manage automatically the filter flushing and backwash operations.

Automation kit for filtration systems


Irritec also offers complete automation kit for FLT commander control, Latch solenoid, pressure differential, micro tube and master valve control. 



Image credit: Irritec

Typical configuration of an automated fertigation station DOSABOX Junior Advanced.

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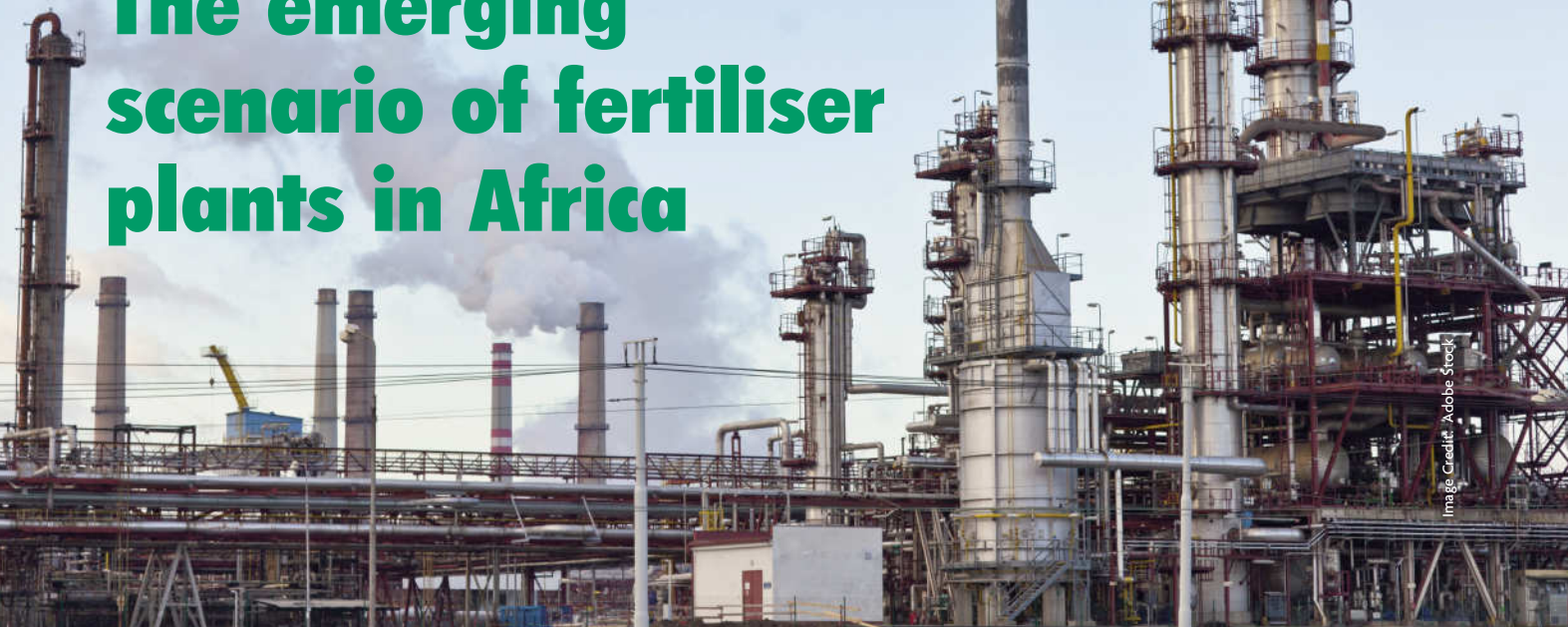


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Favourable tax slabs promoting domestic mining of ammonia and potash have amplified investments for fertiliser plants across the continent.

The emerging scenario of fertiliser plants in Africa

The production and distribution of blended fertilisers along with the training will help farmers produce better quality crops and increase yields.



AFRICA HAS RECENTLY witnessed an increase in domestic fertiliser production, thanks to the investments that the continent has received for developing new fertiliser manufacturing plants.

