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Caring for the soil with CLAAS TERRA TRAC

Tree genetics for better yields from agroforestry

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Japan's Kyokuyo sells first batch of farmed bluefin tuna

JAPANESE BLUEFIN TUNA farmer Kyokuyo Feed One Marine, a fifty–fifty joint venture between seafood maker Kyokuyo Co and feed maker Feed One Co, has started shipping the Hon-Maguro no Kiwami Tunagu brand of fully farmed bluefin tuna to high-end supermarkets.

Kyokuyo Feed, which farms bluefin tuna from eggs to mature fish, sold its first batch on 22 Nov 2017 and plans to ship 60 mt of the tuna in fiscal 2017 through March next year and 200 mt in fiscal 2018. The joint venture is developing aquaculture and feed for tuna in an integrated manner, aiming to replicate the original red of the lean fish meat, *The Japan News* reports.

While the demand for Pacific bluefin tuna is strong in Japan for luxury sushi, the amount of the fish available to catch in the seas has been on the decline.

Image source: Yotrakbutda/AdobeStock)

Jollibee opens Philippines' largest poultry plant

JOLLIBEE FOODS CORP has opened a poultry processing plant in Batangas province, the largest in the country, to meet increased demand for its top-selling fried chicken. The facility in Sto Tomas town can process 45mn chickens per year. The plant is operated by Cargill Joy Poultry Production or C-Joy, a joint venture between Jollibee Foods and US-based Cargill. The country's largest fast-food operator announced construction of the facility in May last year, *ABS-CBN News* reported.

Nutriad sponsors swine conference in China

THE 6TH LEMAN China Swine Conference & World Swine Industry Expo was held in Nanjing City, China in November 2017 and feed additives company NUTRIAD was one of the sponsors of the event. The event, that covered swine production, swine health management, feed additives, equipment and veterinary medicines, was attended by more than 4,500 delegates from over 20 countries. In order to feed all its citizens, China has become the world's leading producer of animal feed and livestock products. Even though the feed volume produced in the first half of this year showed a slight reduction, experts agree that the short-term trend indicates further growth ahead.

Chew Boon Kee, Nutriad APAC director stated, "The Leman Swine Conference is internationally acclaimed for bringing science-driven solutions to the complex challenges facing this industry. China is well known as the largest swine producing country in the world and this event was the perfect platform to disseminate information on the advancement in technology and management in the swine industry and the solutions Nutriad can provide to producers."

Added Jim Zeng, Nutriad sales manager, "Our solution based programmes bring opportunities for swine health, nutrition, production and feed safety. We work closely together with industry professionals and producers around the world and use their input on needs, challenges and market to develop products that allow Chinese producers to improve efficiency and enhance feed and food safety."

Malaysia aims to export 30 per cent of broiler chickens by 2030

THE DEPUTY PRIME minister of Malaysia Dr Ahmad Zahid Hamidi said that Malaysia aims to export at least 30 per cent of broiler chickens by 2030. He pointed out that currently the country only exported about seven per cent of the 1.5mn broiler chickens produced by factories and breeding centres a day.

"Hence I call on broiler chicken processing companies to increase output for the world market and overall because we know the level of sufficiency of broiler chickens in Malaysia today is 128 per cent. This contributes 75 per cent of the total market worth RM10 billion from the national livestock industry," he said at the opening of Al-Barakah Food Industries Sdn Bhd's hybrid fresh chicken processing factory at Pedas Halal Park.

He pointed out that Malaysia was one of the net exporters of broiler chickens in Association of Southeast Asian Nations and was no longer a chicken-importing country.

Olmix opens its first factory in Asia

GLOBAL ANIMAL FEED additives company Olmix has opened its factory in Asia at Song Than 2 Industrial Zone, Binh Duong province, Vietnam. The opening ceremony of the factory had the participation of the representatives of the Department of Livestock Production, the France Embassy, the Authority of Binh Duong Province, General Consulate of France, communication agencies and other departments. The event was attended by several French experts and around 300 customers of Olmix–Viphavet from different Asian countries and important livestock producers in Vietnam.

