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**JackPack - PTO PowerPack for
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From the Editor

The food crisis has been at the forefront of the global consciousness for much of the time. Although food inflation is nothing new, the combination of rising world population, increased fuel costs, greater consumer demand, and shifts from food to energy crops has made the cost of food an issue at every table.

The issue brings with it questions about not only the cause of rising prices but also how global food and agriculture impact sustainability, climate change, and individual health and consumption decisions. Our global agricultural system is about much more than the food we eat. On a large scale, it is also about how domestic and international agricultural policies impact our air, water, and soil.

As we considered putting together this issue, the wide range of potential topics was striking. Articles range from plans for digital plant health, all crops are affected by erratic rainfall, small farm size, limited use of modern inputs and poor access to markets and, most importantly, problems with pests and diseases that also include the tomato leafminer (*Phthorimaea absoluta*).

Agriculture is the economic backbone of many developing countries. It contributes about 25 percent of the GDP in low-income countries, and 80 percent of the extremely poor live in rural areas.

With this issue, we hope African Agriculture Magazine will help move the discourse beyond the rhetoric of blame and defeat towards creative solutions for the effective and efficient use of our global agricultural resources for today's growing population and future generations.

As we begin a year filled with hope for a brighter future, may we remember farming drives the world from medicinal foods, balanced diets and also nutritional supplementation.

We wish you brighter 2023 ahead, have a great read.

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Plans for digital plant health service in Malawi will benefit over 100,000 smallholder farmers

CABI is leading on the data organization and management of a new project that will see a digital plant health service established in Malawi to benefit over 100,000 smallholder farmers of maize, tomato, cassava, banana and groundnut crops.

The Malawi Digital Plant Health Service (MaDiPHS) project, funded by the Norwegian Agency for Development Cooperation (Norad),



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Plans for digital plant health service in Malawi will benefit over 100,000 smallholder farmers

CABI is leading on the data organization and management of a new project that will see a digital plant health service established in Malawi to benefit over 100,000 smallholder farmers of maize, tomato, cassava, banana and groundnut crops.

The Malawi Digital Plant Health Service (MaDiPHS) project, funded by the Norwegian Agency for Development Cooperation (Norad), will see the creation of a decision support system which will help farmers incorporate an Integrated Pest Management (IPM) approach to fighting a range of crop pests and diseases.

Agriculture is the biggest industry in Malawi with over 80% of the 19.65 million people engaged in subsistence farming where maize, cassava and sweet potatoes are the main crops. Maize is the most important crop for food security but is blighted by pests including the fall armyworm (*Spodoptera frugiperda*).

Over one-third of Malawi's GDP and 90% of its export revenue comes from agriculture and the largest cash crop is tobacco followed by tea and raw sugar.

All crops are affected by erratic rainfall, small farm size, limited use of modern inputs and poor access to markets and, most importantly, problems with pests and diseases that also include the tomato leafminer (*Phthorimaea absoluta*).

Malawi, like most countries that depend on agriculture, combats crop pests and diseases using pesticides. However, the negative effects they have on the environment and people's health are known. Countries are now looking for alternative control methods, with IPM being a favoured option.

MaDiPHS will build and expand on the successes achieved by existing digital plant health systems such as PlantVillage Nuru (a pest and disease monitoring



tool), the Norwegian Institute of Bioeconomy Research's VIPs pest prediction platform, a Farmer Interface Application (developed by the International Institute of Tropical Agriculture) and the CABI-led Plantwise programme and Pest Risk Information Service (PRISE).

Henry Mibei, CABI's Manager, Digital Development, based at CABI's Centre for Africa in Nairobi, Kenya, said, "While there are existing multiple digital systems available to predict, identify and manage plant pests and diseases, these systems are often aimed at a specific crop or pest.

"Furthermore, despite the recognized benefits associated with aggregating systems (combining data from multiple sources), these systems remain isolated and unlinked.

"This leads to farmers being confused about which system to use, good tools hidden or unnoticed by farmers and extension workers and weaker solutions becoming dominant without providing the best-applied service.

"Establishing a pest and disease decision support system in

Malawi will help farmers to take the best decisions within the concept of IPM to mitigate crop losses due to pests and diseases."

The data assets and outputs of existing digital systems will contribute to a common International Platform which will feed into a national digital client (a locally-adapted digital system with a user interface that meets the local needs).

Malawi will be the pilot country with the newly-established service being a model for other countries and regions to adapt and upscale.

CABI will lead on data organization and management which will focus on enhancing access to data and information resources as part of the MaDiPHS ecosystem. It will be responsible for a range of tasks including the mapping of data ecosystems, identifying key data sets and brokering access to the data held by data holders and ensuring that data is shared with clear and appropriate licences.

The service will be owned and managed by the Malawian government.

Ghana: USAID to Support Agriculture Sector with U.S.\$ 6 million Grant



Feed the Future Ghana Market Systems and Resilience (MSR) Activity has announced a \$US6 million grant programme to support sustainable on and off-farm employment and investment opportunities in Northern Ghana.

The grant programme, which is funded by the United States Agency for International Development (USAID), will assist successful applicants to increase their farm yields, and market efficiency and also have easy access to markets for their produce.

In an interaction with the media at the MRS Public roadshow to educate potential applicants on the purpose, eligibility requirements, application processes and the nature of the grant in Accra on Monday, the Monitoring, Evaluation & Learning Director of Ghana MRS Activity, Mr Eric Sunu, noted that the grant would be administered through leveraged investments in agricultural and non-agricultural enterprises.

He added that the Grant would also strengthen agricultural market systems and consequently increase income for households in the Northern part of Ghana.

"A strong market system will result in greater efficiencies, productivity and investment in goods and services that drive agriculturally led economic growth," he stated.

Mr Sunu disclosed that the focus of the programme is mainly on private sector businesses and non-profit organisations in selected Districts in the Northern part of the country whose existing operations centre on the targeted crops of the programme.

"The Grant Program will target private sector businesses and non-governmental organizations whose current work or businesses focus on the activity's ten targeted crops such as maize, shea, bambara bean, soybean, cowpea, groundnuts, moringa, mango and horticulture in 17 designated districts across the Northern, North East, Upper West and Upper East regions," he noted.

On the mode of application of the grant, he advised eligible organizations to submit their concept notes with supporting documents including Budget, Applicant Contributions/Leverage sheets to the official e-mail address

dress [grants@acdiovaghana.org].

"The grant also intends to improve the lives of women, youth and Persons with Disabilities (PWDs). If applicants' concept notes demonstrate that their inventions will involve 50 per cent women, 30 per cent youth, and 20 per cent of PWDs, they have a possibility of receiving funds," he hinted.

Eligible organisations for the MSR grant are farmer-based organizations, out-grower businesses (associations and/or co-operatives, village savings and lending associations, small and medium enterprises) and private sector umbrella organizations.

Others include Ghanaian non-governmental organizations, U.S. non-governmental organizations, anchor firms (buyers, processors, exporters, etc.), business service providers, and selected public institutions including technical services organizations and local government institutions are eligible for funding under MSR's Grant Programme.

Tanzania to Host the AGRF, Africa's Food System Forum 2023

Tanzania will host the AGRF 2023 Summit, the announcement was made by Her Excellency Samia Suluhu Hassan, the president of the United Republic of Tanzania and H.E Hailemariam Dessalegn, the Chair of the AGRF Partners Group on the sidelines of the U.S. Africa Leaders' Summit currently taking place in Washington, DC.

The AGRF, Africa's Food Systems Forum, is the premier platform for advancing the agriculture and food systems agenda on the continent; from food security to agri-food investments. The annual Summit convenes leaders, policymakers, scientists, heads of governments and private institutions, farmers, and the youth in the agriculture and food systems landscape to discuss and agree on practical actions and solutions that drive Africa's food security and better livelihoods for all.

The 2023 Summit aspires to position Africa as the place for innovation, and investments, and to advance a stronger more diverse, and resilient food system. The Summit will look to energize and spotlight continental progress beyond the call for aid. The Summit will showcase Africa's solutions to Africa's food systems transformation while spotlighting leadership, accountability, inclusion and investment opportunities in Africa in general and in Tanzania in particular.

Tanzania will be the first country to host the AGRF Summit since the forum was rebranded to Africa's Food Systems Forum in 2022 as a reflection of the partnerships' ambition to move forward the transformation of Africa's food system and sustain engagement year-round.

In her remarks, Her Excellency Samia Suluhu Hassan welcomed agriculture and food systems experts, investors and stakeholders from across Africa and beyond to Tanzania for the Summit and emphasized the importance for Africa to lead on its food security for national and continental development. She highlighted that

Africa's food security can collectively be attained if all parties join hands to advance localized solutions that drive prosperity for all urging the youth to participate in agriculture to enable faster growth of the continent's growth.

"I am pleased to announce, that Tanzania has been selected to host the AGRF 2023 Summit. This important Forum will bring together global and local voices, will highlight investment opportunities and will be looking to do business. We must chart ways to protect our people from the current drought and climate change impacts and we must make it possible for investments to move into this important sector.

"I have no doubt, that this Summit will provide actionable solutions for the continent and our people," President Samia said.

H.E. Hailemariam Dessalegn congratulated and recognized Tanzania's leadership in advancing food security and shared his appreciation to President Samia for hosting the AGRF 2023 Summit.

"The AGRF, Africa's Food Systems Forum 2023, comes at an integral

time when the continent, battered by the effects of climate change, is coming together to find solutions that safeguard lives and livelihoods. It is commendable that Tanzania is developing a national blueprint to drive its economy forward and food and agriculture will play a huge role in ensuring the country's prosperity. We urge all stakeholders ahead of the Summit to kickstart these vital discussions and conversations while surfacing innovative ideas that can be shared and deployed across the continent."