Mordor Intelligence reports that favourable tax slabs promoting the domestic mining of ammonia and potash have further amplified the investments across various regions. Ethiopia, in recent years, has become a hotspot for the potassic fertiliser market, accompanied by ongoing investments in the country's fertiliser sector.

Meanwhile, OCP Africa Fertilizers Nigeria Ltd has received a US\$1.4mn grant from USAID West Africa Trade & Investment Hub to purchase new equipment that will produce higher-yielding fertilisers and address food insecurity in the country. OCP Africa contributed US\$11.7mn to build a new fertiliser blending plant that's currently under construction in Kaduna, Nigeria.

Farmers will also be able to easily access the fertiliser from the 36 locations that the company will establish across 13 Nigerian states. At least 1.3 million smallholder farmers within the catchment area of the plant are expected to benefit from the increased operations.

The machine can manufacture 120 mt of fertiliser per hour and the plant can store up to 10,000mt of fertiliser. The fertiliser blends will increase farmers' yield by 50% to 85%, per ha depending on the type of crop, which may include rice, maize, soybean, cassava, tomato and other staple crops in Nigeria.

By 2024, the plant is projected to bring in nearly US\$45mn and serve than 1.3 Nigerian smallholder farmers through agricultural trainings and fertiliser sales.

Caleb Usoh, Country Manager for OCP Africa Fertilizers Nigeria, while speaking to Creative Associates International, said the grant will improve farmers' crop yields and incomes, as well as

increase employment at the company's new factory. "Over the years, farmers in Nigeria have recorded poor farm yields due to the quality of fertilisers. The production and distribution of blended fertilisers along with the training will help farmers produce better quality crops as well as increase their yields, which will lead to higher earnings and better returns for their farming business."

Emmanuel Azaino, research and development director of Trade & Investment Hub, said that currently consumers pay too much for basic food items because farmers don't have quality fertiliser to yield abundant crops. "Farmers aren't yielding enough because they can't afford fertilisers with the best nutrients or have to travel far to procure it," he added.

Through this co-investment partnership, 826 jobs are expected to be created, including careers for staff at the new facility, organisers who will lead the farming trainings and workers at the 36 locations where OCP Africa will sell products.

Also, in support of the Trade Hub's goal to ensure that traditionally marginalised groups have equal access to job opportunities in the agricultural sector, at least 50% of the 826 jobs will be dedicated to women and youth. The end goal of the project is to foster a thriving agricultural-business ecosystem in Nigeria.

Meanwhile, the coming up of Dangote Fertiliser Limited, has placed Nigeria in the third position among other countries, like Iran and India.

Its global urea capacity is expected to see considerable growth over the upcoming years, potentially increasing from 222.96 million tonnes per annum in 2020 to 305.92 mtpa in 2030, registering a total growth of 37%, according to a GlobalData report.

The Dangote Fertiliser Project is the largest Granulated Urea Fertiliser complex in the entire fertiliser industry history in the world, with an investment of US\$2.5bn capacity of three million tonnes per annum. The Dangote Fertiliser complex consists of ammonia and urea plants.

The plant, which has created thousands of direct and indirect jobs in construction and related fields, will provide a major boost to the agricultural sector by significantly reducing the importation of

OCP Africa contributed US\$11.7mn to build a fertiliser blending plant that's currently under construction in Kaduna, Nigeria.

fertiliser in Nigeria and ultimately removing the need for imports when the plant is in full production.

Speaking during the truck out of urea fertiliser, group executive director, (Strategy, Capital Projects & Portfolio Development) Dangote Industries Limited, Devakumar Edwin, said that over the weekend the plant, which has the capacity to turn out more than 4,500 tonnes of urea per day will conveniently meet the local demand and even produce for exports.

"We have the capacity to turn out 4,500 tonnes of urea every day. The company has the capacity to meet local demand and also export to African countries."