The factory is expected to produce approximately 15,000 tonnes of animal feed additives and nutraceuticals for feed mills and farms per year. The company commented that the opening of this new production facilities is a milestone on the Olmix Group's road towards a prosperous growth in Asia. It also represents the Olmix Group's commitment to further strengthen the presence and activities in Vietnam and throughout Asia.

The factory is expected to produce approximately 15,000 tonnes of animal feed additives.

Image source: Ivonne Wierink/Adobe Stock

Events 2018

MARCH			
14-16	**ILDEX VIETNAM**	Ho Chi Minh City, Vietnam	www.ildex.com.vn
27-29	**VICTAM Asia**	Bangkok, Thailand	www.victam.com
APRIL			
08-10	**CIMAE China International Modern Agricultural Exhibition**	Beijing, China	www.cimae.com.cn
19-21	**Livestock Asia Kuala Lumpur**	Kuala Lumpur, Malaysia	www.livestockasia.com
JULY			
04-06	**INDO LIVESTOCK Expo & Forum**	Jakarta, Indonesia	www.indolivestock.com
25-27	**INAGRITECH 2018**	Jakarta, Indonesia	www.inagritech-exhibition.net
26-28	**Livestock Taiwan Expo & Forum**	Taipei	www.livestocktaiwan.com
26-28	**Aquaculture Taiwan**	Taipei	www.aquaculturetaiwan.com
26-28	**Asia Agri-Tech Expo & Forum**	Taipei	www.agritechtaiwan.com
AUGUST			
22-24	**AGRITECHNICA ASIA**	Bangkok	www.agritechnica-asia.com
22-24	**HORTI ASIA**	Bangkok	www.horti-asia.com
SEPTEMBER			
17-19	**VIV China**	Nanjing	www.vivchina.nl
OCTOBER			
17-19	**VIETSTOCK, Vietfeed & Vietmeat Expo & Forum**	Ho Chi Minh City	www.vietstock.org

Exploring opportunities for inclusive agricultural development in Vietnam

RESEARCHERS WORKING WITH the 'Market-based approaches to improving the safety of pork in Vietnam' or SafePORK project attended a North-West Symposium hosted by the Australian Centre for International Agricultural Research (ACIAR) on 23-24 November 2017 in Hanoi. The two-day research-for-development symposium discussed opportunities for inclusive agricultural development in the north-west region of Vietnam.

SafePORK is funded by ACIAR and coordinated by the International Livestock Research Institute (ILRI) with a duration of four and a half years starting in October 2017. Using a multi-disciplinary approach, the project brings together expertise in smallholder pig systems, risk analysis, socio-economics, value chain assessment, veterinary epidemiology, and public health. The core partners are the Hanoi University of Public Health, Vietnam National University of Agriculture and Vietnam National Institute of Animal Science.

"Cooperation in agriculture has been a very important part of Australia's relationship with Vietnam throughout the 44 years of diplomatic links between our two countries," said the Australian ambassador to Vietnam, Craig Chittick.

According to Vietnam's agriculture and rural development's vice minister Le Quoc Doanh, agricultural production in the northwest is yet to fully reach its potential. He said research carried out by projects such as SafePORK can help connect farmers increase production, access more profitable markets and increase their incomes while protecting the natural land and water resources of the region.

The symposium explored key opportunities, learnings, insights and implications from research programs in northwest Vietnam particularly in relation to regional markets and trade, sustainable farming systems, safe food value-chains, and inclusive and prosperous communities.

Food Outlook

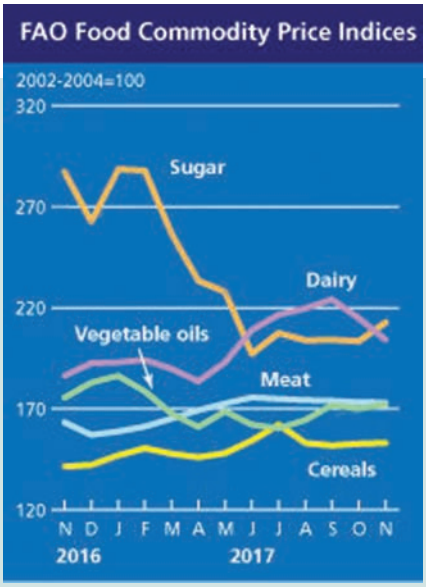
THE FAO FOOD Price Index (FFPI) averaged 175.8 points in November 2017, down fractionally (0.5 per cent) from October but still almost four points (2.3 per cent) above the corresponding period last year. A sharp rise in sugar and vegetable oil quotations was largely offset by a fall in dairy values while international prices of cereals and meat products remained relatively muted.