The AGRF 2023 builds on the AGRF 2022 hosted by the Government of Rwanda in Kigali. It was attended by more than 2700 delegates In-Person and over 4000 online. In 2023, the AGRF secretariat and partners will build on the conversations, agreements, and critical decisions from the AGRF 2022 Summit through in-country meetings and roadshows with leaders, farmers, and the youth. The Summit is expected to convene critical voices in Tanzania with the aim of strengthening Africa's food systems transformation through consensus.



Investing in crops that feed the Sahel



At the prestigious weeklong Market for Agricultural Innovation and Technology (MITA) held in Dakar Senegal, ICRISAT called for increased investments in crops like sorghum, millet and groundnut.

Nutrient-rich crops that suit the agro-ecology of the Sahel figured prominently in ICRISAT's presentation at MITA. The Institute was among the selected 15 organizations delivering presentations on agricultural innovations and technologies at the high-level meet.

Representing ICRISAT, Dr Ousmane Sanogo, Cluster Leader – Crop Improvement Operations Team, presented on high-yielding, biofortified and dual purpose (feed-food) varieties and hybrids of sorghum and pearl millet, high oleic acid groundnut varieties and ICRISAT's Smart Food initiative.

"Thousands of communities living in the Sahel are mainly fed by these crops, therefore, more investment should be devoted to them," said Dr Sanogo.

Discussion sessions allowed participants to deepen their knowledge of the technological opportunities and innovations presented. Discussion in first session revolved around what organizations such as agricultural research institutes can offer as technologies and innovations in the global market.

The second session focused on business-to-business (B2B) where both technologies suppliers and buyers concluded deals. ICRISAT was solicited by 13 groups (National Agricultural Research and Extension Systems, seed companies and processors) from six countries, namely, Chad, Cote d'Ivoire, Nigeria, Senegal, The Gambia and Togo.

According to Dr Kossi Kpemoua, Scientific Director of Togolese Institute for Agricultural Research (ITRA) in Togo, ICRISAT is partnering with his institution for decades on groundnut, sorghum and millet crops research and development for productivity. But they need a strong partnership with ICRISAT to co-create and to have more agricultural products and technology penetration in Togo for poverty alleviation and income revenue increase.

Over 188 participants from 22 African countries and the China Republic were represented at the MITA meeting organized by CORAF (West and Central Africa Council for Agricultural Research and Development). Ministers, representatives from the National Agricultural Research Systems, the private sector, national, regional, and international organizations participated in the event held from November 2-5, 2022 at Dakar, Senegal.

Pöttinger presents new grassland products

G rassland specialist Pöttinger has once again launched a new range of innovations for the new season, with something new for every link in the harvesting chain – from mowing, tedding and raking to loading

NOVACAT V 10000: The new standard in mowing

The new mower combination combines high output with the best possible ground tracking and the greatest reliability thanks to intelligent technology. The NOVACAT V 10000 is available with a headstock for 3.0 or 3.5 metre wide front mowers. This makes working widths of up to 9.62 and 10.02 metres possible.

New HIT V 11100 – Powerful and compact

With its 1.42 metre rotors and 10.70 metre working width (DIN), the HIT V 11100 combines excellent tedding quality with maximum output. While the HIT is inconspicuously small during transport, it unfolds to reveal stunning dimensions in the field. It also boasts an impressive array of technical refinements.

TOP 882 C: The new large centre-swath rake

Pöttinger has added the new TOP 882 C to their range of popular centre-swath rakes. The TOP 882 C demonstrates its full capabilities at a working width of 7.70 to 8.80 metres. The longer boom allows very flexible swath width adjustment between 1.30 and 2.60 metres. Flexibility that offers the advantage of wider swaths for forage harvesters and narrower swath widths for small loader wagons. Despite the impressive rotor diameter of 3.70 metres, the transport height without removing the tine arms is still below 4.00 metres.

New belt-type rake MERGENTO VT 9220

The new MERGENTO VT 9220 belt-type rake (with working widths of up to 9.20 metres for a central swath and 8.70 metres for a side swath) is designed for alfalfa, clover, and a wide variety of crops from permanent grassland to straw. MERGENTO collects the forage using the pick-up. Without



further contact with the ground, cross conveyor belts transport the forage to the swath.

The new JUMBO 8000 chops much shorter

With the new short chop system, the world market leader in loader wagons has taken another step further. The new JUMBO 8000 chops the forage almost 30% shorter: This means even higher forage quality without compromising on loading performance. Protected to a torque of 3,500 Nm, the loader wagon can now deliver higher throughput rates than a self-propelled forage harvester.

Contactless steered axles on the JUMBO

Agricultural machinery manufacturer Pöttinger underlines its world market leadership in loader wagons with innovative developments to its flagship, the JUMBO: Convenience and safety have a very high priority. The new contactless, electronic steered axles on the JUMBO loader wagon significantly improve operating and driving comfort as well as the reli-

ability of the steering system.

Developed together with ME MOBIL ELEKTRONIK GMBH, the system was launched on the JUMBO loader wagon first.

BOSS 3000 MASTER, the new benchmark

The BOSS 3000 MASTER complements the product range of loader wagons for smaller scale farm businesses and farms in the foothills of the Alps. The engineers have succeeded in reducing maintenance requirements to a minimum with a loading unit developed from the ground up, while at the same time significantly increasing throughput capacity. In addition, new smart options, previously only available on the larger wagons, are now also available for the BOSS. It is available in four sizes from 18.7 to 26.5 m³ (DIN). Two of them also with beater rotors. The BOSS 3000 MASTER series is available from 01 August 2022.

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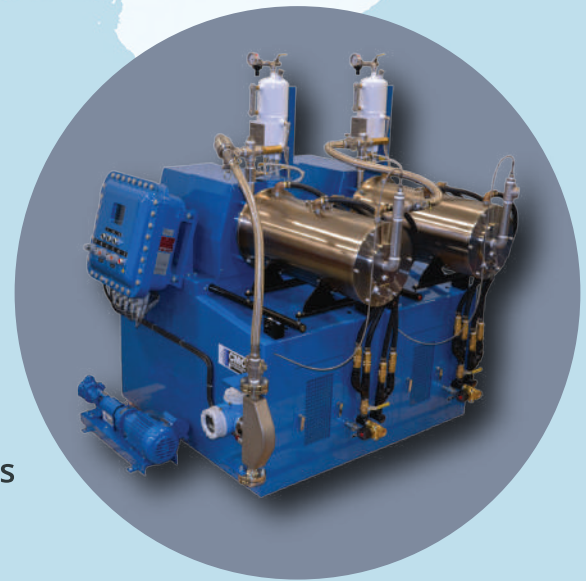


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Smallholder farmers still hold the key in Uganda



Prosper Maphosa is the General Manager of Amatheon Agri Uganda, a large scale farm with more than 12,000 acres of cultivable land in Nwoya District in northern Uganda.

Founded in 2013, Amatheon is one of the largest grain producers in the country. The company employs state-of-the-art farming technology. They own three branches in Zimbabwe, Zambia and Uganda with headquarters in Berlin, Germany.

The company is among the large scale farmers that have benefited from the emergency intervention by the government of Uganda towards bridging the gap of vegetable oil requirements in Uganda. They planted 1,700 hectares of soybean and 750ha of sunflower from the subsidised seed provided under the Naads programme.

The intervention aims at providing quality subsidised improved seeds of sunflower and soybean. The objective of the programme is to stimulate sustainable growth in the oilseed markets by encouraging small farmers to sell in bulk through cooperatives as well as increasing production with large scale farmers. The Shs9b project

has Naads distribute seed, expertise and extension services to agribusinesses and farmers at a cost-sharing model.

In the short term, Naads is facilitating procurement of 500MT of soybean seed 3N and 6N from seed companies. The seed, worth Shs3b, is estimated to plant about 20,000 acres with an estimated yield of 24,000 MT. For sunflower, Naads is supporting cooperatives and large scale farmers with 75 tonnes of seed to establish 37,000 acres expected to yield 37MT. This is expected to yield an equivalent of 14,800 MT of sunflower oil for domestic and industrial use.

Amatheon mainly produces maize, rice, soya, sunflower and sorghum. They also have chilli, chia, moringa and cashew nuts. "Our model is to produce," Maphosa notes during an interview.

"The moment you want to do everything, there will be losses along the chain," Maphosa says.

Necessity

But the question remains whether large scale farmers such as Amatheon need such incentives from government.

"Yes they do," Khadija Nakakande, the communications manager of Naads, affirms.

"They [large scale farmers] have the land, technology and capital. If you are looking to step up, you need large scale farmers," she argues citing Amatheon's ability to plant 250 acres of seed per day through mechanisation.

Uganda is a food basket in the region with cultivable soils and conducive climate. Most areas receive two rainfall seasons. The biggest bottleneck has always been production affected by poor quality seed, fertiliser and the unstable market.

To Maphosa, when production is at full capacity, there will be food everywhere for the community.

"It is the first of its kind for me in this region for the government to work with large scale farmers. They normally work with small and medium scale farmers. When the government starts to work with large scale farmers, it means large areas will be utilised," Maphosa says.

They key

Willy Okot, the General Manager of Aber Kamdini Area Cooperative, Lira District argues that small-

holder farmers need more of the push simply because they have the numbers.

The cooperative is among the 29 cooperatives in Acholi and Lango sub-region that received sunflower and soybean seed through the oilseed intervention.

"Naads and other development partners should continue giving us a push. Models that work for the smallholder farmers are welcome," Okot said.

Worldwide, there are an estimated 500 million smallholder farming households, a cohort of agriculturalists amounting to more than two billion people.

William Matovu, the Heifer Uganda Country Director believes ending poverty and hunger begins with smallholder farmers who are at the heart of agriculture. Matovu says that with the right knowledge, tools and inputs, farming families can earn what he calls a sustainable living income and supply their communities with food.

Approximately 7.4 million households operate agricultural land or rear livestock, according to the Annual Agricultural Survey 2018.

These farmers, contributing 80 percent, seldom use production inputs, pray for rains to come and water their crops and operate on a subsistence basis.