First industrial-scale renewable power-to-fertiliser plant

While fertiliser plants are fast coming up in Africa, Maire Tecnimont has gone one step ahead and announced that its subsidiaries MET Development, Stamicarbon and NextChem have started work on a renewable power-to-fertiliser plant in Kenya.

This will be the world's first industrial-scale plant powered by renewable energy to produce low carbon intensity nitrates.

MET Development has signed an agreement with Oserian Development Company for the development of the plant at the Oserian Two Lakes Industrial Park located on the southern banks of Lake Naivasha, 100km North of Nairobi.

The plant will support Kenya's low carbon and inclusive growth, its agricultural output and its smallholder farmers and communities. The plant will be located near the country's largest geothermal energy basin and will be partly powered by solar energy sources produced on-site – displacing the need for fossil fuels – and eliminating carbon from the production.

The facility will reduce carbon emission with approximately 100,000 tonnes of CO₂ per annum, compared to a gas-based fertiliser plant. The project will also reduce the dependency of imported nitrogen fertilisers and substitute around 25%.

Furthermore, the project will increase fertiliser affordability and ensure the availability of fertilisers at the right time in the season for fertiliser application.

Maire Tecnimont Group' Stamicarbon, the innovation and license company and world market leader in designing fertiliser plants will provide both its Stami Green Ammonia Technology to produce ammonia and its nitric acid technology as an integrated technology package for the manufacturing of nitrate fertiliser. The technology configuration – which is characterised by a modularised approach and is therefore ideal for small scale facilities – will be the first of its kind, although based on proven technology.

The renewable power-to-fertiliser project targets to produce 550 mtpd (metric tonnes per day) of Calcium Ammonium Nitrate (CAN) and/or NPK fertilisers (fertilisers based on Nitrogen, Phosphorous and Potassium) and will be the first state-of-the-art, commercial-scale nitrate fertiliser plant from renewables. MET Development is currently engaging with local and international partners to set up the development consortium.

The project will utilise approximately 70MW of renewable power, will create the starting point for locally produced Kenyan fertiliser and is expected to directly generate over one hundred jobs in the region, while supporting the broader economy and its farmers.

While speaking to ESI Africa, Pierroberto Folgiero, CEO of Maire Tecnimont Group said, "With this strategic initiative, we aim to unlock the potential of decarbonising the fertiliser industry using renewable energy as a feedstock. Kenya has a unique potential to provide renewable energy, making it an ideal location for local green power-to-fertiliser production, replacing import of nitrogen fertiliser. With this initiative, we confirm our expertise in project development in green energy, by acting as an end-to-end developer capable of connecting the key factors which are necessary to industrialise the green economy globally".



Farming is Business

References in Africa

Ideas + Solutions

MADE IN GERMANY





















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African Farming - January/February 2022 **25**

Precision agriculture is fast developing to revolutionise the African agrarian industry. This advanced approach aims to improve sustainability and profitability of agricultural operations. Nawa Mutumweno reports.

Taking the hi-tech road

PRECISION AGRICULTURE IS fast developing to revolutionise the African agrarian industry. Predictive analytics software combined with satellite or robotic drone images of agricultural fields and individual plants, allows for proactive and site-specific planning for crop rotation, planting and harvesting times, and soil management.

Growers can use the data to match resource requirements for optimised application, ensuring the best soil and crop health. It is this precision in analysis that reduces the wastage of resources, improves profitability and sustainability and assists in controlling the environmental impact of farming operations.

The global testing, inspection and certification company Bureau Veritas has developed precision farming solutions based on crop inspection by drone and satellite technology.

“Drone services provide precision farming inspection services by consolidating ground data such as analyses of soil, leaves and roots. These solutions make it possible to remotely control fertilisation, irrigation operations and add value to all types of plantations from rubber, palm oil, sugar cane and banana tree, to cocoa,” Bureau Veritas stated.

The company’s expertise in production mapping and benchmarking by satellite or drone ensures that crops and farms can be monitored for information like the number of trees, strength and homogeneity of plant development, areas of vegetation stress, chlorophyll content, general health conditions, fertilisation and irrigation.