The FAO Cereal Price Index averaged 153.1 points in November, nearly unchanged from October but up almost 12 points (8.3 per cent) from November 2016. The Index has remained largely steady since August, generally reflecting an overall balanced supply and demand situation especially with regard to wheat and maize markets. In November, international rice prices rose by 1.1 per cent, amid stronger buying interest and currency movements.

The FAO Vegetable Oil Price Index averaged 172.2 points in November, up 2.1 points (or 1.2 per cent) from October and marking a nine-month high.

The FAO Dairy Price Index averaged 204.2 points in November, down 10.6 points (4.9 per cent) from October, representing the second consecutive month of a sharp decline. International price quotations for butter, cheese and whole milk powder (WMP) all fell, as rising milk output in all the major producing countries contributed to reducing concerns about the availability of supplies.

The FAO Meat Price Index averaged 173.2 points in November, almost unchanged from its slightly revised October value. International price quotations for pigmeat weakened for the third consecutive month, on account of slow import demand and large export availabilities. Similarly, ovine meat quotations slid downward, for the second successive month, largely due to continued increase in meat supplies in Oceania. By contrast, bovine meat prices rose for the third month in a row, supported by limited spot supplies from Oceania. Prices in poultry meat markets remained stable.



The FAO Sugar Price Index averaged 212.7 points in November, up 9.2 points (4.5 per cent) from October but still as much as 26 per cent below the corresponding month last year. International sugar prices rose in November, mostly supported by a drop in exports from Brazil and concerns over firmer oil prices encouraging greater switch of cane crush to produce ethanol than sugar.

New online tool to safeguard animal genetic resources

FAO HAS LAUNCHED a new database to help countries better monitor, survey and effectively manage their animal genetic resources, thereby allowing for early warning of the threat of extinction.

The Domestic Animal Diversity Information System (DAD-IS) is the most comprehensive source of global information on animal genetic diversity to date.

The biodiversity of around 40 animal species that have been domesticated for use in agriculture and food production is vital to food security and sustainable rural development. Many locally adapted breeds, some of which are threatened with extinction, have characteristics that make them resilient to climatic stress, diseases and parasites. Over the years, they have adapted to their environments characterised by harsh conditions.

The revamped version of DAD-IS includes new indicators to monitor the risk of extinction of breeds indicating those that are at risk and need urgent intervention.

The system boasts a new user-friendly interface, provides faster access to required information through a set of filters, and for the first time, includes tools to monitor the progress towards achieving the relevant Sustainable Development Goals (SDGs).

Image Credit:Suttisak/Adobestock

The system enables countries to store relevant data and easily calculate indicators under the Sustainable Development Goals.

The database is a result of three decades of collecting national data from 182 countries. Currently, it contains data on almost 9,000 breeds of livestock and poultry, including breed characteristics, information on distribution and demographics and more than 4,000 images.

DAD-IS is an essential tool for planners, decision makers and scientists to analyse trends, make informed decisions and forecasts, support the development and implementation of international agreements including the Global Plan of Action for Animal Genetic Resources, as well as national policies and strategies for the management of animal genetic resources.

FAO estimates that more than 25 per cent of the world's local farm animal breeds are currently at risk of extinction. Examples include the Inyambo cattle in Rwanda, the H'mong pig in Vietnam, the Criollo Uruguayo sheep in Uruguay or the Limiá cattle in Spain.

"DAD-IS is a very powerful tool to inform policy-makers on potential risks, but a system is only as good as its content," said Roswitha Baumung, FAO animal production officer. "There is still a big data gap. For almost two thirds of the world's livestock and avian breeds, no information has been made available to monitor their extinction risk."

Asia-Pacific forest and farm producers pivotal to improving smallholder livelihoods

FOREST AND FARM Producer Organisations (FFPOs) from more than 10 countries of Asia-Pacific are gathering in Myanmar for the second regional conference to accelerate and scale up implementation of the SDGs in climate-resilient landscapes for the benefit of local farm and forest communities.

