

Far Eastern Agriculture

VOLUME 40 SUMMER EDITION 2022

Producing prime cane

Livestock:

Importance of feed in farms

Poultry:

Vaccinations and quality
application systems

Equipment:

Drones spraying the farms



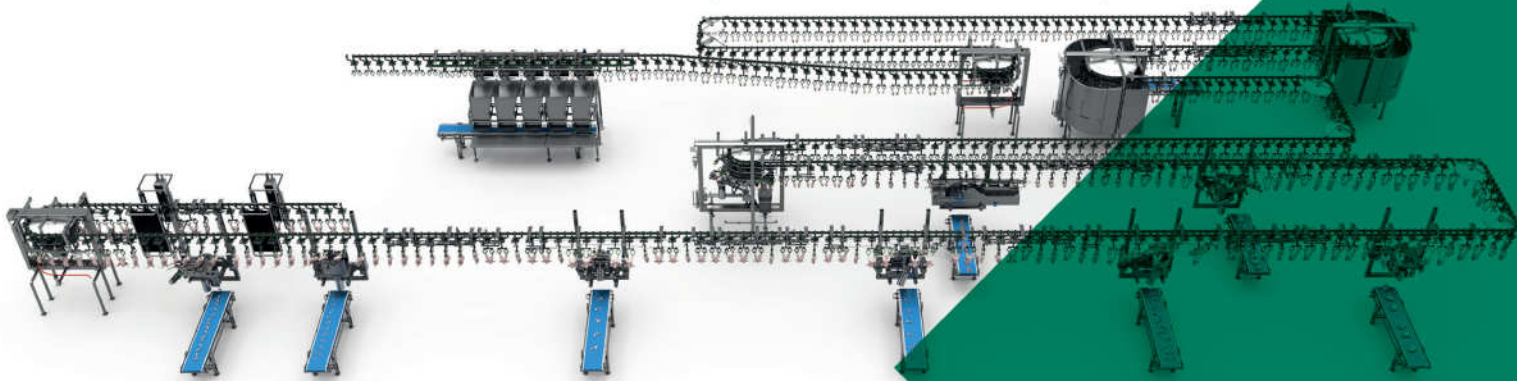
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Agricultural
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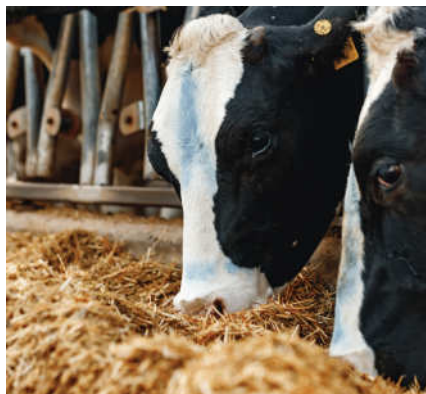
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EVENTS 2022

SEPTEMBER

7-9

Victam Asia

Bangkok, Thailand

www.victamasias.com

7-9

VIV Health & Nutrition Asia

Bangkok, Thailand

www.vivahealthandnutrition.nl

14-16

Seafood Expo Asia

Singapore

www.seafoodexpo.com/asia/

15-17

International Seed Trade Show

China

en.seedtradeshow.com

29-1

Taiwan Smart Agriweek

Taiwan

www.taiwanagriweek.com

OCTOBER

19-21

Inagritech 2022

Jakarta, Indonesia

<https://inagritech-exhibition.net/>

26-28

Agri-Food Tech Expo Asia 2022

Singapore

www.agrifoodtechexpo.com

NOVEMBER

15-18

Eurotier Trade Fair 2022

Hanover

www.eurotier.com

Seafood Expo Asia to take place in Singapore



Seafood Expo Asia brings the seafood industry back together in Singapore.

Image Credit: Adobe Stock

THE TENTH EDITION of Seafood Expo Asia is taking place in Singapore from 14-16 September, 2022 at Suntec Singapore Convention & Exhibition Centre. "After three years of doing business online, buyers from across Asia are ready for the face-to-face networking, product sampling and meeting opportunities that only in-person events can provide," said Iris Kwan, event director, Diversified Communications.

Industry professionals attending the Expo will be able to find the latest seafood products, equipment and services from over 200 exhibiting companies representing more than 38 countries. "There is strong interest from worldwide suppliers to enter or expand their business in the Asian market," added Kwan. During the three-

day event, international suppliers of fresh, chilled, frozen, canned and value-added seafood products will showcase their offerings to buyers from across Asia, including supermarkets, restaurants, hotels, catering services, and other retail and foodservice companies. In addition, companies with equipment and services will feature solutions for the seafood industry value chain.

The event brings back its business matchmaking programme, which matches exhibiting seafood suppliers with high-volume seafood buyers and importers. Moreover, the event will host informative conference sessions led by industry experts, providing insights on the latest seafood market trends including sustainability, traceability, innovation and more.

Harvest III project announced

DURING THESE CRITICAL times when the food insecurity crisis has been threatening Southeast Asia, secretary of state Antony J. Blinken, announced a new USAID-led Feed the Future project called "Harvest III" which aims to support Cambodia's economic growth and food security through private sector engagement by creating better jobs, diversifying diets, and improving the well-being of Cambodians, especially women, youth, and marginalized populations.

Harvest III is a five-year, up to US\$25mn project that promotes inclusive, sustainable economic growth by modernizing and diversifying Cambodia's agriculture sector, helping farmers improve how they grow and market their produce, and connecting them with new buyers and international markets previously inaccessible to rural communities. It will also help families build resilience during climate threats and the current global food, fertiliser, and fuel crisis.

Chia Tai launches FarmInno for smart agriculture



Image Credit: Adobe Stock

Chia Tai launches 'FarmInno (Thailand)' brand offering solutions aimed at smart agriculture

CHIA TAI COMPANY Limited has launched a new business for agricultural solutions under 'FarmInno (Thailand)' brand, paving its way towards becoming a leading agricultural solution provider, while partnering with major agricultural technology companies to present a wide variety of innovations, including drones for smart farming, smart greenhouses, and more.

It includes the development of an all-in-one knowledge and agricultural community platform, with experts recommending cultivation information, products, and agricultural services.

Manas Chiaravanond, CEO, Chia Tai Company Limited, said, "At Chia Tai, we aspire to contribute to the transformation of Thailand's agricultural industry, to add to farmers' ability to grow more efficiently, and more notably, to instil a great sense of pride in the farmer's profession while also advocating for safe, high-quality produce and improving the quality of life for both farmers and consumers in accordance with our strong commitment to sustainability."

ASU bumper crop of Asian entrepreneurs

YOUNG SCIENTIST PROGRAMME fellows participated in a hybrid virtual and in-person event in June and July. Over the course of a month, they learned innovation and entrepreneurship concepts and how to apply them to the agritech sector. In addition to proposing improvements that



Image Credit: Adobe Stock

Young Scientist Program fellows produce bumper crop at ASU.

can be implemented on the farms themselves, the programme fellows also developed solutions to trace food distribution and platforms for farmers to sell their goods directly to consumers.

The winning project by Tin Mar Lar Thein of Myanmar took advantage of her country's ginger production in the southern Shan state. "This project has already begun initial testing by developing a minimal viable product that is undergoing initial distribution in the Myanmar market," said Gibson.

John Deere invests in Hello Tractor

DEERE & COMPANY has made a minority investment in Hello Tractor, an ag-tech company based in Nairobi, Kenya. Hello Tractor connects tractor owners with smallholder farmers in Africa and Asia through a farm equipment-sharing app, which allows farmers to track and manage their fleet, book customers, and access financing options. The company was among the first group of companies to participate in John Deere's start-up collaborator programme.