Smallholder farming systems often rely on household labour to meet production needs, and they typically retain a portion of their harvest for household consumption.

The key long-standing challenge of smallholder farming is low productivity and limited commercialisation that has frustrated the full utilization of the productive potential of agricultural innovations in the country.

Matovu says that tailoring interventions that meet the productive investment needs of smallholders can drive investment to the rural economy.

Quality seed is one key area where government needs interventions and subsidy.

"The cost of seeds is quite high if you look into the market systems. Soybean, for instance, ranges from Shs6,500-8,500. But with the Naads programme, the seed is at Shs6,000 but the farmer only pays 30 percent, which is about Shs1,800 per kilo. So, there is a lot of saving. It boosts the farmers to increase the capacity," Maphosa says.

Why smallholder matter?

Though the land smallholders work and the total quantity they produce may be dwarfed by their larger, industrial counterparts, their impact on the world is anything but minimal: According to recent research, farms smaller than five acres produce roughly 35 percent of the world's food, and smallholders provide up to 80 percent of the food supply in sub-Saharan Africa.

Timothy Njakasi, an organic farmer at Kasenge Riverford in Mukono District, says smallholders can be really productive.

A study examining smallholder agriculture in 57 developing countries, found that when sustainable agriculture was adopted, average crop yields increased by 79 percent. Also, sustainable systems were found more diversified, with yields often composed of more than a dozen crops and various animal products, generating higher yields per ha.

Higher yields mean increased household food security and higher household income, especially when money is saved through less fertiliser and pesticide use.

He maintains that well-managed smallholder systems invest in building soil biomass and soil vegetative cover, which improves

water filtration in case of floods and moisture retention in case of droughts. Through reduced fossil fuels dependency and energy requirements, as compared to large mechanised and inputs dependant farms, smallholder traditional practices also mitigate climate change through reduced emissions and enhanced soil carbon sequestration.

"By maintaining terraces, cover trees and constant feeding of the soil, consumers are provided with healthy food," Njakasi says.

The former extension worker adds that smallholder farmers need to be equipped with adequate knowledge and skills for value addition, adequate financial capacities to purchase, and use the right inputs which limit their ability to increase productivity and access the markets.

When smallholder farmers produce a higher quality and quantity of food, they can earn more income, better feed their families and provide more food for the local marketplace — reducing prices and improving diets.

When smallholder farmers organise — into cooperatives, associations, self-help and women's groups — they increase their access to markets, can participate more equitably in local value chains, and bolster their bargaining power to earn more for their products.





Gorilla tanks – make plastic water tanks anywhere

What if we could make plastic water tanks anywhere? What if we could produce them off-grid, without any infrastructure required? What if we could save 8,000% in transport costs?

And then – how do we make it easy and cost-effective to start tank production?

This is what Werner du Toit, CEO of Gorilla Tanks set out to do. Werner has been in the industry of water tanks for more 20 years and understands first-hand the challenges of producing quality products in African conditions. Werner is also CEO of Fenix Rising, a raw material supplier to the water tank industry, and CEO of Makulu Tanks, a water tank producer located in Cape Town. This has uniquely positioned him and his companies to challenge the status quo and deliver new solutions to the pressing needs of African water supply.

The solution provided by Gorilla Tanks is a turnkey system for making water



tanks – it encompasses the machines, the moulds, the raw materials and consumables along with training and 24/7 expertise via Whatsapp to keep production running smoothly.

As Werner says: "We wanted to make sure that our clients could get absolutely everything they needed from one supplier. We supply you with a full business-in-a-box so that you only have to worry about selling tanks – the production of quality products is fully taken care of."

Plastic water tanks have become the preferred solution for water-scarce areas in Sub-Saharan

Africa, but one obstacle remains – water tanks are essentially 99% air and incredibly expensive to transport. Especially in Africa, with its logistics challenges, some areas are completely underserved with regards to the availability of water tanks at a reasonable price. The solution provided by Gorilla Tanks aims to solve these problems and make it absolutely easy and cost-effective for anyone to start producing water tanks.

Gorilla Tanks is actively seeking companies and individuals with experience in the supply of water tanks to partner with. For the right partners,

“We wanted to make sure that our clients could get absolutely everything they needed from one supplier.”

there is also an innovative financing scheme whereby Gorilla Tanks will finance the purchase price of the machines based on sales offtake.

If you are interested in producing and selling plastic water tanks anywhere in Africa – get in contact with Gorilla Tanks. Werner shares his message for potential partners: "We are African. This is our home. Let's make a better life for our people."

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**GORILLA
TANKS**



Tanzania readies to tap its potential in agri-business

Tanzania has sought to promote investment in the country by creating an enabling business environment through strategic reforms in various strategic economic sectors, including agriculture.

Agriculture is the economic backbone of many developing countries. It contributes about 25 percent of GDP in low-income countries, and 80 percent of the extreme poor live in rural areas.

For better agricultural practices, African countries need to review their policy reforms to support agriculture in, among other areas, supplying of seed, registering fertiliser, securing water, registering machinery, sustaining livestock, protecting plant health, trading food, and accessing finance.

According to a World Bank survey, compared to other parts of the world, agriculture in sub-Saharan Africa faces the toughest regulatory challenges.

However, sub-Saharan African countries, including Tanzania, are striving to improve the business climate by undertaking reforms, and ensuring compliance with global economic requirements as recommended by international bodies.

Tanzania has made concerted efforts to promote investment by creating an enabling business environment through strategic reforms to ensure that regulatory hurdles are removed.

As reforms are ongoing in various countries, global agricultural production is expected to increase by 20 percent in the next decade as farming techniques become more efficient, according to the World Bank.

Mr Solomon Baregu, the Agri-Business Component Lead of the Business Enabling Environment Support (BEES) programme at the International Finance Corporation (IFC), notes that several challenges have been identified in the agriculture sector, including the process of importation and registration of different pesticides and agro-chemicals in Tanzania.

IFC, a member of the World Bank Group, is the largest global development institution focused on the private sector in developing countries, including Tanzania. It offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries.

Mr Baregu has been leading the policy and regulatory reforms in agri-business, which were identified in the government's Blueprint to Improve Business Environment in Tanzania through reduction of regulatory burdens and costs faced by businesses in complying with regulations.

The Blueprint therefore aims to unlock the challenging facing among business sectors, horticulture.

It also provides a guide to achieving the industrialisation dream of creating, in the shortest period possible, the required business-enabling environment where the government and the private sector work hand in hand in realising the dream.

That is why IFC and other development partners, including the Food and Agriculture Organisation (FAO) with the support of the European Union (EU), have been joining hands with the government to make sure that reforms are made for the sake of efficiency of the sector.

Mr Baregu reveals that since 2017, analyses of the national policy framework that governs the horticulture sector, including sector strategies, institutional frameworks and stakeholder mapping, have been conducted. The analyses, which were delivered to stakeholders on October 22-23, 2018, identified key areas of priority in addressing challenges facing the sector.

A comprehensive analysis of Tropical Pesticides Research Institute Act, 1979 and The Plant Protection Act, 1997 revealed the urgent need to streamline TPRI and the Plant Health Service unit in the Ministry of Agriculture in order to reduce duplication and costs borne by businesses.

In 2020, the government established the Tanzania Plant Health and Pesticides Authority (TPHPA), which replaced TPRI and PHS.

IFC in collaboration with other government authorities decided to review two bodies, the Tropical Pesticides Research Institute (TPRI) and Tanzania Plant Health and Pesticides Authority (TPHPA), which had duplicative roles as indicated in the Blueprint.

IFC, together with the Food and Agriculture Organization (FAO), has since then been supporting the government to put in place the instruments that will enable the authority to undertake day-to-day activities and regulate the sector.

Mr Baregu commends government efforts, particularly towards meeting the country's top agenda to increase horticulture export value to \$2 billion by 2030 (from the current annual income of \$779 million) through ongoing business reforms by creating more jobs, increasing productivity, and eventually commercialising the entire horticultural value chain.

He says that it has been a fruitful engagement with the government to make the reforms recommendation a reality, and once the regulations are endorsed, compliance costs borne by businesses in the agriculture value chain will be reduced by 15 percent.

Mr Mushobozi Baitani, who is FAO's Plant Protection and Integrated Pest Management Specialist, says that their involvement in this programme through the "Strengthening Plant Health Services in Tanzania for Enhanced Food Safety" project is aimed at improving the control, quality and safety of import and export produce.

The aim, according to him, is to ensure that whatever agricultural commodity coming into Tanzania is free from the contamination of pests and pesticide residues.

He says in their research before the reforms, they noticed that

Tanzania was denied market access of some produce like avocados in India, China and South Africa due to the so-called "quarantine pests", which affected the quality of fruits because pest control was not properly institutionalised in the country. Mr Baitani adds that at FAO, there is the International Plant Protection Convention (IPPC), whose treaty bars the exportation of any agricultural commodity that will end up bringing concerns in any member country.

And Tanzania, being among 163 member countries that are party to the IPPC treaty, could therefore no longer export agricultural products because of that reason, but the issue had already been resolved because of two reasons, market access and European Union (EU) auditing results.

As reforms are in process, the FAO officials believe that the sector will open more opportunities for Tanzanian horticulture to prosper.

Mr Baitani says Tanzania therefore needed a strong institutionalised system to work on pesticide issues. This is the reason TPHPA into being in addition to the reform of other regulations meant to improve the business environment.

After the reform of the Plant Protection Act, 1998 to the Plant Health Act, 2020, it was able to establish TPHPA and perform other improvements, including the introduction of pest surveillance system that tracks consignments, and this enabled Tanzania to retain its market access to China and other countries.

The systematic approach is now in place to send consignments that are 100 percent safe to the international market.

The easy procedure of registration for chemical or bio-pesticides has also been introduced to ensure smooth exportation of produce.

According to Mr Baitani, all the border posts will also be upgraded as mini labs are being rehabilitated and diagnosis equipment put in place.