The conference: "From users to producers: Scaling up FFPO businesses to implement the Sustainable Development Goals (SDGs) in climate-resilient landscapes," is a three-day meeting providing an opportunity for representatives of local, regional and global forest and farm-related organisations to share best practices that will help improve livelihoods through collaboration and networking.

At the core of this work is the producer organisations with their strong organisational and operational structures and proven ability to offer a wide range of services to smaller producers – from management of natural resources to information, technology, business skills, market access and financing.

"Producer organisations are strategic partners for FAO in achieving its mandate and SDG targets on food security and poverty reduction," said Xiaojie Fan, FAO representative in Myanmar. "FAO supports existing dynamics in countries, by strengthening producer organisations' capacities at global, regional and national levels. Drawing on its global resources and expertise, and programmes such as the Forest and Farm Facility, FAO facilitates knowledge generation, organisation capacity building, legal and policy reforms, partnerships and south-south cooperation," she added.

For more than 450mn people across Asia and the Pacific, forests are an integral part of their lives, with forest producers – through their key contributions to local economies and rural development – among the primary actors working daily towards the achievement of the SDGs. FFPOs also play an important role in increasing the resilience of the most vulnerable rural communities who are socially or economically excluded, by providing a form of social protection that allows them to overcome these harsh situations and thereby avoid extreme poverty and hunger.

Community forest and farm businesses are also critical actors in the chain of measures to build and enhance climate resilience in landscapes. Moreover, by offering landscape-dependent communities opportunities to diversify their income, FFPOs provide these communities with a means of increasing their economic resilience. The businesses also increase ecological resilience, through enriching and connecting ecosystems.

When profitable, FFPOs diverse production systems incentivise the protection of landscape mosaics of forests, farm crops and trees, while providing a hedge against uncertainty and providing space for climate-change adaptation. At the same time, such work improves livelihoods and increases employment.

Antibiotic reduction on focus at Asian Layer Feed Quality conference series

THE 2017 ASIAN Layer Feed Quality conference series held in November in Indonesia and Vietnam focused on three key areas: translating the latest layer research into practice; reducing feed costs and developing nutritional strategies to reduce in-feed antibiotics.

The global egg market is one of the fastest growing protein markets with more than 50 per cent growth in next decade and faster growth for egg products. Global poultry is currently performing well, with producers generating profits in most regions of the world, despite the ongoing pressure of avian influenza (AI), which is felt especially in Asia. China is the big exception, where the negative impact of AI has kept prices down.

Belgium headquartered multi-national feed additives producer NUTRIAD was a sponsor of the conferences in Jakarta and Ho Chi Minh City. Besides supporting the event, NUTRIAD also presented on alternatives for the use of antibiotics in feed formulations for poultry.

Dr Tim Goossens, business manager of digestive performance at Nutriad Belgium, presented his paper entitled "Can gut health additives be used as alternatives for antibiotics? Limitations and opportunities." Goossens highlighted the available options for AGP replacement and how to apply additives in a strategy to reduce the dependency on antibiotics in poultry feed. He also shared the latest research on the application of ADIMIX PRECISION in layers and how its application supports feed and food safety. Upon questions from the audience, he explained the scientific data available on salmonella and campylobacter control.

Nutriad CEO Erik Visser said, "Indonesia and Vietnam are strategic markets for Nutriad, so we were very happy to participate in these industry specific events. We continue to show our commitment through sponsorship, sharing of know-how, increased technical support and a focus on converting global knowledge into practical solutions that can be effectively implemented by producers in markets across Asia."

Image Credit: New Holland

Methane powered Concept Tractor at Agritechnica 2017.

Creating a sustainable future for Asia's farmers

The main theme of this year's Agritechnica show held at the Hannover Fairgrounds in Hannover, Germany was 'Green Future-Smart Technology,' with a host of exhibitors presenting their new innovations for Asia's agri-machinery sector.

THE 2017 EDITION of the show, held at the Hannover Fairgrounds in Hannover, Germany, presented a jam-packed line-up of events, including conferences and forums such as Young Farmers' Day, which was a day that welcomed young farmers from across the world to take part in an international exchange of experiences and Workshop Live, an event that provided exclusive insights into the practical work of young mechanics.