"John Deere sees this as an opportunity to support Hello Tractor's innovative work to provide technologies and solutions to agricultural entrepreneurs in Africa and Asia," said Jason Brantley, director, Ag Turf Sales and Marketing, Africa and Asia, at John Deere.

"Hello Tractor's work also aligns with the John Deere Strategy and the Ag & Turf Division's Leap Ambitions to ensure 100% of new Small Ag equipment is connectivity-enabled by 2026."

Hello Tractor founder, Jehiel Oliver mentioned that the partnership between Hello Tractor and John Deere had been building since their participation in John Deere's start-up Collaborator programme. "We look forward to continuing to work together to ultimately help drive better economic outcomes for smallholder farmers," he said.

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Steep drop in July Food Price Index

IN JULY 2022, The FAO Food Price Index (FFPI) averaged 140.9 points, going down 13.3 points (8.6%) from June, thus marking the fourth consecutive monthly decline. Nevertheless, in the corresponding month last year, it remained 13.1% above its value.

The FAO Cereal Price Index averaged 147.3 points in July following a fall by 11.5% from June, but remained 16.6% above, partly in reaction to the agreement to unblock Ukraine's main Black Sea ports, world wheat prices fell by as much as 14.5% in July. International prices of coarse grains declined for the fourth consecutive month, down 11.2%. World maize prices also fell by 10.7%. Influenced by inconsistent demand and currency movements in major exporters, international rice prices experienced a drop in July for the first time since the onset of 2022.

The FAO Vegetable Oil Price Index averaged 171.1 points in July, going down 40.7 points (19.2%) and marking a 10-month low. This sharp drop was driven by falling world prices across palm, soy, rapeseed and sunflower oils. Despite continued logistics uncertainties in the Black Sea region, international prices of

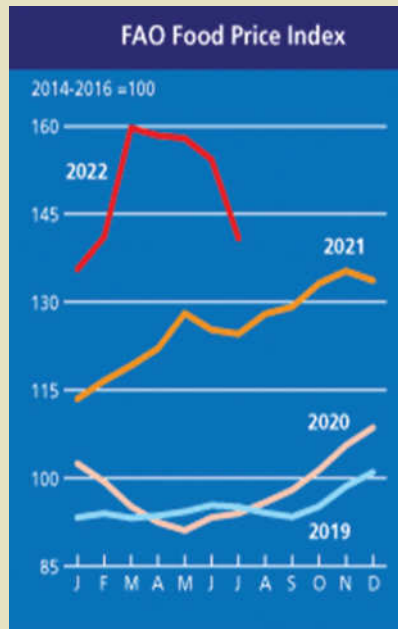


Image credit: FAO

sunflower oil dropped significantly amid subdued global import demand. Lower crude oil prices also lowered pressure on vegetable oil values.

The FAO Dairy Price Index averaged 146.4 points in July, dropping by 3.8 points (2.5%) from June. International quotations for skim milk powder

recorded the steepest decline, followed by those of butter and whole milk powder, principally reflecting lacklustre market activities in Europe as a result of summer holidays. Meanwhile, world cheese prices remained stable.

The FAO Meat Price Index averaged 124.0 points in July, down 0.6 points (0.5%) from June, marking the first month-on-month decline. In July, world quotations for ovine meat dropped steeply, due to a rise in export availabilities from Australia amid high slaughter and expectations of increased lamb supplies, faced by lower import demand. Meanwhile, international bovine meat prices fell. In contrast, international poultry meat prices reached an all-time high, underpinned by firm global import demand and tight global supplies on Avian influenza outbreaks in the northern hemisphere.

The FAO Sugar Price Index averaged 112.8 points in July, down 4.4 points (3.8%) from June, marking the third consecutive monthly decline. Indications of greater exports from India and favourable production prospects for the coming season also contributed to the decline in world sugar prices in July.

Supply shortage in South Korea

AN INDICATOR HELD by the Korea Agro-Fisheries & Food Trade Corporation revealed that wholesale price tags of major field crops showed a significant increase following the downpour earlier.

At a vice-ministerial meeting in Seoul, first vice-minister of economy and finance, Bang Ki-sun pledged to take any necessary action, confirming that, "There are worries over a possible instability in the supply of agricultural and livestock products." He also stated that the government would soon make various support options available for households and farmers damaged by the recent torrential rain in coordination with local governments. Wholesale prices of radishes per 20



Farm product supply shortage recorded in South Korea.

kilograms were US\$22.3 which marked a surge of 26.5% from US\$17.44 a week earlier. Over the corresponding period, prices of cabbages per 10 kilograms climbed by 4.6% to US\$15.49, and potatoes per 20 kilograms by 8.5% to US\$34.12.

Image credit: Adobe Stock

CPF hits high revenue in Q2

CHAROEN POKPHAND FOODS Public Company Limited (CPF)'s quarterly revenue hit a new historic high at US\$4,403mn in the second quarter of 2022. The leading food and agribusiness conglomerate, showed a quarterly net profit of US\$118,802mn.

Prasit Boondoungprasert, CEO of CPF, added that the second-half performance was expected to show continued growth momentum with the relaxing of COVID-19 restrictions in many countries and recent increase in pig prices in China. He foresaw that the emphasis on operational efficiency and adjustments in business models would propel continuous growth.

Agri-Food Tech Expo launches Ag-Volution for the future

THE INAUGURAL AGRI-FOOD Tech Expo Asia (AFTEA), an event of Constellar, with international partner DLG (the German Agricultural Society) and a key participating event of Singapore International Agri-Food Week (SIAW), is set to take place from 26-28 October this year at the Sands Expo & Convention Centre, Singapore.

In the lead-up to this three-day event, AFTEA will be launching a series of industry-curated workshops – themed Ag-Volution For The Future – aimed at inspiring corporations, investors, smallholders, entrepreneurs and young graduates in Asia to join the movement in changing the region’s agriculture industries with technology and innovation.

According to the organisers, countries are becoming more susceptible to food security issues, and current agricultural models are no longer meeting the demands of ensuring food security and sustainable agricultural development for the future. There is a critical need for the region to come together now and accelerate the pace in exploring and adopting technology and innovation to improve the quality, efficiency, and output of agricultural processes and products.

“Building awareness is the first and crucial step towards understanding current industry challenges before exploring solutions to address them. As the region’s only premier trade exhibition for the



Image Credit: Adobe Stock

There is a critical need for the region to come together now and accelerate the pace in adopting technology to improve the output of agricultural products.

agri-food tech sector, we brought together the region’s industry experts for a specially curated series of regional roadshows focused on demystifying current industry issues and heightening participants’ awareness of the urgent need to strengthen the region’s agri-food tech and food production supply chains,” said James Boey, senior vice-president, Markets, Constellar.

EuroTier 2022 to showcase international solutions

EUROTIER 2022, ONE of the world’s leading trade fairs for professional animal husbandry and livestock management, will kick off with an attractive exhibition portfolio and technical programme, featuring numerous market leaders and leading industry experts.

According to the show organisers, around 1,600 exhibitors from 55 countries will be presenting their innovations, products and services at the leading international livestock venue from 15-18 November 2022, in Hanover, Germany.

The latest EuroTier and EnergyDecentral Visitor Tracker survey depicts interest among potential visitors to be currently very high. Some 98% of the national and international visitors surveyed are currently planning to visit the event, with 62% already certain that they will attend in Hanover.

Part of the programme will be held as a digital event, starting in October on www.dlg-connect.com, a digital knowledge-sharing platform launched and developed by the German Agricultural Society (DLG), EuroTier’s organiser. The EnergyDecentral trade fair, to be held in parallel, will focus on the possibilities of decentralised energy generation in the current energy debate.