It has also developed a simple, cost-effective and scalable precision farming tool called myPRECiField, which uses satellite technology to monitor the plant health of crops in real time from a computer or tablet, without having to travel.

“Some of the advantages of the revolutionary myPRECiField tool include detecting plant diseases and pest emergence, evaluation of plant density, visualises water stress and achieving return on the last 24 months of plots,” the company stated.

The rapid enhancement of precise monitoring of agricultural growth and its health assessment is important for optimum



Bureau Veritas has developed precision farming solutions based on crop inspection by drone and satellite technology.

Image Credit: Adobe Stock

use of farming resources. This has facilitated the implementation of remote sensing (RS) systems such as hyper spectral imaging to provide precise biophysical indicator maps across the various cycles of crop development. RS provides particularly, imaging spectroscopy in large continuous narrow bands, provides significant information for understanding the biophysical and biochemical properties of agricultural plants. It is also useful to identify the changes in various physical processes, which can be better identified using multispectral RS.

RS, combined with geographic information systems (GIS) and/or global positioning systems (GPS), are often used in precision agriculture, allowing farmers and other agriculture producers to reduce inputs and maximise cost benefits using modern technology. Variable rate technology (VRT) is introduced to increase precision farming practices. In VRT, collections of field variable information and other input data are helpful in defining suitable quantities of chemical inputs required for the field.

Success stories

The Namibian Livestock Identification & Traceability System (NamLITS): This System involves both radio frequency identification (RFID) for automated data input and a visual

plastic ear tag that supports remote pastoral production. “The traceability systems employed by the commercial farming community and its downstream role players have unlocked wealth along the entire value chain,” Deloitte’s *ICT for Agriculture in Africa* report stated.

The Integrated Water Resource Management Action Plan, under the auspices of Egypt’s Ministry of Water Resources & Irrigation, has resulted in crop yield increase of 20%, and Magrabi Farms has been developed from an actual desert to a fully irrigated 8,500 acres. “Existing ICT systems employed by some of the commercial farming community in large-scale irrigation farming operations have increased the efficiency of water use and generated larger profits,” the report added.

Some others include DrumNet, which brings together different stakeholders in the Kenyan agricultural sector; an SMS-based service developed by the Zambia National Farmers Union (ZNFU); Sissili Vala Kori (The Voice of the Sissili Farmer) – farmers use ICT to share new production, processing and other skills in Burkina Faso; a mango traceability system that links Malian smallholders and exporters to global consumers and Kilimo Salama, an index-based agriculture insurance on agricultural inputs in Kenya. **B**

Rice milling equipment represents a vital allied section of the industry. The crop is grown in about 40 out of 54 countries of Africa.

Apparatus for Africa's favourite grain

RICE MILLING MACHINES are used for processing long, thin mass of rice and removing it into fragments. Rice is usually processed for further mass production of food commodities or individual consumption and also can be made to process raw ingredients for cooking and flour production.

The global rice milling machinery market is forecasted to reach US\$2.54bn in 2027, with a CAGR of 4.03% during the period from 2019 to 2027, according to a research conducted by womenschronicle.com.au.

AGI Milltec is one of Africa's end-to-end solution providers for rice milling and processing with its service across four major parts of the continent.

Africa has always been an important market for rice consumption. The grain is also a predominant dietary energy source in West Africa and Madagascar. It is the second most important source of calories for the whole continent.

Rice milling equipment represents a vital allied section of the industry, allowing the rice crop to be processed further for end usage. Rice is grown in about 40 out of 54

countries in Africa and its cultivation is the principal activity and source of income for more than 35 million smallholder rice farmers in Africa, according to reports from the African Rice Center. The milling equipment industry in Africa however, is still growing, with the bulk of the machinery and services being imported from countries such as China to aid the market.

AGI Milltec is one of Africa's end-to-end solution providers for rice milling and processing with its service spanned across four major parts of the continent. Its range offers rice milling equipment for all facets of the process such as the pre leaner, flow balancer, classifier, thickness grader, de-stoner and much more.