Some of the highlights from the sessions included market reports and best-practice examples from successful firms. There was also an opportunity for delegates to exchange ideas and experiences and network with invited guests. Speaking ahead of the show Frederik Tipp, project manager, Ag Machinery International, Agritechnica, said, "Feedback from DLG's expert network has helped us to identify regions that are experiencing machinery developments and are worthy of focus at the conference. The sessions we have planned will examine them with regard to market potential, market access avenues, financial frameworks and technology requirements."

Increased participation from Asia

This year, Agritechnica welcomed around 2,800 exhibitors from 53 countries, serving as a platform to present the latest equipment and technology for the agricultural sector. *Far Eastern Agriculture* spoke to Vincent de Lassagne, the brand leader for New Holland Agriculture Asia Pacific region. "We saw much more visitors from Asia this year than previous years – there were a lot of visitors from China. It is very positive that there is a lot of interest in all the technology we are displaying here. The Asia total market value is close to be one fourth of the world's total machinery value with heavyweight countries such as China, India, Thailand – the biggest Asian countries for machinery. We see that in countries like India, there is a lot of interest for imported machinery or new technology that we have not seen so far. For example, we have been present in the India market for many years. We started to sell high horse power tractors as well and we sit very positively as there is a need for additional productivity," said Lassagne.

"There are much more dedicated contractors who are buying this machinery not to only use on one farm but to share it. These farmers invest in new machinery to use them on their farm but they also take contracting jobs outside of their farm with the machinery and this trend is developing quite fast," he said.

"In the market, we have to introduce new concepts that require a bit of time to spread. We now have a product from India – a new combine which is multicrop for farmers and contactors in Asia – it can be used on all the types of crops grown in India and Southeast Asia. That is a new concept in Asia and we need to demonstrate the concept and find the first entrepreneur who wants to develop these activities," added Lassagne.

New Holland won Machine of the Year 2018 Award in the Mid Class Tractor category at this year's show for the New Holland T6.175

Dynamic CommandTM tractor in the Mid Class Tractor category after being judged against a criteria that looked at performance, productivity and cost of operation.

Innovations on display

Also at the show was Fliegl, which presented its new product range, including Fliegl BUFFALO, a completely new combination of rotor loading system, pickup, cutting rotor, holding hopper and overloading apparatus. Material is taken up, cut, stored in a holding hopper and overloaded onto the transport vehicle. Fliegl BUFFALO offers continuous loading, continuous transport and full utilisation of capacity. The result is a harvesting process with unprecedented efficiency - a revolution in grassland harvesting. The Fliegl BUFFALO was awarded the Silver Innovation Award at Agritechnica.

New Holland won Machine of the Year 2018 Award in the Mid Class Tractor category at this year's show for its T6.175 Dynamic CommandTM tractor in the Mid-Class Tractor category.

Rolland's Rollmax manure spreader is expected to reach high precision farming. The high volume spreaders range can now be equiped with dynamic weighing system coupled with an accurate dosing system. This option will allow to answer to the agro-ecological requests and the new HD finition will perform on intensive use. Also presented at the show was the TCE concept vehicle invented by Rolland 25 years ago. The deck offers dismountable wearing parts and is made with 10mm steel and the discs with 12mm steel for a higher durability. This makes the beater frame as close as possible to the bed chain in order to mix the manure quickly and to improve spreading quality and width. A full width side deflector has been designed to easily spread on fields sides.

SaMASZ recently launched its new generation of LiteCUT cutting disks. "Our designers keep up working hard to provide all of our customers with machinery of the highest quality possible, which not only facilitates operation but also ensures high quality fodder," a company representative said. The company has introduced retrofits to the LiteCUT cutting disks. Therefore, it has created a completely new generation of disks which are fully interchangeable with previous models, and can be used without any problems at older cutting units applied in SAMBA mowers.

SaMASZ has instructed its designers to optimise the shape of LiteCUT cutting disks, which has improved their cutting properties while substantially enhancing preparation of green forage, and in general has improved the strength and durability of the disks. Another feature of the cutting disk is the use of specially shaped cutterbars. The retrofit is complemented by the application of a wide tunnel between specially shaped toppings, which significantly improves self-cleaning, and as a result ensures fodder of the highest quality and cleanliness. Performance, accuracy and high quality are main objectives the comapny is aiming to deliver. Their efforts can make the 2017 season far easier and more user-friendly than previously.