With around 1,600 expected exhibitors, 13 halls and some 240,000 sq m of exhibition space, as well as a high-quality international technical programme, EuroTier will once again be the highlight of the international livestock industry in mid-November, attracting an international and professional audience to this world-leading trade fair for animal farming and livestock management.

“With exhibitors from 55 countries, including numerous market leaders, and our international event and congress programme with its long-running EuroTier features such as the TopTierTreff



Image Credit: EuroTier

The event will offer a showcase of top-shelf livestock management.

alongside a new start-up exhibition area 'DLG-AgrifutureLab' as well as the EnergyDecentral trade fair, EuroTier will be setting standards in terms of product and topic diversity. In short, EuroTier is the international industry platform and network of professional exchange,” said Ines Rathke, EuroTier project manager, DLG.

Numerous market leaders, both national and international, as well as young innovative companies and start-ups, are represented at EuroTier. National pavilions from Denmark, Finland, France, the United Kingdom, South Korea and the USA, among others, reflect the international character of the trade fair.

Right feed yields the right results



Image Credit: Adobe Stock

Vietnam represents the largest feed market in Southeast Asia, according to a report by the US Grains Council

Feeds should be able to single-handedly provide all the required protein, energy, minerals and vitamins for livestock to thrive.

FEEED PLAYS ARGUABLY the most important role in the lifecycle of a livestock farm. Prevention is always better than cure, as the saying goes; the right feed can keep farm animals living healthy and happy for longer and avoid the need for medical interventions that might prove a costly affair in today's world.

Additives for feed also play an equally important role by supplying the essential nutrients and vitamins the animals need along with food that fills their stomach. Feed additives come in many varieties and include vitamins, amino acids, fatty acids, minerals, pharmaceuticals, fungal products and steroidal compounds.

The right feed with the right additive will prove beneficial for the farm animals as it is both ethically and commercially important to keep them healthy.

A healthy alternative

Avivagen Inc, a life sciences corporation that focuses on developing

Demand for effective alternatives to antibiotics is growing across all of Southeast Asia."

and commercialising products for livestock, companion animal and human applications has been supplying its products to major livestock markets such as China, Vietnam and other Asian markets such as the Philippines, Taiwan, Thailand and Malaysia including Australasia.

According to Avivagen, the OxC-beta technology is derived from the company's discoveries about β -carotene and other carotenoids, compounds that give certain fruits and vegetables their bright colours. Through the support of immune function, the technology provides a non-antibiotic means of promoting health and growth. The product is considered safe and effective and is capable of fulfilling the global mandate to remove all in-feed antibiotics as growth promoters.

The company received approvals for the product very recently in Vietnam. Speaking about the approval Kym Anthony, chief executive officer, Avivagen said, "We are very excited to secure approval for our product in Vietnam, a critical feed market in Southeast Asia with strong growth potential over the coming years. We continue to make strong in-roads with feed producers across Asia and see considerable opportunity to further grow our presence in the swine and poultry feed markets in Vietnam and across the region."

Vietnam represents the largest feed market in Southeast Asia according to a report by the US Grains Council, indicating total annual feed consumption of more than 32 mmt in 2020.

Additionally, the Grains Council report states that Vietnam is a strong growth market that is expected to surpass 35 mmt of feed within the next few years. Production within the country is dominated by swine, with feed for swine accounting for

approximately 38% of total feed, followed by poultry accounting for 21.6% of total feed in 2020 according to a Global Feed Survey by Alltech Digital.

In addition to swine and poultry Vietnam has a surprisingly large and rapidly growing dairy industry which represents an important third target market segment for use of Avivagen's product.

"Demand for effective alternatives to antibiotics is growing across all of Southeast Asia," said Lesley Nernberg, technical sales and marketing consultant, Asia, Avivagen.

"Approval in Vietnam will allow Avivagen to capitalise on a marketplace ready for these types of innovations," she added.

The use of Avivagen's product in the Vietnam feed industry is supported by the positive results of two research trials conducted specifically under Vietnamese commercial production conditions. Avivagen said that the trials were run in collaboration with the Institute for Animal Sciences for South Vietnam and were conducted with pigs.

Avivagen president Jamie Nickerson, said, "The results of these two trials make clear the benefits of Avivagen's product on improving the health and productivity of piglets. We're confident that the use of our product in this segment, along with poultry and dairy, will have a significantly positive impact on producers throughout the country. Comparable trials are underway around the world, and we expect many to result in additional regulatory approvals and customer wins over the coming months."

All natural paves the way

Dr. Eckel Animal Nutrition, a feed additive company from Germany has introduced its newest phytogenic innovation AntaShield to close the gap in the existing biosecurity measures in the livestock industry. According to the company, combating the spread of the African Swine Fever Virus (ASFV) is currently a top priority in the industry. The spread of the virus poses a serious challenge to pig production, with the threat of major losses.

Outbreaks and cases have been reported on five continents and in 35 countries so far, with the data indicating further spread. The virus can be transmitted in a number of ways, including infected animals, equipment, human traffic and swill feeding.

While the possibility of infection through the feed is low, experts at Dr. Eckel opine that it cannot be excluded entirely. The virus is known to be stable for up to 30 days in some feed materials and can be transmitted via mash and pelleted compound feed and certain feed additives.

Proprietary plant extract combination shows high effectivity

Image Credit: Adobe Stock



The phytogenic innovation AntaShield has been created to close this gap in the existing biosecurity measures.

The virus can be transmitted in a number of ways, including infected animals, equipment, human traffic and swill feeding."

AntaShield makes use of powerful bioactive plant metabolites, including those derived from hops, which have been cultivated for thousands of years for the very purpose of safeguarding food from pathogens. Since the ASFV is an enveloped virus with an outer glycoprotein layer, experts at Dr. Eckel tested plant extracts that are known to destabilise biomembranes of gram-positive bacteria for their effect on ASF infectivity in pig feed.

The result: 100 times less infectivity with AntaShield after 24 hours. The plant extracts were more effective than an organic acid treatment, while the final formulation of Anta Shield showed the best effect overall, proving the synergism of the chosen active principles.

Dr. Eckel suggests choosing the protection that is best to keep animals, food and the environment safe. The company's AntaShield is an all-natural, non-chemical feed formulation with highly active ingredients that have been shown to work against viruses in feed and is made entirely from natural ingredients, for farm owners to safeguard their animals as well as maintain profitability. ■

Getting down to business



Red seaweed grows mainly in tropical waters in Asia, which have constant, high temperatures conducive to the year-round growth of seaweed.

Image Credit: Adobe Stock

As aquaculture grows in importance as a major food source, big corporations are trying to hop on the bandwagon and be pioneers of the future.

INCREASING POPULATION AND urbanisation comes with a set of challenges directly in line with food supply and demand. Alternate sources of food are being sought after with billions of dollars around the world being poured into developing the technologies to make aquaculture a key contributor to the world's food supply chain.

According to Expertmarketresearch.com, the Asia Pacific aquafeed market stood at a volume of 30 million tonnes in 2020. The industry is being supported by the growing global aquafeed market, which stood at a volume of around 55 million tons in 2020 and is further expected to grow at a CAGR of 10.4% during 2022-2027 to attain 99.6 million tons by 2026.

This means fish farming in Asia is poised to be worth somewhere close to US\$42.6bn by 2023, and big companies have shown interest in large-sum investments.

Funding spree for fish

BASF Venture Capital GmbH, the corporate venture company of BASF SE, the global chemicals giant and Aqua-Spark, a Dutch investment fund focusing on the global aquaculture industry, have announced their plans to invest in Sea6 Energy Pvt Ltd as part of a Series B round. Sea6 Energy was founded in 2010 and is located in Bangalore, India.