The company's rotary sifter is designed to segregate input rice into different categories. According to reports from AGI, the machine is specifically designed and best suited for rice and enables sorting rice grains into different categories, according to size and quality.


"The sifters are equipped with a wedge clamping mechanism to enhance the performance of the equipment and a rotatory mechanism to increase the operating life of the equipment as well as facilitate the smooth functioning of its the reports added.

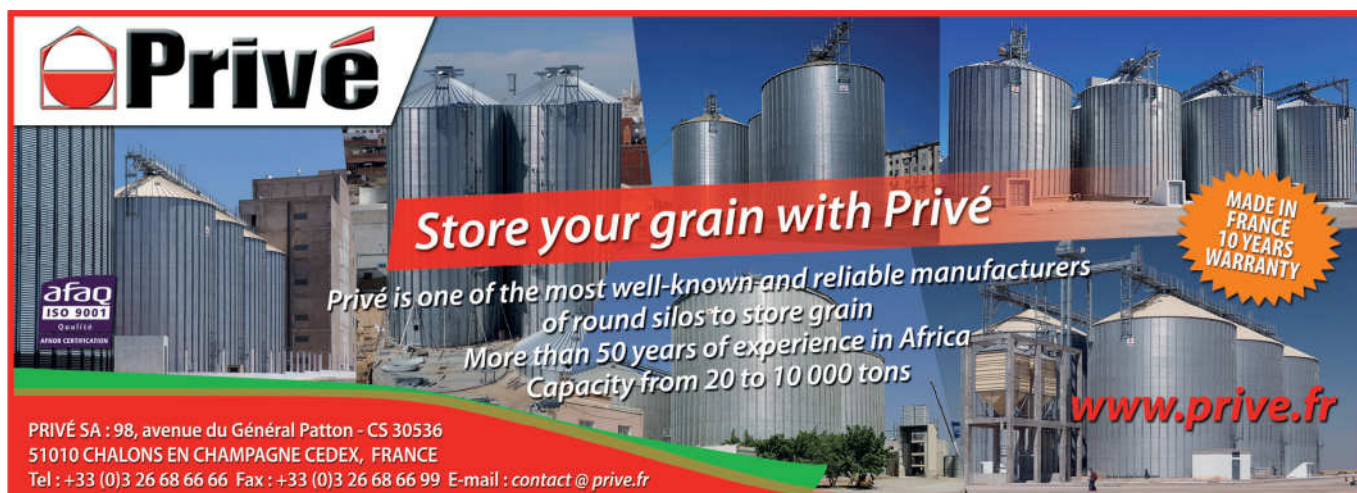
Africa is said to account for 32% of the world's rice imports activity, making it a vital




Image Credit: Adobe Stock

Rice remains the primary grain of the continent and local development in its processing infrastructure is essential.

body of the international grain trade. The equipment that is locally sourced, supplied and serviced help in the profitable development of the sector, for a continent much dependent on rice and its products. 





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AN ANNUAL GUIDE to suppliers of equipment and services for agriculture and for the primary processing of produce. The first section of the Directory lists suppliers under classification of their products and services. The second section lists alphabetically company addresses.

The third section lists agents and distributors in Africa geographically. The Directory has been compiled from information submitted by the companies concerned.

While every care has been taken to avoid errors and omissions, they may occur; the Editor would like to be notified of these so that the digital edition of the Directory can be kept up to date.

Supplier Listings
start on page 29

Agent Listings
start on page 31

Classified Listings

Agricultural Equipment - General

Alvan Blanch Development Co. Ltd.
CANTONI MOTOR S.A

Agricultural Projects

CANTONI MOTOR S.A
Mavitec B.V.

Animal Health Products

Eurofeed Technologies S.p.A.

Antioxidants

Eurofeed Technologies S.p.A.

Automatic Chain Feeders

Big Dutchman International GmbH

Breeding

Hendrix Genetics

Briquetting Plants

Alvan Blanch Development Co. Ltd.