Also, local laboratories have been accredited to check for pest residues right here in the country at affordable charges before produce (consignments) is sent to other countries.



Export, are therefore expected to increase steadily from 30 percent to 60 percent after the end of the Plant health project, he says.

Ms Farida Mfinanga of Twino Enterprises Limited, which sells agricultural inputs, says that the establishment of TPHPA opens up a new chapter in the exportation and management of pesticides in the country.

This, according to her, ensures quality assurance as farmers use proper ingredients to get the best produce because TPHPA conducts regular inspection of pesticides in stores and controls at borders.

"We no longer expect fake pesticides or those that are past their expiry dates," she says.

And this guarantees investors and exporters control of the horticultural value chain from the farm and all the way to the market.

Mr Shridhar Chaudhary, an exporter for Moonlight Tanzania Limited, says decided to come and invest in Tanzania's horticultural sector because of a conducive environment that resulted from ongoing reforms, among other factors. What he mostly

considers is that his produce reaches the European market fresh, thanks to the cold storage facilities he has invested in.

"I have been enjoying investing in Tanzania since I came here last year from Ghana where I invested in 3,000 hectares of maize for export."

Mr Chaudhary says working with TPHPA has been much easier for him, and through the user-friendly of Agriculture Trade Management Information System (ATMIS), his exportation process has been much easier whereby he can export 60 to 70 tonnes of horticultural produce every week, using between 12-14 days to reach the European market.

He says the Tanzania Horticulture Association (Taha) has connected him with hard working farmers who help him to produce, among other crops, Yard long beans, Chinese Bitten Melon and Habanero, for export to Europe.

He says should the reforms be fully implemented, Tanzania will be a much better place to invest in, and he will do business here for the rest of his life.

Equity eyes new farming methods to fight drought

Equity Group has announced plans to support the government to adopt new farming techniques that will ease drought effects across the country.

The initiative by the lender will see the communities embrace irrigation and climate-smart agriculture, set up infrastructure for abattoirs, and provide permanent water and pasture solutions among other initiatives in support of the government's effort to mitigate the impact of drought.

Equity chief operating officer, Samuel Kirubi, made the announcement in Mwingi North where he led in the distribution of food hampers to more than 2,000 households through the 'Wakenya Tulindane' National Steering Committee on drought response.

"Our short-term relief initiatives include the food distribution exercise which has commenced today with a similar exercise ongoing in Kilifi County," he said.

"We intend to reach out to the five priority areas before the week ends even as we draw long-term plans to alleviate the recurrent effects of drought in the country."

The National Steering Committee will extend mid-term and long-term drought relief efforts to 42 counties by complementing the national and county government's efforts to resolve water issues that have a direct impact on food security.

The move comes at a time drought and other severe climate conditions have greatly affected farmers, resulting in a poor harvest, crop failure, as well as loss of livestock and markets, further putting at least 4.3 million Kenyans in need of food aid.

According to National Drought Management Authority, the drought situation continues to deteriorate in 21 arid and semi-arid counties, attributed to the late onset and poorly distributed 2022 short rains.



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Let's treat agriculture as a business – Agriculturist suggests to government



A former Deputy Minister and Agribusiness Consultant, Abraham Dwuma Odoom, has advised the government to treat agriculture as a business.

Speaking in an interview on JoyNews, Newsfile on Saturday, the former Member of Parliament for Twifo Atti Morkwa Constituency, said that agriculture should not be treated merely as a development issue.

"We have to look at agriculture as a business, it should not be anything like development item

where we do politics with it," he said.

The former Deputy Minister of Local Government suggested that the National Development Planning Commission (NDPC) should be in charge of the country's agriculture to provide a fixed plan on how to manage it regardless of the government in power.

"I will wish we situated agriculture in NDPC where NDPC will have a plan for our agriculture. Where they would give political parties

that will come 4 years and 8 years what must be done," he said.

"For instance, if we don't want to import rice, we don't want to import anything, the NDPC will champion it through our political parties," he added.

He further stated that Ghana will be able to stop importation of many items if the government is able to take that decision.

"It is sad for the country to import everything, including toothpicks and poultry which can be produced in the country," Mr. Odoom bemoaned.



Abia LIFE-ND project distributes inputs to agri-business beneficiaries

Beneficiaries of the Livelihood Improvement Family Enterprises for Niger Delta (LIFE-ND) in Abia State have been advised to ensure proper book-keeping and documentation of their transactions for easy scrutiny by the project supervisors.

The State Project Coordinator, Dr. Uchenna Rowland Onyeizu, who gave the charge during the distribution of inputs to 72 out of the 650 beneficiaries, reminded them that the empowerment inputs were given in form of loans.

The beneficiaries were trained in different agric-enterprises – palm oil, cassava, rice and poultry processing. Those empowered are expected to commence business this season, while others would get theirs at the appropriate season.

The National Project Coordinator, Mr. Abiodun Sanni, represented by the Project Consultant, Dr. Emmanuel Ochalifu, urged the beneficiaries to avail themselves of the opportunities and ensure optimal use of the inputs.

While responding on behalf of the state Government, Mrs. Chinyere Nwogwugwu, from the Ministry of Women Affairs and Social Development, lauded Abia LIFE-ND for its contributions towards the initiative.

Items distributed during this first phase were – haulage trucks, rice-sealing machines, agro-chemical products, wheelbarrows, de-feathering machines, generating sets and rain boots amongst others.

LIFE-ND is a multi-million-naira project, funded by the International Fund for Agricultural Development (IFAD), in collaboration with the Federal Government, Niger Delta Development Commission and the state government but operates in six of the nine Niger Delta states presently.

Part of the LIFE-ND project target is to engage the youths meaningfully and promote food security among others.



Escorts Kubota tractor sales jumps 19% YoY in December



Escorts Kubota's Agri Machinery Segment sold 5,573 tractors in December 2022, registering a growth of 18.7% as compared with 4,695 tractors sold in December 2021.

On a sequential basis, tractor sales tumbled 30% in December 2022 from 7,960 units sold in November 2022.

Domestic tractor sales in December 2022 stood at 4,979 tractors, recording a growth of 22% as against 4,080 tractors sold in December 2021. Rural sentiments continue to remain favorable on account of good kharif procurement, rabi sowing and better water level in reservoirs, the company said.

Export tractor sales declined 3.4% to 594 units sold in December 2022 from 615 units sold in the same period a year ago.

On quarterly basis, the company's total tractor sales rose 10.7% to 28,025 units in Q3 FY23 from 25,325 units sold in Q3 FY22. Domestic tractor sales jumped 12.3% to 26,181 units while Export tractor sales declined by 8% to 1,844 units in the third quarter as compared to the corresponding quarter previous year.

Escorts Kubota's Construction Equipment Segment in December 2022 sold 423 machines as against 377 machines sold in December 2021, recording a growth of 12.2%.

We are witnessing improved demand across all three business segments, namely, Pick and carry cranes, earth moving and road construction segments, as the infrastructure projects are now moving at a fast pace. We expect this demand to continue for balance period of this fiscal

year, the company stated in the press release.

The company's Construction Equipment Segment sold 1,209 units in the quarter ended 31 December 2022 from 1,151 units sold during the same period in the previous year, registering a growth of 5%.

Escorts Kubota is an engineering conglomerate. The company has diversified business across three different verticals viz., agri machinery, construction equipment & railway equipment division.

The company recorded 50.4% fall in net profit to Rs 87.6 crore despite a 12.2% rise in revenue from operations to Rs 1,883.5 crore in Q2 FY23 over Q2 FY22.

Shares of Escorts Kubota were up 0.60% to Rs 2,151 on the BSE.



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Yumbe farmers to benefit from Shs7 billion irrigation project



At least 432 farmers in Yumbe District are set to benefit from micro-scale irrigation program with support from the government of Uganda through ministry of Agriculture, Animal Industry and Fisheries (MAAIF). The project is funded by International Intergovernmental Fiscal Transfer through ministry of Agriculture targeting individual farmers who will co-fund the technology.

About Shs7.7b is expected to support the farmers to purchase irrigation equipment targeting subsistence farmers who are willing to move into commercial agriculture.

Some of the criteria for selecting the farmer beneficiaries include, security of the land, suitability, a water source and distance to the field, farmer crop production and marketing plan, among others.

Speaking during the sensitisation meeting on the program at the district headquarters Stephen Bakole the Yumbe District Agriculture Officer says, this irrigation program is an opportunity for

“As the government, we are trying our best to bring opportunities through the various projects but some end up being failing. If we want this project to succeed, let the local governments come up with bylaws which will help to address the issues of stray animals and other negative activities that affect farming in the community,”

farmers to overcome the harsh weather conditions.

Mr Bakole says farmers will be supported in two forms of powered technology and water pump. For a generator, the farmer will be supported maximum of Shs5m and for solar, the farmers will be supported with a maximum of Shs7m per acre of land. The support can go up to Shs14m and Shs8m for the 2.5 acres of land for generator and solar power equipment, respectively.

“If one a farmer with 2.5acres wants to use solar, they will access Shs18m. So you pay 25 percent of Shs18m as co-funding which is approximately Shs4.5m. This money is for you so, you (the farmer) need to mobilise your share to acquire the Shs18m for the irrigation set,” he says.

In this project, he says, government targets high value crop farmers such as vegetables production like tomatoes, onions and cabbages but those with perennial crops such as coffee and banana can benefit.

Rasul Drajiga, the Assistant Chief Administrative Officer says natural conditions in form of harsh weather frustrates farmers a lot.

"Irrigation doesn't mean there must be a huge water body like R. Nile but any natural water source can work. Unless we change our mind, we would say the weather is bad and therefore do nothing and suffer from hunger," he says.

He adds that one of the conditions of this irrigation program is, having a stable water source.

"This irrigation means creating the systems by using the water source available to farmers".