Sea6 is one of the leaders in the production and processing of tropical red seaweed. Other existing investors include

Only a small proportion of the commercially offered seaweed comes from wild collections.”

Tata Capital Innovations Fund. With this investment, Sea6 Energy will complete its Series B transaction of US\$18.5mn.

Red seaweed grows mainly in tropical waters in Asia, which have constant, high temperatures conducive to the year-round growth of seaweed. Biomass from the fast-growing red seaweed is suitable as a raw material for a variety of applications, for example in animal feed and crop protection products, as a gelling ingredient in the food industry or as an ingredient in cosmetics.

BASF asserts that only a small proportion of the commercially offered seaweed comes from wild collections. Most of it is grown on farms, particularly in Asia, and since 1950, the quantity produced worldwide has increased a thousandfold. In 2019, nearly 35 million tons of seaweed were produced, about half of which is red seaweed according to the Food and Agricultural Organization (FAO). The market volume for seaweed products was almost US\$17bn in 2020 according to MarketsandMarkets analysis. However, commercial offshore cultivation on a large scale is complex, and the technical systems

must withstand adverse weather conditions, such as storms and waves.

Sea6 Energy has adapted its cultivation technology to the conditions in deeper water and adverse weather conditions, and covers both parts of the value chain with its integrated business model. To identify the right locations with the right conditions for its farms, Sea6 Energy uses satellite imagery, for example. Under suitable conditions, at least six harvests per year are possible.

The company is headquartered in Bangalore, India, while in Bali, Indonesia, it has set up a fully owned subsidiary that carries out commercial seaweed farming. Sea6 operates various plants in Tuticorin, India, for the further processing of red seaweed for different applications. For example, the company produces biostimulants for use in agriculture and shrimp farming that increase resistance to disease and stress.

“Sea6 Energy convinced us with its integrated business model,” said Markus Solibieda, managing director of BASF Venture Capital GmbH. “With its extensive experience in the field of biotechnology, the team has created very good upstream conditions for cultivating red seaweed as biomass on a large scale while also demonstrating success downstream through its biorefinery. This opens up opportunities for transitioning traditionally crude-dependent industries such as the chemical industry to renewable feedstocks.”

Our people and communities are very comparable as well, with agriculture, fisheries, aquaculture, and forestry.”

Sea6 Energy is also said to be working on the development of bioplastics and biofuels based on red seaweed. In addition, Sea6 Energy has developed a proprietary process that increases the shelf life of red seaweed from one to two days to up to 60 days. This facilitates the transport of fresh red seaweed, which can otherwise only be transported over longer distances once it has been dried.

“Our vision is to be able to offer red seaweed biomass and products on a large scale sustainably and reliably. Thanks to our patented mechanized cultivation technology, we can produce high-quality biomass on large scale at competitive pricing which can enable products like Bioplastics and Biofuels as well,” says Shrikumar Suryanarayan, CEO and co-founder of Sea6 Energy. “We look forward to having experienced partners at our side in BASF and are happy about the renewed commitment of Aqua-Spark.”

Business down-under

Cooke Inc., the parent company of Cooke Aquaculture Inc. of Canada, and Tassal Group Limited of Australia have announced that they have entered into a definitive agreement, under which Cooke has agreed to acquire all outstanding shares of Tassal, and the transaction price represents a premium of 49% to Tassal’s undisturbed closing share price on June 22, 2022.

Tassal is one of the largest vertically integrated seafood producers and blue agri-tech business in Australia. With over 36 years of experience, Tassal employs more than 1,700 people in Tasmania and Australia who farmed 40,000 metric tonnes of Atlantic salmon and 5,500 metric tonnes of Black Tiger Prawn in 2021 for domestic and export markets including Asia, New Zealand and the USA.

Tassal’s salmon farms span five marine zones, four freshwater hatcheries and four processing facilities in Tasmania, while prawn farming, processing and seafood processing is undertaken in New South Wales and Queensland.

“Tassal is an excellent fit with Cooke, as we see many similarities between our two companies. Our people and communities are very comparable as well, with agriculture, fisheries, aquaculture and forestry prominently supporting export-driven economies,” said Glenn Cooke, CEO of Cooke Inc.

“Our family-owned company is keen to have the opportunity to continue to grow Tassal from the strong base the employees, management and board have created,” added Cooke. “We have demonstrated acquisition history where Cooke has left operations management in place for continuity. We are highly impressed with the quality of Tassal’s infrastructure, people and culture.”

According to Cooke, at 115,000 metric tonnes annually, it is the sixth largest farmed salmon producer in the world and, like Tassal, all Cooke feed mills, hatcheries, farms and processing operations are accredited by third-party organisations.

The Tassal acquisition would put Cooke at 155,000 metric tonnes — closing in on becoming a top five producer. In 2021, the world’s demand for low carbon footprint, and affordable, nutritious protein, resulted in more than four million metric tons of farmed salmon produced globally by all companies. ■



Image Credit: Adobe Stock

Tassal’s prawn farming and seafood processing is undertaken in New South Wales and Queensland.

Prevention always better than cure



Vaccination is one of the most effective and cost-efficient strategies for preventing disease in humans and animals alike.

Image Credit: Adobe Stock

Commercial poultry operations are better off preventing diseases to maintain steady operations, rather than trying to control them after an outbreak.

MAINTEINING HEALTHY BIRDS play a very vital role in maintaining poultry productivity and generating higher revenues.

Resistance against diseases is of utmost priority in the industry and pharmaceutical and medical equipment companies race to find solutions to keep flocks healthy and happy at all times.

Boehringer Ingelheim, one of the world's largest pharmaceutical companies, has recently published opinions on advances in vectored vaccines for poultry – a technology with further potential in veterinary and human medicine.

According to the company, vaccination is one of the most effective and cost-efficient strategies for preventing disease in animals. Development in vaccine technology in veterinary health can also prove to be beneficial in human health studies as well.

This is where vectored vaccines come into the fore and have been successfully developed and put in use to control disease outbreaks in poultry species and other species as well. Successful vaccines in poultry that meet fundamental standards portray factors such as:

- Ability to induce a protective immune response even in the case of maternal antibodies' presence.
- Prove to be effective with a primary dosage.
- Compliant with mass vaccination methods.
- Cost effective.

Vectored vaccinations have a unique way

▄▄ A vectored vaccine is a bit like a Trojan horse."

of doing the job when compared to conventional vaccines and overcome many disadvantages such as adverse reactions and being less effective in the presence of maternal antibodies.

"A vectored vaccine is a bit like a Trojan horse – it provides protection against a pathogen by using a non-pathogenic agent as a vector to carry protective genes from the pathogen," explains Michel Bublot, global project leader at Global Innovation, Boehringer Ingelheim Animal Health.

The Vaxxitek HVT+IBD, launched by Boehringer Ingelheim Animal Health in 2006, was the first ever HVT-based vectored viral vaccine developed for poultry. The vector used – HVT – is the herpesvirus of turkeys.

"The vectored vaccine is a bioengineering construct. The HVT vector carries the genes of the immunogenic protein of one or more viruses – in this case, IBD," explains Bublot, a pioneer in the development of HVT as an effective viral vector for vaccines against IBD in

poultry, with publications as early as 1995. High-quality application systems

In order to achieve successful vaccination in birds and animals, application systems made of high standards are also equally important.

Henke-Sass Wolf, a German medical equipment manufacturer, supplies vaccination and medical intervention solutions that adhere to the highest international standards.

The company's HSW Double Breast Vaccinator is one of the most sought-after solutions on the market and is an automatic intramuscular vaccinator for chickens. The product comes along with an electricity plug, vial holder, dripping chamber, breastplate for layers, breastplate for broilers, spare part sets and much more.

“The vectored vaccine is a bioengineering construct.”