Broiler Breeding Stock

Aviagen Ltd

Broilers

Aviagen Ltd

Bulk Storage Equipment

Big Dutchman International GmbH

Cages & Batteries

Big Dutchman International GmbH

Cassava Processing Equipment

Alvan Blanch Development Co. Ltd.

Centre Pivot Equipment

T-L Irrigation Co.

Chicks - Day Old

Aviagen Ltd

Cocoa Production

Alvan Blanch Development Co. Ltd.

Coffee Processing, Handling & Storage

RIELA Karl - Heinz Knoop e.K.
Swingtec GmbH

Colour Sorting Equipment

Alvan Blanch Development Co. Ltd.

Conveyors and Elevators

Big Dutchman International GmbH
CANTONI MOTOR S.A
RIELA Karl - Heinz Knoop e.K.

Coolers - Environmental

Big Dutchman International GmbH

Crop Drying and Ventilation

Alvan Blanch Development Co. Ltd.

Crop Handling & Storage

Alvan Blanch Development Co. Ltd.
RIELA Karl - Heinz Knoop e.K.
Swingtec GmbH

Crop Protection Equipment

Swingtec GmbH

Cotton Handling & Storage

Swingtec GmbH

Disinfectants

Eurofeed Technologies S.p.A.
Intraco Ltd.

Drinking Systems

Big Dutchman International GmbH

Dryers

Alvan Blanch Development Co. Ltd.
RIELA Karl - Heinz Knoop e.K.

Dry Rendering

Mavitec B.V.

Egg Collection

Big Dutchman International GmbH

Egg Layer Breeding Stocks

Hendrix Genetics

Egg Layer Parent Breeders - Brown

Hendrix Genetics

Egg Layer Parent Breeders - White

Hendrix Genetics

Egg Layers

Hendrix Genetics

Engines

CANTONI MOTOR S.A

Extruders for Food, Feed

Alvan Blanch Development Co. Ltd.

Extrusion Processing Equipment

CANTONI MOTOR S.A

Feed Additives

Eurofeed Technologies S.p.A.
Evonik Nutrition & Care GmbH Animal
Nutrition
Intraco Ltd.
Unipoint AG

Feed Compound

Eurofeed Technologies S.p.A.

Feed Concentrates

Eurofeed Technologies S.p.A.
Intraco Ltd.

Feed Flavours

Eurofeed Technologies S.p.A.

Feed Growth Promotant Probes

Eurofeed Technologies S.p.A.

Feed Ingredients

Eurofeed Technologies S.p.A.
Intraco Ltd.
Unipoint AG

Feed Premixes

Eurofeed Technologies S.p.A.
Intraco Ltd.
Unipoint AG

Feed Processing Plants

Alvan Blanch Development Co. Ltd.

Feed Supplements

Eurofeed Technologies S.p.A.
Unipoint AG

Feeders

TATOMA

Feeding Systems

Big Dutchman International GmbH
TATOMA

Fertiliser Mixers

Koshin Engineering Co., Ltd.

Fertiliser Processing Machinery

Koshin Engineering Co., Ltd.

Fertiliser Spreaders

Koshin Engineering Co., Ltd.

Fertilisers

Koshin Engineering Co., Ltd.
Omex Agrifluids Ltd.

Fish Feeds - General

Alvan Blanch Development Co. Ltd.
Eurofeed Technologies S.p.A.

Fogging Machines

Big Dutchman International GmbH
Swingtec GmbH

Foliar Fertilisers

Omex Agrifluids Ltd.

Food Flavouring

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Food Processing Equipment

CANTONI MOTOR S.A
LIMA S.A.S.
Marel South Africa

Forage Feeding Equipment

TATOMA

Forestry Equipment

CANTONI MOTOR S.A

Fruit Processing

Alvan Blanch Development Co. Ltd.

Genetic Research

Hendrix Genetics

Grain - Drying & Ventilation

Alvan Blanch Development Co. Ltd.