Mr Eric Sitaku, the credit Administrator at Centenary Bank says the bank will support the farmers with agriculture loans to be able adopt the irrigation equipment.

"We are blessed with abundant land and for sure if we can make use of this, it will be good. Many farmers in the area used to come for Agriculture loans but I get surprised when I go for loan recovery, sometimes farmers claim that crops have failed so we want such farmers who get loans from us to give us information about crop failures so that we have trust in them," he says.



He says, before a farmer accesses a loan from the bank, they first need to assess their enterprise and previous experience.

Mr William Asio, the Assistant settlement commandant in the Office of the Prime Minister says local government leaders need to design a social behavior change

strategy so that it helps the community to understand the project.

"As the government, we are trying our best to bring opportunities through the various projects but some end up being failing. If we want this project to succeed, let the local governments come up with bylaws which will help to address the issues of stray animals and other negative activities that affect farming in the community," he said.

Mr Linus Kayiah, the district vice chairperson said, the project needs a collective responsibility for its success and that the stakeholders should mobilize the people to engage in production. "Once we embrace this project and our people can change their attitude, it would make us independent," he says.

Concept

Micro-scale irrigation is when a farmer irrigates a small plot. For example, a farmer can use a pump to take water from a nearby stream, and a hose to distribute the water in the plot. The Micro-scale Irrigation scheme helps farmers buy irrigation equipment at a lower cost, teach them how to use the irrigation equipment and when and how to water their crops.



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Water 2000 currently has three large retail irrigation outlets in the Limpopo Province, South Africa, where we offer our clients products from the best irrigation equipment manufacturers around the globe.

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Our core business is as follows:

- Fully stocked irrigation shops with qualified consultants
- Topographical survey
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We have a strong and experienced Management, Operational, Sales and Engineering team. Our irrigation designs are done by qualified and experienced inhouse civil and mechanical engineers with ECSA Professional Engineer accreditation and "SABI Approved Designer" status. Our people continue to stay conscious of new technology, methods and developments in irrigation and agriculture.

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We at Water 2000 have our roots in agriculture, hence we understand farmers' needs, dreams and hope for growth and prosperity. It is therefore important to us to do what we do, the right way. The products and advice that we offer are from outstanding value and the solutions are calculated and efficient.

We do not offer quick fixes for short term results but is rather focused on long term profitability. Every farmer's unique requirement is analysed to make the most of the farm's resources.

Our emphasis is not only the development of large new projects, but also assisting new farmers and maintaining and improving projects we have been part of for the past nearly 30 years.



Our Mission

Water 2000 strive to offer effective agricultural and irrigation solutions with the emphasis on long term profitability. By combining products and services of the highest standard with expert advice we want to equip farmers for success.

Our Vision

To be farmers preferred agricultural partner with solutions for every

growth stage of their farming endeavours.

Our Values:

Service: We strive to give excellent service to each one of our clients. We walk the extra mile.

Knowledge: We stay on top of new developments and is committed to be experts on all aspects of irrigation.

Future focused: Water 2000's designs and products are built to last. We are aware of the increasing pressure on our water and energy

resources and therefore provide solutions accordingly.

Respect: Respect for each other, our clients and the environment are important to us.

Honesty: Honesty and transparency is not negotiable.

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RainFine Just-Fine irrigation uPVC lined pipes protect your irrigation pipelines from any corrosive components in your water, ensuring a long life for your machine.

"Farmers drive everything we do at RainFine – and water quality issues continue to be an increasingly prevalent challenge for growers around the world. While several different options to handle corrosive water have existed in the market for years, farmers told us there was a real need to have a better solution," said Wang Zhi, director of global sales at RainFine. "We looked at this issue with a new approach and redesigned an entirely different solution about which we are extremely proud and, even more importantly, that our farmer clients are telling us is an absolute gamechanger for them."

Other poly pipe type offerings in the market rely on polyethylene pipes and flanges for structural integrity, but the poly flanges create a gap between the steel flanges at the joint and can compress and crack over time, resulting in leaks.

The new Just-Fine pipe features a manufactured insert uv-stabilised plastic flange that allows for positive flange contact and eliminates the potential for a gap between flanges at joints, resulting in improved strength and span consistency.

It is the same span joint design used for existing RainFine galvanized pipe, but with the added protection of the Just-Fine PVC liner through the span pipe to

provide an unmatched level of quality and rigidity.

To address the pipe expansion and contraction challenges that cause the liner to move within the pipe, potentially leading to cracks and leaks, RainFine introduced two additional new design innovations.

1. Rigid uPVC provides the solid base for the pipe, and does not expand or contract like the poly pipes do and will not crack after time at any deviation like at flanges or pipe ends;
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3. The pipe uses an insert type flange with double rubber seals which allow for any expansion and contraction in the pipes, it provides a perfect fit and seal, eliminating any leakage; and
4. 4he pipe sprinkler outlet uses a ¾" 304 stainless steel outlets fitting with ideal unrestricted flow characteristics; with a strong nut that will not break off over time as poly ones are inclined to do.

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Benefits

- Just-Fine pipe is a comprehensive protection against corrosion made from an inert PVC material, making it ideal for chemigation, fertigation and resisting corrosive water.
- No leaking – wide self-seating pipe flange, stainless steel self-locking sprinkler outlet couplers ensure a water-tight seal.

- Long lasting – the first machine with Just-Fine, installed in Australia is still operating with no leaks.
- All structural components – from pivot pipe to last pipe – are lined and uPVC protected.
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For more information about protecting your pipes with Just-Fine pipes, contact your local RainFine dealer today.



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Z\$77.3 bn set aside for irrigation and drinking water projects in Zimbabwe



A Z\$77.3 billion budget for irrigation and drinking water projects in 2023 has been approved by the Zimbabwean parliament. The budget would allow the Southern African country's government to finance the construction of several dams.

The primary objective is to alleviate the country of East Africa's chronic water shortage.

New infrastructure for irrigation and fisheries will be built using Z\$ 55.3 billion of the funding. When there is a drought, modern techniques will be employed to promote water conservation.

Twelve dam projects in Zimbabwe will receive the remaining Z\$22 billion in financing.

Where will the biggest chunk of funding meant for irrigation and drinking water projects be poured?

The Gwayi Shangani dam project, which is ongoing in the province of Matabeleland North, would receive the largest chunk of the financing. This will total Z\$ 6.2 billion. The dam is being built by the China International Water and Electric Corporation (CWE). The water will be channeled from the dam to Bulawayo.

It will also be followed by the Z\$2.8 billion Semwa Dam project in the Mashonaland Central Province, which will hold 260 million m3 of water. This is according to Mthuli Ncube, Zimbabwe's finance and economic development minister. A minimum of Z\$ 2.7 billion will also be invested in the pipeline project to transport raw water from the Gwayi-Shangani dam to the town of Bu-

lawayo. The dam is situated 260 kilometers away.

Additionally, Z\$1.7 billion will also be provided for the 33 million m3 Tuli Manyange Dam project in Matabeleland South in 2023.

Z\$1.1 billion will be allocated to the 650 million m3 Ziminyia Dam in Zimbabwe's Matabeleland North province. In Mashonaland East Province, the Muchekeranwa Dam (75 million m3) will receive Z\$600 million. Also, the Defe Dam will receive Z\$ 1 million.

Mashonaland Central province's Dande (160 million m3), Guruve, and Mbada dam projects will each receive Z\$600 million. The Bindura Dam, which will have a 100 million m3 storage capacity in Mashonaland Central, will also be constructed for Z\$ 400 million.

Turkana County To Invest Sh600mn In Mega Drip Irrigation Schemes



Turkana county government plans will invest at least Sh600 million on a new mega drip irrigation project to boost food security.

Governor Jeremiah Lomorukai said Sh600 million that was recently used to procure relief food could be invested in food production, making the devolved unit food sufficient.

He said that the irrigation project will be rolled out starting June 2023, helping cultivate huge tract of land.

"Food security is the second priority in my development agenda, we must be able to produce food whether there is rain or not. From next financial year, we will set aside funds to put into drip irrigation schemes to produce food so that we stop buying maize from Kitale," he said.

The Governor was speaking during the burial of Columbus Kamuran Acham, a former staff of the County Government.

He eulogised the late Acham as a generous man who loved helping members of the community and put his home area interest in the forefront. The Governor was accompanied by his spouse Lilian Ekamais.

He also called on senior county officials to use their positions to benefit the community and urged professionals from Lorugum to invest in the town in order to attract more investors and help the town grow.

The Governor informed residents about his recent meeting with President William Ruto, during which they discussed issues related to the region and thanked the president for the appointment of Principal Secretary for

Labour and skills development Geoffrey Kaituko.

The county boss emphasized the importance of unity among elected leaders, stating that "elections are over" and it is time for all leaders to work together.

PS Kaituko assured the Governor of his support to ensure the success of the County Government. He rallied youths from the region to enrol in the Lorugum Vocational Training Centre and take advantage of the facility to get key skills to develop the area.

Senior County Officials present included Chief Officers Janerose Tioko (Agriculture and Land Reclamation) and Peter Lomorukai (Preventive and Promotive Services), as well as Political Advisor Prof. Malachy Ekal.

Museveni rallies farmers to embrace mechanized agriculture

President Yoweri Museveni has rallied Ugandan farmers to embrace good farming practices and mechanized agriculture in order to increase productivity. The President made the plea while commissioning the agricultural mechanization equipment at Namalere National Agricultural Referral Mechanization Centre on Thursday.

At the event, Museveni handed over 150 tractors to farmer groups across the country and 100 motorcycles to agricultural inspectors. "When you hear and see on the radio and TV that there's a war in Ukraine and that Africans are going to die of hunger, then you ask yourself what sort of people are these? Africa is 12 times the size of India. The population of the whole of Africa is now approaching that of India but with a land area of 12 times. So, you ask yourself, what is wrong with these people and these people have got leaders? This was my problem in the 1960s, I disagreed with the leaders at that time, and that is why they were calling me a communist because I couldn't be part of this laziness," Museveni said.