Image Credit: Adobe Stock

High-quality vaccination systems are important to achieve successful vaccination campaigns.

The electrically driven vaccination device features a touch screen and sophisticated sensors for the proper positioning of chicken. The device also allows the user to take advantage of safety functions such as air bubble detection, early release warning, day counter, bottle counter and batch counter. The company also provides the device with a catalogue of

different breastplates and syringe sizes based on different requirements.

According to Henke-Sass Wolf, the machine's LED touchscreen-guided chicken positioning, precise dosing syringes, several safety features as well as high-quality components allows poultry operators to achieve optimal and equal vaccination result. ■



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Lake Biwa is home to 47 native fish species, including 16 endemic species.

Image Credit: Adobe Stock

Globally important agriculture systems

Using traditional practices and knowledge while preserving biodiversity and ecosystems.

THE FOOD AND Agriculture Organization of the United Nations (FAO) has announced the addition of two new Globally Important Agricultural Heritage Systems (GIAHS) in Japan.

The new sites in Japan - an inland fisheries and associated paddy farming system centred on the country's largest lake and a traditional fruit-growing area believed to have been the birthplace of Japanese grape cultivation - have been formally recognised as Globally Important Agricultural Heritage Systems (GIAHS).

The two sites have been designated for their unique ways of using traditional practices and knowledge while maintaining unique biodiversity and ecosystems during a meeting of the GIAHS Scientific Advisory

Group in Rome. The selection criteria stipulate that sites must be of global importance, have value as a public good, support food and livelihood security, agrobiodiversity, knowledge systems, social values and culture as well as outstanding landscapes.

The GIAHS programme is seen as a key tool for promoting sustainable agriculture and revitalising and developing the distinctive features of rural communities.

The Biwa Lake to Land Integrated System, located close to Kyoto, Japan's old capital, is centred on traditional inland water fisheries which have developed along with paddy agriculture, providing safe breeding grounds for spawning lake fish. Traditional fishing methods enable the selective catching of only a required amount of lake fish of a certain size.

The area's social system allows fishers' organisations to autonomously conserve lake resources. This system has a history of more than 1,000 years that integrates agriculture and fisheries, and it has

continued providing sustainable resource use in freshwater systems located in an area where urbanisation has taken its course.

Lake Biwa is home to 47 native fish species, including 16 endemic species. Lake fish such as the round crucian carp have migrated up the water channels to breed in the rice paddies that have been developed in the low wetlands surrounding the lake. People developed various passive fishing methods to catch migrating fish as they worked their fields, establishing an agro-fishery mixed livelihood that enhanced their food self-sustainability.

The Kyouitou region in Yamanashi Prefecture is thought to be the birthplace of Japanese grape cultivation. Grapes have been grown there for at least 800 years, but many other fruits in this region also have a long history, including peaches, persimmons, Japanese apricots, nashi pears, apples and chestnuts. The region has evolved a unique system of manual cultivation over its long fruit-growing history. ■

VICTAM Asia co-locates with Health & Nutrition Asia

VICTAM ASIA IN co-location with Health & Nutrition Asia is officially opening its doors from 7-9 September 2022 and will be hosted at the IMPACT Halls 9 and 10, in Bangkok, Thailand.

The international trade show organisers VICTAM and VIV Worldwide said that they are finally ready to stage this co-location and present in Bangkok the much-awaited animal feed and health event for Asia after a couple of postponements due to the pandemic.

The event programme was presented at the official press conference held in Utrecht, the Netherlands, where both organisers are currently hosting their first joint partnership, with the co-location of VIV Europe and VICTAM International already proving the powerful synergy of this cooperation.

The event looks to be a platform for businesses to address nutrition-related illnesses that affect livestock animals and other struggles for the industry. According to the organisers, deficiencies and malnutrition severely impact animal growth, development, and production. The tropical environment of many regions in Asia represents a high-risk element for pathogen growth in livestock. At the same time, drug residue and bacteria resistance in animals are concerning issues that require attention.

A wide range of topics will be discussed including feed milling



Image Credit: Adobe Stock

The event aims to be a platform for major industry players in animal health and nutrition.

and formulation, feed safety, aquafeed, petfood, grain and rice milling, high-tech animal health technology, genetics, pharmaceutical solutions, veterinary equipment, and feed additives, bio-energy and biomass pelleting technology and much more.



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Omex sets up sugar for prime cane



image credit: Omex

Sugarcane setts in the furrow undergoing spray treatment with soluble nutrients and biostimulant products.

Sugarcane, although commercially viable poses its own challenges. Dr Terry Mabbett sheds light on Omex products to tackle these obstacles in a safe and secure way.

SUGAR CANE HAS come a long way from the plant's native, tropical-Asian origin. It is now cultivated as a field crop throughout the tropics although Asian countries still account for over 40% of the world's production. Key sugar production players in the region include India, Sri Lanka, Pakistan and Bangladesh in the sub-continent; Thailand, Indonesia, Vietnam, the Philippines and Myanmar in South East Asia and of course China.

India is the world's second-largest producer of sugar cane after Brazil. China is the third largest producer and also the biggest consumer. The world's biggest sugar exporters are concentrated in Asia with around 60% of total world sugar exports. Thailand, Indonesia and Cambodia are prominent with Thailand representing the world's second biggest exporter of sugar after Brazil.

When compared with other field crops sugarcane takes a relatively long time, about 10-24 months to grow, mature, ripen and be ready for harvest. However, as a

commercial cash crop sugarcane is generally more safe and secure and therefore well worth the wait. The crop does not have the difficult and costly to manage pest control problems which plague cotton and do not have the social and political baggage which tracks and trails tobacco.

As a so-called C4 plant, sugarcane is considered to be one of the most efficient converters of solar energy into sugar. The growth and development of sugarcane is traditionally divided into the following phases:

- Germination phase – sprouts form on planted pieces of sugarcane (stem) called setts.

As a commercial cash crop sugarcane is generally more safe and secure and therefore well worth the wait.”

- Tillering phase – starts 15-20 days after the first sprouts appear.
- Grand growth phase – starts 120 days after sugarcane setts are planted and last for up to 120 days in a 12-month sugarcane crop.
- Maturation and ripening phase – lasts 3 months.

Like other crops sugarcane requires feeding but its growth pattern is such that the use of soil-applied, solid, fertiliser becomes practically impossible, let alone effective or efficient, once the tillering of this essentially huge grass gets underway to cover the entire field area.

Like other crops sugarcane requires feeding but its growth pattern is such that the use of soil-applied, solid, fertiliser becomes practically impossible, let alone effective or efficient, once the tillering of this essentially huge grass gets underway to cover the entire field area.

So what are the mechanics of foliar feeding of sugarcane, including the key nutrients, and at what stages they are required in the growth cycle of this monocotyledonous crop? who better to ask than Omex Agrifluids, an R&D-based company with a long and distinguished provenance in the design, manufacture and

marketing of soluble nutrient products for application to agricultural and horticultural crops worldwide?

Much of Omex's expertise and experience with sugar cane using the company's portfolio of products has been gained in South America and particularly Brazil, one of the world's biggest producers of cane sugar. That said a number of Asian countries have already established their own recommendations for the use of Omex products for the foliar feeding of sugar cane.

To find out more Dr Terry Mabbett travelled to the company's headquarters at Kings Lynn, in the County of Norfolk in the United Kingdom to speak with Peter Prentis, the managing director at Omex whose remit includes product development and sales throughout Asia.