Image Credit: Escorts Agri Machinery

Escorts Limited launches their Global NETS Series and Electic Tractor.

Farmtrac launches its first electric tractor

Farmtrac Tractors Europe unveiled its latest global tractor portfolio ranging from 20-120 hp at Agritechnica 2017, including the first electric tractor produced by its Indian parent company Escorts Ltd. NETS (New Escorts Tractor Series), the newest Farmtrac tractors, are fully compliant with EPA Tier 4 emission regulations, and have been designed with simplicity and ease in mind for farm applications at each power level. The range includes the flagship NETS models, with power ratings from 70 to 90 hp; compact tractors in 22 to 30 hp options; crossover tractors designed to appeal to both on-farm and haulage applications, and tractors with cabin options for ultimate driving comfort.

Speaking at the launch at Agritechnica, Nikhil Nanda, managing director at Escorts, the holding company of Farmtrac Tractors Europe said, "Farmtrac is extremely proud to launch the electric tractor concept. It is a display of our innovative approach to engineering, offering India's best to the world. New mechanised farming products and solutions are essential for meeting the global demand for greater food production."

This year's show was hailed a success with visitors from 138 countries; most of them from The Netherlands, followed by Denmark, Switzerland, Austria and Italy. Visitor growth was recorded in the numbers from North America, Eastern Europe, Asia and Africa. The visitor survey showed more than two-thirds of the surveyed farmers, contractors and machinery rings intend to invest in the next two years. The focus of this investment was primarily linked to replacement and expansion. ■

Protecting livestock from the effects of climate change

New research shows that earth-air heat exchanger is an efficient way to protect farm animals in livestock buildings against the effects of climate change

SCIENTISTS PREDICT THAT the adverse effects of climate change are likely to reduce livestock production by 20 to 30 per cent in the near future as a result of rising temperatures. Beside taking a toll on the health and wellbeing of the animals, heat stress also affects performance and, as a result, profitability. Without countermeasures, climate change will negatively impact animals in pig and poultry production.

The higher temperatures resulting from climate change will require certain measures to be taken in pig and poultry production. Without suitable cooling systems, animals kept in confined livestock buildings would face increased heat stress. That would have a negative effect on the wellbeing of the animals. And, as a result of lower feed conversion or egg production, it would also have an economic impact.

As the animals are predominantly kept in confined livestock buildings equipped with mechanical ventilation systems, cooling systems are crucial to the health of the animals. While there are a range of ventilation systems available in the market, cost effectiveness is a challenge to small and medium scale farmers.

A recent study carried out at the University of Veterinary Medicine Vienna, Vetmeduni Vienna, examined the inlet air temperature of several air cooling systems. The study found that the best solution is the use of the earth for heat storage via an earth-air heat exchanger (EAHE). An EAHE cools in the summer, and warms up the inlet air during wintertime.

The comprehensive study, which was conducted by Vetmeduni Vienna, BOKU and ZAMG, as part of the Austrian Climate Research Programme, shows that the usual cooling systems, such as earth-air heat exchangers or direct and indirect evaporative cooling, some of which have been established practice since the 1960s, are good choices for cooling livestock buildings. In an EAHE, outside air flows through tubes with a length of about 40 m, buried at a depth of about two metres. The systems works somewhat like a cellar, which is cooler in the summer and warmer in the winter.

Image Credit: Stramyk Igor/AdobeStock

Rising temperatures will take a toll on the health and wellbeing of the animals.

Earth-air heat exchanger better than evaporative cooling

The heat stress on animals from temperature and humidity can be measured using a temperature-humidity index. These parameters have been established for humans as well as for many farm animals and they are an important factor for determining which cooling systems best protect animals kept in confined livestock buildings from heat stress.

An EAHE cools in the summer, and warms up the inlet air during wintertime.

Three common cooling systems, all of which also find use in residential situations, were examined as part of the study. One system cools the air by using the earth for heat storage, the other two systems cool via the direct or indirect evaporation of water. “These two systems function in a similar way as sweating. The indirect method, however, also uses a heat exchanger to avoid humidification,” study director Günther Schauberger explained.