"I'm glad to see that finally, some Africans are waking up. This is the whole thing, agriculture is science and is a science which was discovered by the ancient people almost 10,000 years ago when people learnt to get seeds from the bush and plant them at home because in the past, they didn't know that. And I think that's how the Banyankore learnt how to domesticate cows instead of going to hunt them from the bush. But from that time, many Africans have just been there, agriculture of 10,000 years ago. They have not moved beyond that," Museveni said, adding that since the government is at the forefront of transforming agriculture through mechanization, Ugandans should use the chance to embrace the initiative and improve agricultural productivity.

"You must be hearing that Banyankore are banana growers, if you fly over to some of those places like Bushenyi, Isingiro, and Rwampara there are so

many acres of bananas but you ask them how much are you producing per hectare, the Munyankore who is doing well will tell you that I'm producing 5.3 tonnes per hectare but our sister Dr. Florence Muranga (Executive Director of the Presidential Initiative on Banana Industrial Development) who produces bananas using science will tell you that she produces 53 tonnes per hectare," Museveni disclosed.

"I'm glad that there's some small waking up, that's why I'm here. Now we have the tractors. Tractors are quicker, what takes a week time, is done in one hour, so what we are gaining there is speed. Four people spend a week on one acre is disguised unemployment. Tractors also help us to ease penetration through softening the soil, gives you timely planting and pumping water for irrigation," he added.

The President also called upon farmers to adopt good agricultural practices if they are to benefit more from farming. "We must all wake up. We must also plow in a proper way what we call good agri-practices. For instance, having trenches along the contours that can capture the water and keep it there. Having spacing, using fertilizers, and irrigation is what Dr. Muranga is doing. That is why she has gone from the Banyankore's 5.3 tonnes to 53 tonnes. Uganda now is one of the biggest producers of bananas in the whole world. I think it's second to India even when we are using primitive technology. You can imagine if we follow Dr. Muranga, where shall we put these bananas?" Museveni wondered.

The President also commended the Ministry of Agriculture, Animal Industry and Fisheries for taking a wise decision of assembling the tractors in Uganda, a move that he said saved the country over 40 percent of the total cost.

"Commissioning this machinery is one aspect of the whole effort of modernization of agriculture. What is important also is that they are not just importing tractors already built, they are assembling them here. They import them

knock down, and they come and assemble them here thus saving 40 percent of the total cost of a tractor. Previously they were importing already built tractors that used to take up a lot of space on the ship but because of that simple spectacle of seeing far, the Ministry of Agriculture managed to save on the cost," he said.

For his part, the Minister of Agriculture, Animal Industry and Fisheries, Frank Tumwebaze revealed that currently, Uganda has 4782 units of tractors both private and government-supplied and out of that number, about 25 percent of the tractors are in a functional state.

He added that currently, the Department of Agricultural Infrastructural Mechanization and Water for agricultural production has managed to complete, set up and operationalize five mechanization centers in Mbale, Bungokho, Dokolo, Kiryandongo and Buwama with Namalere as the referral for all.

"More 14 are to be set up in the subsequent financial years of a five-year period in the respective zones of the country. Our strategy as the Ministry is to guide the farmers correctly on the better methods of farming depending on their land holding capacity," Tumwebaze said.

The Permanent Secretary, Ministry of Agriculture, Maj Gen. David Kasura Kyomukama also lauded the President for his continued guidance in promoting the development and commercialization of the agricultural sector as a pillar for middle-income achievement for all the 68 percent of smallholder farmers in Uganda.

"Our vision is to have a competitive, profitable, and sustainable agricultural sector and our mission is to commercialize agriculture. To achieve this, we intend to transform this agricultural system through promotion and adoption of appropriate and affordable mechanization technology shifting from traditional rainfed to irrigated agriculture," Kasura said.

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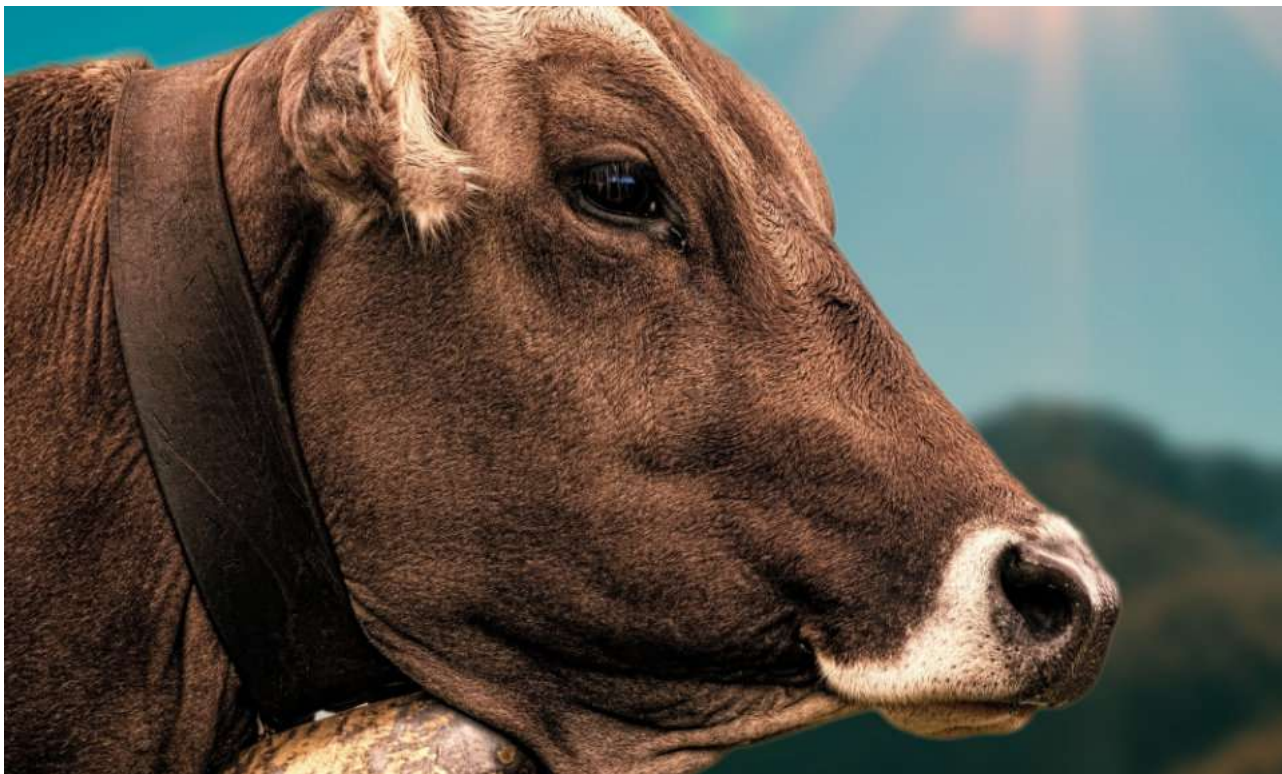
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Botswana resumes beef exports to the EU



Botswana has resumed beef exports to the European Union two months after suspending sales because of an outbreak of foot and mouth disease.

In August, Botswana suspended all live cattle and beef exports following an outbreak of foot and mouth in the northeast of the southern African country.

The ban was partially lifted in September, allowing exports from areas declared free of the disease, but sales to Europe, which has tougher import restrictions, remained suspended with government officials saying negotiations with the bloc were under way.

"Farmers and stakeholders are informed that exports of beef to the EU have resumed and are reminded of the usual requirements to be followed," a statement from Kefentse Motshagwa, the agriculture ministry's acting director of veterinary services, read.



Only cattle from seven of the country's 19 designated disease control zones will be allowed, and the animals will have to be placed in cattle holdings approved for EU exports for a period of 40 days before slaughter.

Along with South Africa and Namibia, Botswana is one of the biggest beef exporters to the EU, where it enjoys duty- and quota-free access.

Botswana also exports beef and live cattle to Zambia, Zimbabwe, Namibia and South Africa.

NDMA Distributes Animal Feeds To Drought-Hit Areas

The government through the National Drought Management Authority (NDMA) and the European Union has stepped up drought mitigation measures to cater for the livestock in the drought hit areas through provision of animal pellets.

Garissa County has received a total of 5,600 50kg -bags of pellets, which will be distributed in 5 most affected sub counties to 2,800 households and is expected to supplement at least 14,500 livestock.

Speaking during the flagging off of the animal feeds in Garissa, NDMA CEO Col (Rtd) Hared Adan said that the government has reviewed the drought coordination process to bring up synergy and avoid duplication of services by the actors.

The coordination will now be done through the county steering group, which is co-chaired by the governors and county commissioners, bringing together all relevant government institutions, NGOs and donors.

"In order to assess the impact of the response, the county steering committees has created monitoring teams, which will be visiting the areas where mitigation measures are undertaken so that we know the progress," Adan said.

"The government has up-scaled the drought mitigations by providing the animal pellets for the weak livestock that have been left behind as others were taken to other areas to look for pasture and water. Last week, the government released food relief to all the affected counties and we are also looking at the health and nutrition sectors," he added.

Garissa County Commissioner Boaz Cherutich said that at

least 332,000 people in Garissa are already affected by drought and that the number is likely to rise to over 400,000 if the rainy season is delayed.

Cherutich however said that the government is doing the livestock offtake programme in the county through the Kenya Meat Commission by buying local livestock to feed the residents.

"Already the KMC and the Kenya Red cross have bought 891 cows at a price of Sh15,000 each and Sh10,065 goats at Sh3,000 each. A total of Sh43 million was used on the programme to help the farmers to pay school fees for the children and afford their daily upkeep," Cherutich said.

"We are also targeting over 25,000 livestock for another offtake phase with the same prices so that households can have money to help themselves. We are calling on the farmers to come forward and register with the NDMA," he added.