Prentis told *Far Eastern Agriculture* how despite the crop's overall growth rate, eventual size and density, sugar cane is notoriously slow to start and therefore requires nutrient priming to ensure new, strong shoots sprout rapidly from the setts and push through the soil. Sugar cane is propagated from short lengths of stem cuttings or setts each with a number of buds. Buds develop into shoots and grow into new 'stalks' (canes) which are harvested for their rich sucrose (cane sugar) content. The crop takes between 10-24 months before the canes are ready for harvest but surprisingly for such a generally vigorous crop its initial growth phase includes germination of the setts, growth of the buds into shoots and establishment of the root system is a very slow and drawn out process.

Nutrient priming of sugar cane

At the root of sugar cane's tardy take-off is the complex unfolding of root development with three separate and disparate rooting systems appearing at different stages of the plant's growth and development.

The initial roots of the sugar cane sett are thin, branched, superficial and transitory. These are followed by stem roots which are longer, straighter and more permanent. These second-stage roots have two primary functions – to supply water and nutrients and to provide physical support to the rapidly establishing sugar cane plant. Finally, the buttress roots will go deeper into the soil to anchor the now substantial plants firmly into the ground. By this time sugar cane will have already grown to a considerable height and density and will be difficult to work inside for fertiliser application.

Prentis says the slow initial growth phase of sugar cane presents growers with an early window of opportunity at the very time when sugar cane requires a nutrient boost, to kick start germination and to secure the establishment of the setts as rapidly and securely as possible. It offers farmers a valuable opportunity to carry out growth priming procedures by applying soluble nutrient formulations to sugar cane setts in the furrow.

Omex has recognised this requirement and opportunity for an early boost to germination to secure rapid early growth and establishment. Indeed Omex recommendations for sugar cane are now underpinned by the treatment of setts in the furrow with soluble nutrients and biostimulants to achieve earlier crop

“For such a generally vigorous crop its initial growth phase is a very slow and drawn-out process.”



Image Credit: Omex

Inherently slow, early growth of sugar cane can be boosted by spraying soluble nutrients and biostimulants onto cane setts in the furrow.

establishment and enhanced tillering to give more and bigger canes to be cut at harvest time.

To this end, Omex in cooperation with distributors and farmers across the sugar cane world has monitored early growth and establishment with a multitude of measurements. What they essentially found is that shoots emerge from the ground earlier and faster and look stronger for at least two to three months. Growth is quicker and sugar cane plants become more securely established in a shorter space of time.

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There is another good reason for priming planted cane setts but often overlooked due to the general but misinformed view that sugar cane, because of its overall fast growth rate, high foliar density and size, is not troubled by weed competition. This may be true once the sugar cane tillers have covered the ground but this is certainly not the case during the early growth phases of the crop.

Weed control is most needed just after planting the setts because they will have to grow for a considerable time before reaching the stubble stage to cover the soil. In fact, during this early growth phase weeds grow much faster than sugar cane with more time and opportunity to develop because they will have begun to germinate and grow immediately after the last harrowing or furrowing.

Later on, the sugar cane plants will have covered the ground and formed a canopy to shade out weeds, but this takes close to five months for planted cane and three months for ratoon cane in a moist warm climate. Thus anything which gives sugar cane a kick start and a boost during this early growth phase can only help to mitigate weed competition.

Omex product profile for sugar cane

Prentis sheds light on the soluble nutrients and commercial products supplied by Omex and which underpin this philosophy

There is a good reason for priming planted cane setts and is often overlooked due to the general but misinformed views."

and best practice for early stage growth and establishment in sugar cane.

"First on the sugar cane 'sett' and scene is our Omex Bio 20," said Prentis.

"Applied as a spray to sugar cane setts in the furrow. This well tried and tested product combining a full range of essential macronutrients and micronutrients, and boosted by the addition of organic material derived from a single variety of seaweed, stimulates early growth activity of the sugar cane sett," added Prentis.

Peter says Omex Bio 20 is more than just a balanced formulation of essential plant growth nutrients. "This bio-stimulant does just what the name says by stimulating root growth and development to promote greater root biomass and to ultimately maximise access, absorption and utilisation of soil moisture and soil nutrients dissolved therein. The net result is the quicker establishment and faster and stronger early plant growth," he said.

Next on the list for treatment of cane setts in the furrow are two of Omex's single

nutrient products. They are Omex 'Kingfol Zinc' and Omex 'Kingfol Manganese' featuring a pair of essential micronutrients which underpin the growth, development, yield and quality of sugar cane.

Omex Kingfol Zinc contains 70% w/v (weight/volume) zinc. "Zinc is the most widely spread soil-based micronutrient but invariably the most inaccessible to crop plants because huge amounts are locked up as insoluble zinc and therefore unavailable to plant roots," said Peter Prentis.

"Plant available shortfalls in naturally occurring soil-based zinc make deficiency of this essential micronutrient the most acute and widespread across the world's major field crops and sugar cane is no exception."

Zinc stimulates root activity and is well established for its crucial role in early crop growth. Deficiencies of zinc in sugar cane are reflected in reduced tillering, shorter internodes and thinner stalks exhibiting a loss in turgidity. At the leaf tissue level, zinc deficiency shows up as marked chlorosis (yellowing) of the veins, especially on young leaves. The area around the midrib and the leaf margin remains green but the leaf blade is otherwise chlorotic. Leaves are less numerous and generally shorter in length with a high incidence of leaf tip death. The presence of red areas or lesions is due to the presence of anthocyanin pigment. At the cell level, zinc is a crucial co-factor for a number of enzyme systems.

Omex 'Kingfol Manganese' contains 52.8% w/v manganese. Like zinc, the manganese micronutrient is an important enzyme activator. Deficiencies will rapidly show up as chlorosis (yellowing) of the leaves but in this case of the leaf lamina tissue between the veins from the leaf tip and towards the centre of young leaves. In cases of acute deficiency, the chlorotic tissue may die, turn brown and split along the lines of necrosis with marked leaf twisting. Mature leaves are also affected but in this case, are accompanied by reddish-coloured necrosis also indicating the presence of anthocyanin pigment. Inter-vein leaf necrosis rather than necrosis of the vein itself is what distinguishes manganese deficiency from zinc deficiency in sugar cane.

Peter said some growers find it more convenient to use the Omex Kingfol 'combination' product containing zinc and manganese together with copper. Kingfol Copper/Manganese/Zinc (Kingfol Cu/Mn/Zn) contains Cu, Mn and Zinc at respectively 8.0% w/v, 33.0% w/v and



Image Credit: Omex

Prior to the tillering stage when vegetative growth starts over the inter-row area, the sugar cane crop remains highly susceptible to competition from weeds.

11.0% w/v.

Kingfol Cu/Mn/Zn is especially appropriate and useful if soils are deficient in available copper which is a crucial co-factor for enzymes involved in photosynthesis. Copper is clearly an essential micronutrient for all crops and especially sugar cane which quickly ‘lets the farmer know’ when in deficiency. Young leaves are soon affected with green splotches graduating into bleaching, stalk and meristems lack turgidity and internode length and tillering are reduced.

Last but not least is Omex Performa (Boron (5.68%), Zinc (19.20%), Molybdenum (1.52%) plus seaweed extract as a biostimulant). Omex Performa was custom-designed for sugar cane grown in South America where it has been used successfully by growers, especially in Brazil. Boron and Molybdenum, both present in Omex Performa, are the two least well-known and understood micronutrients but essential nevertheless.

Molybdenum has a role in nitrogen fixation with deficiencies affecting both stalks and leaves. Stalks are shorter and more slender than usual, full-grown leaves show yellow streaking with generally slow

Farmers and growers will clearly balk at the prospect of trying to spray well-grown sugar cane.”



Omex soluble nutrient and biostimulant products are used in many of the key sugar cane growing countries of the world.



With prompt early treatment of cane setts in the furrow, new shoots emerge more quickly and look significantly stronger.

vegetative growth.