“Our calculations showed that an earth-air heat exchanger is the most efficient system for confined livestock buildings. The method cools the air accordingly during the summer. And heating the inlet air in winter significantly improves the flow rate and thus the air quality in the building,” Schauberger said. “This makes is possible to completely avoid heat stress for the animals.”

Direct evaporative cooling, on the other hand, has the disadvantage that cooling the air also results in increased humidity. The indirect method avoids this disadvantage, but the cooling is less efficient. ■

Cargill to invest US$240mn in India over the next five years

LEADING FOOD AND agriculture company Cargill has announced that it will invest US$240mn in India over the next five years. These new investments will add to the food safety and economic development of the country and benefit the food processing and agriculture industries.

The announcement was made at the World Food India Conference by Peter Van Deursen, chief executive officer at Cargill Asia Pacific at a signing ceremony of a Memorandum of Understanding (MOU) with India Ministry of Food Processing Industries in the presence of the union minister of food processing industries Harsimrat Kaur Badal.

The added investment will be in Cargill's core businesses including, edible oil, cocoa and chocolates, starches and sweeteners and animal nutrition in India. In addition, it will provide employment to 1,300 people and help farmers in the country.

Van Deursen said, "India is an important market for us and this increased investment demonstrates our commitment to the country and the development of its agriculture and food processing industry. With the growing population and changing consumer trends, Cargill is committed to nourishing the people of India in a safe, sustainable and responsible manner. The Ministry for Food Processing Industries is to be complimented for organising an event the scale of World Food India as it lets us collaborate with partners in the public and private sectors to deliver to our customers what consumers want."

Last year, Cargill inaugurated its first wet corn milling plant in India; set up with an investment of US$100mn. The company also inaugurated a new dairy feed mill in Punjab.

CCK to raise output at Kuching poultry abattoir

CCK CONSOLIDATED HOLDINGS, one of the largest integrated poultry firm in Malaysia, will raise the production output of its poultry abattoir in Kuching by one-third under an expansion and upgrading project.

Executive vice-chairman Chong Shaw Fui said the expanded abattoir would gradually increase the group's production to 40,000 birds per day from current 30,000 birds starting next year.

Installation of new machinery and equipment is expected to be carried out next month, *StarBiz* reported. The halal-certified abattoir also has the acquired the hazard analysis and critical control points certification from the authorities.

"The dressed chicken are supplied to CCK retail outlets, corporate clients including KFC and McDonald's and processing plants to be processed into chicken parts, sausages and other products," Chong explained.

He was speaking at a briefing for a 33-member delegation from Sibu Chinese Chamber of Commerce and Industry on a field visit to CCK group's hatchery farm in Bau. The delegation led by president Dr Gregory Hii Sui Cheng also toured CCK group layer egg farm.

Limited knowledge and unsustainable practices lead to lower yields in agroforestry.

Image Credit: Kowit sithi/Adobe Stock

How tree genetics can improve agroforestry

A recently completed project in Sulawesi, Indonesia, illustrates how tree genetic resources can be used to improve productivity and sustainability in agroforestry and empower livelihoods.

GENETIC RESOURCES CAN play a major role in improving smallholder approaches to farming and help them augment their yields and livelihoods. The effective use of tree genetic resources is crucial to bridge production gaps, ensure profitability and diversify production options. This has, for example, been highlighted by the Global Action Plan for Agricultural Diversification (GAPAD).

If tree genetic resources are used effectively and sustainably, this can help improve livelihoods, sustain ecosystems and help reverse current cycles of land degradation and deprivation.

However, the role of tree genetic resources in the provision of tree products and services has often been undervalued. This has resulted in the cultivation of trees that are not matched to the planting site, with poor yields of tree products and their low-quality traits.

The AgFor Sulawesi project

Linking Knowledge with Action (AgFor Sulawesi) is a research in development project by the World Agroforestry Centre (ICRAF) in Sulawesi, Indonesia, which studied how to improve equitable and sustainable agroforestry and forestry-based livelihood systems through a focus on genetic resources, governance and sustainable environmental management.