The County Commissioner assured the residents that the government through the steering committee will continue with water tracking, repair broken boreholes and drill at least 10 new boreholes in most affected areas.

He noted that plans are also underway to reach the children who have dropped out of school due to drought and appealed to all NGOs and donors in the county to prioritize the school feeding program so that children can be cushioned.

"We are highly appealing to our business people and the private sector who have been touched by the sorry state of our people to extend their generosity towards this course either in form of water trucks, foodstuffs and cash, we will appreciate anything that can alleviate this situation," Cherutich said.



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- Live Attenuated Bacterial Vaccines (CCPP, Brucellosis)
- Inactivated Bacterial Vaccines (Mastitis, *Mycoplasma agalactiae*, Pasteurellosis, CCPP, *E. coli*)
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Why goat meat could be next 'gold' for Tanzania

Goat meat is rapidly becoming a key export item for Tanzania, thanks to its popularity in the Arab world. Tanzania's meat exports have been growing steadily in the past few months, driven mostly by imports of goat meat, also known as chevon, in Qatar, the United Arab Emirates, Bahrain, Oman and Kuwait, among other gulf states.

Although in monetary terms, the value of Tanzania's meat exports remains low, the fact that there has been a steady rise in recent months suggests that if all the relevant factors are further streamlined, the country could get much more from meat – specifically chevon – exports.

Latest data shows that Tanzania's meat exports rose by 25 percent in September 2022 due to a rise in demand in foreign countries. Data from the Tanzania Meat Board (TMB) shows that the country's meat exports reached \$3.833 million in September 2022.

This was a massive leap from exports worth \$3.048 million in August 2022.

Official data from the Ministry of Livestock and Fisheries Development shows that the total number of cattle in Tanzania stood at 35.3 million as of May 2022. The country was also home to a total of 25.6 million goats during the same period.

Similarly, the sheep population stood at 8.8 million by the end May 2022, while the number of chickens stood at 92.8 million. TMB registrar Daniel Mushi told The Citizen that goat meat accounts for the lion's share of the country's meat exports.

For instance, out of the \$3.833 million in meat export earnings in September, goat meat accounted for \$2.685 million, up from \$2.126 million in August. Mutton brought in \$967,580, beef earned the country \$164,725, while \$6,069.88 and \$9,908.09 came from poultry and pork, respectively, in September.

Dr Mushi said that in order to protect the meat market, TMB plans to hold a meeting with the relevant stakeholders to set strategies that aimed at increasing the efficiency of meat traders and breeders.

"We plan to go around Shinyanga, Mwanza, Morogoro and other regions that have livestock in abundance to provide training to breeders to be mindful of breeding principles, and to set strategies to ensure that production continues to increase to protect the meat market both inside and outside the country."

If breeders follow the rules of breeding, they will see the benefits because livestock will be healthy, and will not die unnecessarily or be stunted, which reduces the quality of meat. "Goat meat is soft and has a special taste that many people like. You can prepare it in different ways. Its taste is different from beef, goat, chicken, or mutton," said Dr Mushi, adding that it is also easy to prepare goat meat.

"You can easily prepare it even at the family level. Besides, many people like to prepare it for religious ceremonies." Qatar, the United Arab Emirates, Bahrain, Oman and Kuwait are the major markets for meat from Tanzania.

According to Dr Mushi, the num-

ber of countries interested in importing meat from Tanzania has been on the rise due to improvement in quality.

"In recent years, the meat market has been expanding because of the quality of the meat being exported. Previously, breeders could not observe the rules of breeding such as feed, water, treatment and prevention of diseases as well as keeping livestock in a clean condition," he said.

The value of the global meat industry was estimated at \$897 billion in 2021, and was forecast to increase to \$1.354 trillion by 2027.

Chinese market

Having seen that meat exports could actually become a force to reckon with in Tanzania's export products, the government is working with various companies in an effort to find more markets for the country's meat products.

One of the companies is Tan Choice Limited, whose business operations manager, Dr Sero Luwongo, said yesterday that in co-operation with the government, they are in talks with China to see how they can cooperate in the meat business.



The company – which operates under the Exports Processing Zones Authority (EPZA) – owns modern slaughterhouses to process goat and sheep meat at Soga in Kibaha District, Coast Region.

"We have written a letter asking for a permit to export our products to China. We are continuing to make a follow up on the permit, but we have not yet received a direct response. However, we have reached a good stage, and we hope we will succeed," said Dr Luwongo.

He called upon the government to protect markets by enacting laws and regulations that do not change regularly in order to help businesspeople.

He said there are some companies that produce reproductive bulls, expressing that such companies need to be protected to increase reproduction, which should be for two years instead of five.

The government has ordered a cargo plane in order to reduce transport costs and compete in the market.

A stakeholder in meat exports, Mr Ffran Mitha, suggested that the main thing is to look at how to protect existing markets, improve services, become honest and maintain integrity.

He was of the view that there was no need of finding new markets because the available markets have not been covered.

It was suggested that to improve the available markets there must be the availability of livestock raw materials that will increase the quality of livestock and increase the quality of meat in the available markets.

"We only have only ten places, where we export meat, so we need to do our best by producing quality products," said Mr Mitha.



Poultry farmers call for stakeholder engagement to save industry from collapse



The chairman of the Ashanti Regional Poultry Farmers Association, Boris Baidoo, has called for a national stakeholder engagement to find solutions to save the poultry industry from collapsing.

He said a road map for mitigating the bottlenecks facing the industry had to be discussed extensively by stakeholders in order for them to appreciate and comprehend the existing challenges.

He made the call during a Fund Summit jointly organised by Fidelity Bank and eco.business for poultry farmers in Sunyani.

The summit was held on the theme: "The future of poultry production: Economical and sustainable solutions to the sector's current challenges".

Summit

The two-day summit brought together about 100 poultry industry players from the Ashanti, Ahafo, Bono, Bono East, North East, Upper West, Upper East and Savannah regions.

The participants included farmers, experts in animal husbandry, insurance companies and agricultural products exporters, among others.

The participants brainstormed on sustainable solutions to the challenges currently facing the local poultry sector in order to sustain the industry.

Lack of favourable policies

Addressing the participants, Dr Baidoo, who is also the Managing Director of Boris B's Group of Companies, said the industry lacked favourable policies to drive its agenda of restricting the influx of frozen chicken.

He said despite the implementation of several government interventions, the agenda had not been achieved, making it difficult for the industry to realise its full potential.

Dr Baidoo expressed the need for the enactment of favourable policies to improve crop and live-stock sectors, saying, "Ghana has no excuse for not producing enough maize and soya, which form an integral part of our feed formulations, considering the availability of vast arable lands".

Cost of raw material

He said it was sad to note that the poultry industry had been hit with scarcity and high cost of raw materials, because of the current global recession, leading to a

drastic decline in the operation of the poultry sector.

Dr Baidoo said the poultry industry was not spared by the COVID-19 pandemic, which exposed the vulnerability of the sector in particular and Ghanaian industries at large.

He stated, however, that irrespective of the challenges, poultry farmers could not live in denial of the many potentials in the areas of job creation through the poultry value chain, revenue generation, health and helping to alleviate rural poverty.

Importation

Dr Baidoo said currently about 90 per cent of chicken consumption in the country was imported.

He said due to the absence of ready market for the broiler meat, most poultry farmers had turned to table egg production, as an alternative to keep their farms operational.

Dr Baidoo said the industry used to be very vibrant in the 1980s, meeting the protein needs of the country to the extent of exporting some of its produce to the neighbouring countries.

The Chairperson of the Board of Directors of the eco.business Fund, Jens Mackensen, said the support of the eco.business Fund went beyond access to finance.

He explained that the summit, co-hosted with Fidelity, demonstrated their commitment to support farmers and industry stakeholders in the country by equipping producers with the skills they needed to withstand potential threats to their businesses and adapt to the challenging global environment and climate change.

Tanzania: High Number of Poultry Farmers Lead to Sharp Price Fall



TANZANIA Meat Board (TMB) has said the increase in poultry farmers is the major reason for the increase in supply of birds in the market that resulted in the huge drop in prices.

TMB Registrar, Dr Daniel Mushi said in Dar es Salaam yesterday that the information gathered from stakeholders in the poultry industry has uncovered that poultry meat imports are not the reason for the price decline in the market.

"The huge number of poultry farmers targeting the year-end festive season is behind the sharp rise in the supply of the birds in the market and fall of price," he said.

The registrar noted that experience shows most poultry farmers target huge demand in the year-end festive season, but this time around the season has not been in favour of the farmers due to a sharp drop in prices contributed by the increased supply of birds in the market.

He talked of the need for attracting investments in modern abattoirs, equipped with cold rooms for conservation of poultry meat, particularly when the price is low due to increased supply.

"For sustainable growth of the poultry industry, there is a need

for making a substantial investment in the modern abattoirs and cold rooms for the conservation of the meat when the market price is low," he added.

Lack of cold rooms is forcing poultry farmers to sell their birds at a low price to avoid incurring losses particularly when it is already time for harvesting.

He said TMB visited various places where chicken meat is sold between December 14th and 15th this year including supermarkets, hotels, meat shops and farmers in Arusha, Dar es Salaam, Mbeya and Mwanza.

The TMB tour was aimed at inspecting the availability of poultry meat, imported meat and the average farmer's price as well as market price.

In this survey, the TMB found no imported chicken meat in the market. The poultry farmers' price was between 5,800/- to 8,000/- per bird.

The price of birds in Dar es Salaam where there is a huge number of farmers was about 5,800/- which is slightly low compared to other parts of the country like Arusha and Mbeya.

According to Chicken Development Roadmap 2017/18-2021/22,

by the year 2022, the chicken industry is to a large extent efficient and commercially-run, both in commercial and household operations, using improved and highly productive breeds to ensure household food security and higher incomes, and significantly contributes to achieving national all-meat food security, and higher national income while being resilient to climate change and conserving the environment.