Boron has a vital role in the translocation of sugars. Deficiencies show up rapidly in young leaves which may be distorted with translucent lesions (water sacs) along the leaf margins. Affected plants have many tillers, brittle and bunched leaves and dead apical meristems.

Why prime sugar cane?

With prompt early treatment of cane setts in the furrow, new shoots emerge more quickly and look significantly stronger. These new green shoots start to photosynthesise more rapidly thus contributing to growth, establishment and development that much sooner in the crop cycle.

Compared with untreated setts in the same field, these earlier emerging shoots will continue to look stronger and more robust for 2-3 months after which the

advantage appears to fade as a more even stand is presented. However, the proof of the pudding comes in the eating or in this case the harvesting of treated and untreated plants. Those crops treated with Bio 20, Kingfol Zinc, Kingfol Manganese, and other Omex products recommended for use in sugar cane, yield higher tonnages due to bigger and heavier canes and, more crucially, higher sugar contents.

Early treatment of setts in the furrow with Omex soluble nutrient and biostimulant products is now carried out in many of the key sugar cane growing countries of the world including India, Thailand and Indonesia.

Farmers and growers will clearly balk at the prospect of trying to spray well-grown sugar cane for the simple reason that they will be unable to move with ease and efficiency through the crop whether using tractor drawn/mounted sprayers or manually-operated sprayers. The only other option for spraying sugar cane at these more advanced stages of growth and development is the aerial application of nutrients.

Peter Prentis sums it up

“Applying nutrients and biostimulants at the very beginning of the crop is by far the easiest option for sugar cane farmers and growers. They can avoid the logistical constraints on driving vehicles through or walking through well-grown sugar cane with all the associated problems of achieving adequate spray coverage.”

“However, the single biggest advantage of treating sugar cane setts in the furrow is providing these fledgling sugar plants with the right nutrient requirements at the right time which is at the rooting and establishment stage of the crop,” Peter concludes. ■

Modern demands require efficient solutions



The increased demand for various cuts of meat has aided in the growth in demand for poultry meats and poultry slaughtering equipment.

Demand in the food industry calls for high levels of output and tailor-made solutions for slaughterhouses help achieve the levels of production required.

A STEADY RISE in meat consumption across Asia has birthed a new set of propositions in the global and regional meat industry. Subtle changes in dietary requirements along with a shift in food culture especially across the bustling urban centres of the continent.

As with most emerging markets, Southeast Asia's population, urbanisation, and income continue to expand. According to data from the US Bureau of Census, the region's 10 countries' total population grew 11.6% in the previous decade and is expected to grow to 720 million by 2027.

While the region's population and income continue to steadily rise, meat consumption has also increased, although fish and seafood are the largest meat sources consumed and produced. With much of this population living in and around urban centres, processed meat has been reaching new levels of demand that have never been seen before.

Feeding this hungry population starts with live animals that are slaughtered and processed in controlled and safe conditions. The increased demand for various cuts of meat has aided in the growth in demand for poultry meats and poultry slaughtering equipment all across the region.

According to Research And Markets.com's analysis, the global slaughtering equipment market size was estimated at US\$1,968mn in 2021, US\$2,157mn in 2022, and is projected to

“The company's software integrates the data collected from the processing line, into an intuitive, user-friendly application.”

grow at a compound annual growth rate (CAGR) of 9.85% to reach US\$3,459mn by 2027.

Automated poultry lines

Meyn Food Processing Technology is a supplier of poultry processing services from Oostzaan, Netherlands that specialises in producing advanced systems for modern-day meat processing plants.

The company produces equipment for various stages of bird processing such as live bird handling, evisceration, slaughtering and deboning.

Meyn's process automation tool called the Meyn Connect, aims to deliver high levels of automation to speed up the bird slaughtering process.

According to the company, for a modern processing line to function efficiently, continuous monitoring and traceability are vital. The company's software integrates the data collected from the processing line, into an intuitive, user-friendly application. The application aims to provide slaughterhouses with high levels of transparency, which

results in accurate accountability and a well-oiled processing line.

The application's network module allows for the continuous availability of reliable and secure information from every stage of poultry processing. The active network concept is said to ensure information integrity and safe storage of historical data.

Data is easily transferred between the already installed Meyn equipment and the application via a well-engineered 'Bus-structure', which is well adhered to proven standards across various industries. The application has capabilities to connect to third-party applications, along with a helpdesk monitor that is included to help quickly identify the source of connectivity issues.

The application's tracking manager module also adds track and trace functionality, to monitor flocks and individual birds through out the process.

The distribution manager routes products to processing lines, packing stations, or downstream processes by segregating individual birds based on weight and bird quality data. The data is collected from the Meyn line weighers and grading systems and includes various types of counting and grading options available throughout the poultry processing line, including camera and weighing systems.

“The line is said to be manufactured using high-quality stainless steel and aluminium.”

According to the company, the included Meyn Flock scheduler module everyday planning of flocks and stock arrival with the flexibility to accommodate last-minute changes. The programme also ensures the distribution of flock identification across the processing line reducing the need for re-entering, and increasing efficiency and error elimination.

Hygienic and efficient

JD Engineering is a global supplier of meat processing equipment based in New Delhi, India. The company features a renowned slaughterhouse infrastructure product called the 'Slaughterhouse Bleeding Line' that aims to cut down running costs by means of efficiency.

The product is widely recognised in the industry with its installations spanning across leading organisations. The line is used to accommodate the complete bleeding of the animal with the help of an

electro stimulator. The line is said to be manufactured using high-quality stainless steel and aluminium.

According to JD Engineering, the line can be custom made to suit different specifications and processing line requirements.

The line is also known to accommodate a convenient fitting process, a must-have quality for easy installation and service. Users are known to experience high-performance levels because of the galvanised steel used to manufacture the entire.

The motor-controlled section of the machine features 12 flat rails. The company also claims that the precisely designed electro stimulator is effective in proper removal of blood during the slaughtering process inside of the machine.

The company is also known to manufacture sanitation solutions for slaughterhouses with products such as the 'Biological Filtration System'. The filter aims to be an ideal solution for the removal of foul odours from the exhaust air inside the slaughterhouse. Mild steel and steel alloys are said to be used in the manufacturing of the unit. JD Engineering claims the product can be matched to desired specifications of the slaughterhouse with qualities such as heavy duty, easy to clean, low cost and low maintenance. ■



The line is also known to accommodate a convenient fitting process, a must-have quality for easy installation and service.

Image Credit: Adobe Stock

ANNUAL AGRICULTURAL BUYERS' GUIDE 2022

Section One - Supplier listings by categories
Section Two - List of suppliers
Section Three - Contact details of agents in Asia

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Section 01

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Feed

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 Unipoint AG

Health Products

Eurofeed Technologies S.p.A.
 Henke-Sass, Wolf GmbH
 Unipoint AG

Ventilation & Control Equipment

Termotecnica Pericoli S.r.l.

Veterinary Equipment

Henke-Sass, Wolf GmbH

Chemicals

Disinfectants

Eurofeed Technologies S.p.A.
 Intraco Ltd. n.v

Fertilizers

Omex Agrifluids Ltd.

Formulation Agents

Omex Agrifluids Ltd.

Fumigation

Eurofeed Technologies S.p.A.

Minerals

Omex Agrifluids Ltd.

Plant Growth Regulators

Omex Agrifluids Ltd.

Feed

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 Intraco Ltd. n.v
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Eurofeed Technologies S.p.A.

Concentrates

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Mixing

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Premixes

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Supplements

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 Unipoint AG

Vitamins

Eurofeed Technologies S.p.A.

Other

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Ventilation

Termotecnica Pericoli S.r.l.