Grain - Handling, Cleaning & Processing

Alvan Blanch Development Co. Ltd.
RIELA Karl - Heinz Knoop e.K.

Groundnut Handling Equipment

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Harrows

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Harvesting Equipment

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John Deere (Pty) Ltd.

Horticultural Equipment & Machinery

Swingtec GmbH

ICT Equipment & Services

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Integrated Pest Management

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Irrigation & Drainage Systems

RKD Irrigacion S.L.
T-L Irrigation Co.

Irrigation Equipment

CANTONI MOTOR S.A
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Mills

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Mills - Grain

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Mould Inhibitors

Eurofeed Technologies S.p.A.

Mould Killers

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Oil Extraction Equipment

Alvan Blanch Development Co. Ltd.

Palletizers

Big Dutchman International GmbH

Pelleting

Alvan Blanch Development Co. Ltd.

Pig Equipment

Big Dutchman International GmbH

Pig Feed

Eurofeed Technologies S.p.A.

Pig Feeding/Drinking Equipment

Big Dutchman International GmbH

Pig FlooringBig Dutchman International GmbH
CARFED International Ltd
Eurofeed Technologies S.p.A.**Pig Health Products**

Eurofeed Technologies S.p.A.

Pig Housing

Big Dutchman International GmbH

Plant Protection Chemicals

Omex Agrifluids Ltd.

Planters

John Deere (Pty) Ltd.

Plastic Flooring, Poultry

Big Dutchman International GmbH

Ploughs - Mouldboard

John Deere (Pty) Ltd.

Poultry Consultancy Services

Meyn Food Processing Technology b.v

Poultry Equipment - Drinking

Big Dutchman International GmbH

Poultry Equipment/Handling

CARFED International Ltd

Poultry Feeding

Big Dutchman International GmbH

Poultry Feeding - Primary

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Poultry Health Products

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Meyn Food Processing Technology b.v**Poultry Stock**

Aviagen Ltd

Public Health

Swingtec GmbH

PumpsCANTONI MOTOR S.A
T-L Irrigation Co.**Raw Materials**

Eurofeed Technologies S.p.A.

Rice Parboilers

Alvan Blanch Development Co. Ltd.

Rice Processing & Milling Equipment

Alvan Blanch Development Co. Ltd.

Roll-out Nests

Big Dutchman International GmbH

Seed Cleaning Equipment

Alvan Blanch Development Co. Ltd.

SilosAlvan Blanch Development Co. Ltd.
Big Dutchman International GmbH
Privé SA
RIELA Karl - Heinz Knoop e.K.**Slaughtering Equipment**

Marel South Africa

Slurry Disposal

T-L Irrigation Co.

Soluble Fertilisers

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SprayersGOIZPER GROUP
RKD Irrigacion S.L.**Sprayers - Crop**

GOIZPER GROUP

Spraying Nozzles & Components

GOIZPER GROUP

Straw Choppers/Grinders

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Transport Crates for Poultry

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Privé is a French company with more than 70 years experience in manufacturing round corrugated silos for grain storage. Bins and gantries are manufactured in high quality galvanised steel and their design is based on the strictest European standards.



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Lionel Coetzee, head of marketing, AGCO Africa speaks with Tulana Nayak on how the company is coming up with tractors best fit for farmers.

Empowering farmers with modern machinery



The MF 2640 boasts the power of 60Kw, max torque 300NM.

Image Credit: AGCO

AGRICULTURAL MECHANISATION IS on the rise in Africa, replacing hand equipment and animal traction. A widespread replacement of manual labour with mechanical power can have large socio-economic and environmental implications. Lionel Coetzee, head of marketing, AGCO Africa speaks about how the company and MF 2640, specifically, is bringing about that change.

How is MF 2640 helping farmers in Africa?

The MF 2640 model has been specifically engineered to be strong and capable of withstanding arduous conditions. It is equipped with more performance features and style than any other low horsepower tractor in its category, which makes it the best fit for Africa's arable land.