The overall target was to raise annual chicken meat production almost eightfold from about 60,800 to 465,600 tonnes and egg production from about 3.0 to 4.2 billion by the year 2021/22 through improved traditional family chicken (ITFC), tropical improved chicken (TIC) and expanded specialized/commercial chicken (SCC) with layers and broilers subsystems.

The chicken investment is mainly to raise a large number of broilers and improve family chicken to produce enough to offset the chicken meat and consumption gaps.

Furthermore, it is expected that the increase in chicken meat will also contribute to closing the meat production and consumption gap.

Vaccination failure due to mycotoxins?

Author: Dr. Marlene Luttmann, MIAVIT GmbH

Bacterial resistance to antibiotics has increased so strongly that measures to combat the phenomenon have become urgently necessary. One effective option is to use vaccines for our farm animals. But why do breakthrough cases occur again and again in this context?

If typical disease symptoms occur in a livestock population despite vaccination, everyone initially thinks of a vaccination failure. It is possible that the virus has mutated so much that the vaccine previously used is no longer effective. It is also conceivable that the vaccine was stored in too warm conditions, too low a dose was administered or the chosen vaccination intervals were too long. However, very few suspect that mycotoxins in the feed could be the reason for the problems. Yet these can permanently damage the function of the immune system, which has a strong influence on the formation of antibodies.

Agricultural production today involves high-performance animals that are required to grow and produce as quickly and as much as possible. The partially sterile environment delays the development of their immune system. Furthermore, young animals are more sensitive to changes in their environment. Even low mycotoxin concentrations can lead to changes in the intestinal flora. Mycotoxins such as deoxynivalenol (DON) particularly affect the health of the gastro-intestinal tract. Even a low concentration quickly leads to an inflammatory reaction in the mucosa. This inflammation increases leaky gut syndrome, thus facilitating the penetration of pathogens and their toxins, e.g. endotoxins, into the bloodstream. The preceding damage to the intestinal barrier caused by the mycotoxins then makes it easier for the endotoxins to infiltrate into the blood circulation. The result is fever, pain, increased heart rate, blood clots in

the capillaries and weakening of the immune system.

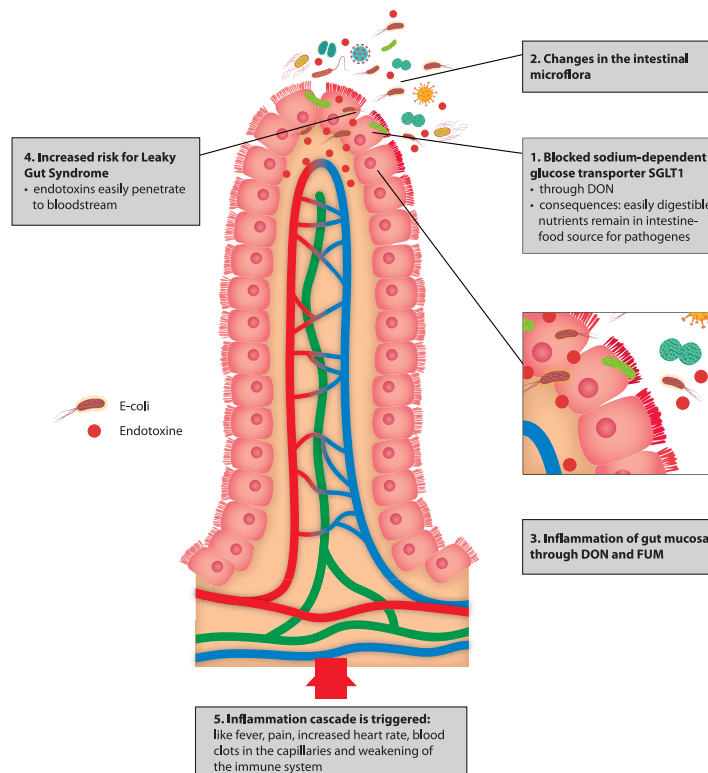
In addition, the mycotoxin DON reduces the intestinal absorption of nutrients. Blocking important nutrient transporter causes easily digestible nutrients to remain in the intestine. This can lead to an imbalance in the microflora composition which, in turn, weakens the immune system and intestinal health.

Put simply, the immune system is permanently damaged and overloaded by exposure to mycotoxins (especially DON), reducing the desired antibody formation after a vaccination. The vaccination protection is incomplete and breakthrough cases occur.

To lower production costs, the gastrointestinal tract and immune system should be considered holistically during each stage of the animal's life, and supported prophylactically in a variety of ways. Therefore, feed should be analysed for my-

cotoxin content, and preventive protective products should be used accordingly. But the fact has to be taken into account that additives are not medicines; accordingly, they should be considered as preventative support and not as a substance for treating sick animals.. It should be noted at this juncture that, according to scientific studies, clay mineral and yeast cell wall binders have not been positively proven effective in animals against trichothecenes such as DON. However, in the case of mycotoxin binders, attention should be paid to their quality and independently scientifically proven effectiveness. Generally, the routine use of EU-authorized mycotoxin-deactivating products such as MiaBond 360 is recommended to avoid vaccination breakthrough, prevent sub-clinical stress, support full nutrient uptake, and prevent an imbalance in the composition of the microbiota.

Vaccination failure due to Deoxynivalenol (DON)





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Positive outlook for poultry in Sub-Saharan Africa



Most countries in both East and West Africa are dealing with rising feed cost challenges that have caused drastic drops in profit margins in the past few months. Addressing this pressing issue, attendees at Poultry Africa could learn practical solutions showing them how to implement nutritional strategies to reduce feed costs along with best practices on poultry feed cost management. Besides challenges, the African economy offers huge opportunities with its GDP growing above global average.

The poultry broiler and layer industry of sub-Saharan Africa converged at the third edition of Poultry Africa in Rwanda for a stimulating business gathering with global suppliers and international speakers in the feed to food poultry supply chain. Nearly 1,600 professional delegates from 53 countries visited the 123 exhibiting companies to help promote a prosperous future in poultry.

Officially opening the event, the Honorable Minister of Agriculture and Animal Resources, Dr Geradine Mukeshimana said, "Rwanda's poultry industry is transforming from subsistence farming to more knowledge-in-



tensive and market-oriented poultry farming."

According to the Minister, poultry is one of the avenues by which to contribute to Rwanda's national food and nutrition security, in-

come generation and job creation. She stated that her department fully supports further development of the sector with subsidies, on the one hand, and tax cuts on feed additive imports, on the other.

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Innova for start-up poultry processors

"Software is not a big monster"

Entrepreneurs in emerging markets who start processing poultry at capacities from 500 to 4,000 bph shouldn't be afraid of including software in their plant design. Software is not the 'big monster' that swallows all processes and takes over the control of the entire plant. On the contrary, implementing a first small Innova Food Processing Software module is relatively easy and causes no hassle at all. The most common, simple starting point for such processors is live bird weighing. After that, the software component in the factory can be expanded little by little.

The thought of having to deal with software in a start-up processing plant often scares people. It feels like a mountain to be overcome, although this anxiety lacks factual foundation. Processing software is nothing more than a natural part of the process, only there to support and ease the life of the processor. There's nothing secret or mysterious about it. Innova doesn't influence the process whatsoever, all that it does is registering the production, providing accurate and reliable facts and figures and replacing pen and paper.

Step 1 - Live bird weighing

The simple starting point for software integration in a start-up processing plant is to weigh live birds at reception, supported by the Innova Packing module. You can put the flock in crates on the floor scale and after that weigh the empty crates. Now it becomes clear what is the total weight of the incoming flock. This live bird weight may be interesting to compare with the data of the supplying farmers. In this way, it may play a role in the payment of the suppliers.

Step 2 - In - out weighing

This is a relatively simple expansion of step 1. In addition to weighing the live birds coming in, you're weighing the finished products - whole birds - going out, on packing scales. By keeping the flock together during the process, you know which flock has been weighed before and which one you'll have to weigh at the end. It's kind of a simplified flock con-



trol. Innova gives you a "total weight-in" for the flock and a "total weight-out".

Now, with everything that happened in between, you're able to compare the flock weights from the start to those from the very end of the process. Instead of taking down all weights on paper and comparing them manually, the Innova Packing module automatically connects the two weighing moments. By comparing what you've got in and what you've had out, Innova calculates your yield. It's just about whole birds so it's quite a simple process.

Step 3 - Adding a grader

When a grader comes into the processing line after whole bird dressing, it can be connected to Innova Packing & Labeling. This grading process now gives you the outgoing weight instead of the packing scales. And then you've got an accurate weight of what you've sent out.

The Innova Packing & Labeling module also allows you to manage other operations on the packing scales such as labeling. In this way, the appropriate labels are on your products for traceability purposes.

Step 4 - Innova PDS for bird counting

After having weighed the flock at reception, you may want to count individual birds in the line. If

so, Innova PDS has the right counters to do such accurate counting. Bird counting is a sort of common metric that everyone likes to see on the computer screen. It shows the throughput, how many birds per hour you're doing. This is a number everybody understands, obviously a different metric than a live bird flock weight.

Step 5 - Inventory and dispatch

If you want to move on to the next step, then you need Innova Inventory and Final Goods Manager, that cover you for inventory and dispatch. If you put your finished products into Inventory, you can dispatch them to the customers. Instead of manual paperwork, Innova takes over the customer dispatch. You enter the customer orders in the program and then, guided by Innova, you pick the products to that customer order, palletize them, load them on the truck and then dispatch them.

If any further software upgrades are required beyond these steps, Marel can support you with well-balanced expansions. The Innova portfolio holds an elaborate program of modules to intensify control and management functions. Innova PDS, for example, offers many more possibilities than just bird counting.

Automated broiler processing solutions

For poultry processors who are looking for ways to add value to their operations, Marel can assist in finding customized solutions.

- For all process steps in new plants or expansion projects
- For capacities of 500 bph and up
- Semi- to fully automated systems
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