Veterinary Instruments

Henke-Sass, Wolf GmbH

Pigs

Exports

Henke-Sass, Wolf GmbH

Feed

Eurofeed Technologies S.p.A.
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Health Products

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 Unipoint AG

Ventilation & Control Equipment

Termotecnica Pericoli S.r.l.

Veterinary Equipment

Henke-Sass, Wolf GmbH

Poultry

Consultancy

Meyn Food Processing Technology

Visceration, Portioning

Meyn Food Processing Technology

Feed

Eurofeed Technologies S.p.A.
 Unipoint AG

Handling Equipment

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 Malaysian Vaccines and Pharmaceuticals SDN BHD
 Unipoint AG

Housing

Intraco Ltd. n.v

Poultry Vaccines

Malaysian Vaccines and Pharmaceuticals SDN BHD

Processing

Meyn Food Processing Technology

Slaughtering Equipment

Meyn Food Processing Technology

Ventilation & Control Equipment

Termotecnica Pericoli S.r.l.

Veterinary Equipment

Henke-Sass, Wolf GmbH

Section 02



EuEurofeed Technologies S.p.A.

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Eurofeed Technologies S.p.a. is an Italian Company that produces and trades feed additives all over the world. We are GMP+ Certified. Eurofeed Technologies' portfolio includes: Acidifiers-Antimicrobials-Antioxidants-Aromas-Enzymes-Energising-Elettrolyte-Micotoxin Binders-Mold Inhibitors-Natural Adjuvant In Coccidiosis Prevention-Natural Diarrhea Prevention-Natural Growth Promoter-Nucleotides-Organic Trace Elements-Pellet Binders-Pet Food-SanitizingVegetable Protein Concentrates-Vitamins.



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Drones to propel farming into the future



Image Credit: Adobe Stock

The drone flew over ridges of cassava plants, sprayed precisely along the pre-set route, and finished eight hectares of herbicide spraying via unmanned control.

Precision mechanics have taken over agriculture with adaptation taking place at a rapid pace. Drones sit at the heart of it all, helping farmers scale new heights, literally.

GLOBAL AGRICULTURE HAS seen a shift in techniques and technologies, mainly with the introduction of precision spraying equipment.

Unmanned aerial vehicles lead the way in these future-ready adaptations; drones being the most popular options for remote-controlled spraying and fogging operations.

Drones are proving to be an excellent source of return on investments as they facilitate precise programming options, which directly translates to the efficient use of products on crops. To put into perspective, the rapid adoption of advanced machinery has pushed the drone market into orbit, according to a Yahoo! Finance analysis. According to the report, agriculture drones market is expected to

grow by 2028 and is predicted to be highly lucrative. The market in the Asia-Pacific region is projected to be highly beneficial by 2028.

We look at two instances where agri-tech companies are taking a leap forward in producing aerial machinery.

Cambodian cassava farmers benefit

Drone technology has been recently

“The drone flew over ridges of cassava plants, spraying precisely along the pre-set route.”

introduced in Cambodia's cassava cultivations to help small-scale farmers earn better yields while bringing down the costs of farm input.

Supporting the national cassava policy, XAG, an agricultural robotics and AI company has delivered new technology to the sector with its drones that can use less water and chemical and ease the workload on farms.

According to XAG, cassava covers the second-largest planting area after the rice paddy and contributes to 4% of GDP growth and is broadly grown on over 600,000 ha of farmland in Cambodia. However, traditional cassava farming involves intensive labour and is known to be a time-consuming process. To meet the growing demand for cassava-based products including food, flour, paper and alcohol, Cambodian farmers have rapidly expanded their planting areas and started applying XAG's agricultural drones for

productivity boom.

A local farmer named Chhay Thi is an early adopter of spray drones who owns 20 ha of land in Varin District, Siem Reap Province of Cambodia. According to the company, he ordered services from XAG local partner Red Sparrow Cambodia and had the XAG Agricultural Drone demonstrate autonomous weeding on his 10-hectare cassava field.

Unlike large agricultural machinery, drones can be transported conveniently and deployed to the field much easier. After the liquid tank was filled with herbicide, the XAG agricultural drone automatically took off as the drone operator played simple clicks on a mobile app.

The drone flew over ridges of cassava plants, sprayed precisely along the pre-set route, and finished eight hectares of herbicide spraying via unmanned control. In the past, the same amount of work usually takes farm workers more than a week to complete manually, but now, it can be done within one hour by only one agricultural drone.

Besides the increased efficiency, drones are helping farmers like Chhay Thi to reduce overall planting costs. "If I have an XAG drone in busy seasons to help me with crop protection, I can save US\$8-10 per hectare that is formerly spent on manual spraying. Drone operation also reduces the use of chemical by 10-30%, so the resources and money saved can be reallocated to the other crop cultivation,"

Boosting biological performance as well as making drone spraying more sustainable and environmentally friendly."

said Chhay Thi who witnessed the whole process of drone spraying demonstration. Scaling new heights Clariant has launched Synergen DRT, the drift control agent and biological activator specifically for drones. The use of drones in farming can make crop spraying more precise, economical and safe, and due to these benefits, it is taking off on farms worldwide. However, it also brings new challenges: as drones have small tanks, they need to carry a more concentrated mix of actives and spray very fine drops to be effective.

As one of the leading global suppliers of specialty chemicals for agriculture, Clariant has launched DropForward, a focused approach to providing precision application with adjuvants and co-formulants. The high-performing adjuvant allows the application of standard pesticides under the low volume conditions of small drone tanks.

"Synergen DRT helps to control drift and volatility of fine droplets during

application and helps improving the coverage and penetration of the actives in the leaves, boosting biological performance as well as making drone spraying more sustainable and environmentally friendly," said Fabio Caravieri, Clariant's head of marketing, industrial and consumer specialties.

Drones were used in several field tests in Brazil, in crops such as coffee, cotton, orange and wheat, spraying at low volume in experimental plots where increased coverage and deposition was observed with the addition of Synergen DRT in the application tank, resulting in higher product efficiency. "The new adjuvant technology has shown that with small doses of the adjuvant, a robust performance is obtained in the control of drift and performance, even when used with mixtures of products, and standing out in the desiccation of weeds, ensuring higher efficacy of herbicides," Fabio added.

Christian Vang, global head of industrial and consumer specialties, "Precision farming, with increasingly data driven decision making, is the future and drones will play a big part in this. It is already used in fertiliser application due to significantly higher savings potential and the next big wave is expected to be with pesticides. Synergen DRT is cutting-edge adjuvant chemistry that is accelerating innovation and helping to position our customers at the forefront of a sustainable world." ■



Synergen DRT helps to control drift and volatility of fine droplets during application.

Image Credit: Clariant

Agrobank launches entrepreneurship programme

AGROBANK HAS LAUNCHED the Aquaculture Entrepreneurship Incubator program in collaboration with Universiti Putra Malaysia (UPM) on August 18. The programme aims to provide practical exposure to graduates regarding entrepreneurship in the field of aquaculture.

"In addition to the technical knowledge taught by UPM, participants in this programme were also exposed to business knowledge, financial management and marketing knowledge throughout the course of the program. The participants will also be monitored and guided for six months by certified business coaches from ACE to ensure they are able to manage businesses and compete in the real market," said Aminuddin Amenon, chief development officer of Agrobank. The participants of this program were also exposed to risk management and methods of dealing with it and received direct guidance through the sharing of experiences from successful entrepreneurs.

He further mentioned that they also provide a special financing fund for the youth known as YES (Youth Entrepreneur Scheme) or



Image Credit: Adobe Stock

Agrobank launches the Aquaculture Entrepreneurship Incubator programme.

the Young Agropreneur Financing Scheme which offers financing up to US\$44,702.74 with a profit rate as low as 2% per year for a period of seven years.



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