It truly is a multi-purpose tractor for farmers, handling every task efficiently and comfortably. The MF 2640 is ideally suited for livestock and dairy farmers as well as fruit and vegetable producers.

What are the upcoming models and how are they better or different? Please share if there are any future projects lined up.

The MF 2600 series has a power range (kilowatts) of 48 to 60kw engines and It comes in two models – MF2630 GE and MF 2640.

It comes in two options – 2 wheel-drive and 4 wheel-drive. Both give you the 'Feel right at home in your workspace' experience. It is easy to use, with straightforward controls. Its ergonomic design ensures that transmission, hydraulic and PTO controls fall easily to hand and can be operated with minimum effort. The MF 2640 has an excellent all round visibility allowing the operator to keep an eye on the implement at all times and drive confidently in confined yards and buildings. The spacious operator platform provides a clear, well-laid out dashboard. Easy to read instruments ensure that you always have vital machine data to maximise efficiency and performance at all times. The MF 2640 boasts the power of 60kw and max torque of 300NM. The rotary injection pump for smoother

The MF 2640 boasts the power of 60kw and max torque of 300NM. It is also the best value for money and is priced right for emerging and commercial farmers. It has a lifting capacity of 2,000kg and four cylinder inlet for hydraulic control of rear-lift arms for a variety of implements.

engine performance during sudden load changes and fuel cooler allows optimum fuel combustion and results in improved fuel efficiency. It is also the best value for money and is priced right for the emerging and commercial farmers. It has a lifting capacity of 2,000kg and four cylinder inlet for hydraulic control of rear-lift arms for a variety of implements.

The other model is the MF 2630GE. GE (Ground Effect) tractors are low height models ideal for working under low hanging crops such as vineyards and fruit orchards. The highest point is 1,300mm and these tractors have rounded fenders to allow the crop to flow over them without being damaged.

How did AGCO tackle challenges posed by the pandemic?

At AGCO, it is imperative to fulfilling our purpose of putting the 'Farmer first'. We did our best and continue to do so by prioritising our operations in a manner that makes the greatest and most immediate positive impact on our employees, farmers, industry and environment.

Our office-based staff have also worked very effectively from home. AGCO's leading-edge IT system (implemented long before COVID) worked successfully during these times and proved that it was a forward-thinking investment for the company.

Agriculture is an essential part of the economy, and we needed to keep our farmers happy and operational so that they can continue producing quality food to feed the world.

Obviously, unexpected delays in movement and availability of parts posed a challenge. Despite this, we had put urgent control measures in place – our warehouse in Johannesburg that supplies to most of the African countries up to Nigeria, worked tirelessly with our transporters. They worked efficiently to find solutions that would maintain seamless deliveries, ensuring that farmers and our distribution network were minimally affected.

Please elaborate how AGCO is helping in making precision farming easier for farmers? What are your thoughts on precision farming and its importance?

We have technology like FUSE that assists farmers in the following ways:

- Fuse is the leading global open platform for digital farming products operated by AGCO Corp. Fuse supports AGCO's brands and the aftermarket with a comprehensive and customisable suite of non-proprietary digital solutions, empowering farmers to make their individually best business decisions and thus maximize yields and profitability.
- **Smart Farming Synchronised:** Fuse ensures that its products are not only compatible with mixed fleets but also across the

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entire farm operation. We believe in this open approach as we want to enable our customers' future of farming with the best digital products available on the market – if they are developed by Fuse, in cooperation with partners or third party offers. This means Fuse gives farmers freedom and flexibility in their choices of machinery, farm management and agronomy software as well as service providers – to establish their individually perfect digital ecosystem.

The many uses of FUSE smart farming products:

Planting: Elevating field preparation, planting precision and minimizing seed and fertiliser input. Reduce resources and increase yield potential: Software tools and applications that elevate field preparation and planting precision and thus optimise seed input, while at the same time minimise input costs of seeds and fertilisers.

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