Agroforestry techniques became common in south-east Sulawesi about 20 years ago when land-use intensified with the immigration of farmers from south Sulawesi, Java and Bali. After the forest conversion, the fertile forest soil allowed for high yields. But limited knowledge and poor practices led to substantially lower yields, which forced farmers to clear ever more original forest for their crops.

The project, which began in 2011 and came to a close in March 2017, provided rural communities with better quality plant genetic material, improved on-farm management practices, marketing knowledge and capacity building in governance and environmental management.

"We started off by identifying the main species on the farmers' land, but also the species that the farmers were most interested in, the marketing opportunities and where farmers actually made the most money," said James Roshetko, FTA researcher from ICRAF.

The most important species that were identified were cacao, durian, cloves, rubber, nutmeg, coconut, black pepper, coffee, rambutan and teak. Oranges, jackfruit and a timber called surian were added later. The tradability of the products, whether globally or nationally, was crucial as a main income source for the participants.

"A lot of those are commodity crops," he added. "Even if the farmers have what we might call subsistence farming systems, they still need to sell something for cash in this day and age."

Providing resources to farmers

FTA researchers provided quality germplasm (seeds and seedlings) as the genetic resource, set up nurseries, and promoted species that could benefit people's incomes.

"We introduced the concept that each farmer group could have its own nursery," Roshetko said.

As of September 2016, there were 308 nurseries in the 10 districts, he explained, which had produced 1.66mn high-quality seedlings.

Of the seedlings, cloves accounted for 27 per cent, while rubber was 24 per cent, durian was 14 per cent, pepper was nine per cent, cacao was seven per cent and nutmeg was five per cent. This represented 86 per cent of the total seedling production. Overall, seedlings of 60 different species were raised in the nurseries.

Project staff toured the districts, undertook community consultation and disseminated information about AgFor Sulawesi to arouse people's interest.

Rather than financial incentives, Roshetko said the farmers were offered "knowledge, science and material to improve their own livelihoods."

Improved yields

Participants in project trainings increased not only production but also their incomes through a greater understanding of the market.

The effects were tangible, with Roshetko citing the example of a low-income woman who said that by increasing her agricultural production she was able to put her children through university.

With training a key aspect, the scientists introduced, for example, top grafting in cacao gardens as an alternative way to replace old trees that had become less productive. A top-grafted tree can return to full production sooner than a new seedling would reach full production.

Cloves were one of the species that were identified for the project.

Image Credit:Tropical studio/Adobe Stock

Many of the farmers' challenges came down to "simple management", said Roshetko.

In line with FTA Flagship 1, AgFor Sulawesi used tree genetic resources to bridge gaps in production and promote resilience. The associated research is expected to improve genetic resources knowledge. ■

-CGIAR

Towards sustainable rice cultivation with direct seeding

Direct-seeded rice (DSR) cultivation which provides a more efficient and cheaper alternative to manual rice transplantation has great potential in Asia.

Image Credit: wiratgasem/Adobe Stock

Direct seeding eliminates the need for the labour intensive process of rice transplantation.

RICE IS THE staple food of Asia and part of the Pacific. Over 90 per cent of the world's rice is produced and consumed in the Asia-Pacific Region. With growing prosperity and urbanisation, per capita rice consumption has started declining in the middle and high-income Asian countries like the Republic of Korea and Japan. But, nearly a fourth of the Asian population is still poor and has considerable unmet demand for rice. The demand-produce gap for rice in Asia is predicted to rise exponentially in the near future.

"The projected demand by the year 2025 is mind boggling, as in major Asian countries rice consumption will increase faster than the population growth. In summary, in Asia, the rice consumption by the year 2025, over the base year 1995, will increase by more than 51 per cent."

The task of increasing substantially the current level of production will face additional difficulties such as greater demands on scarce resources and the added challenges of climate change. In this scenario, it is imperative that farmers adopt more sustainable cultivation techniques.

Sustainable resource utilisation with DSR

In traditional rice cultivation, rice is sprouted in a nursery and the sprouted seedlings are then transplanted into standing water. Direct seeding is a technique of rice cultivation where the rice seeds are sown and sprouted directly into the field, eliminating the laborious process of planting seedlings by hand.

Under optimal conditions, direct seeding is considered a more efficient and cheaper method of growing rice than manual rice transplantation. It requires less resources such as labour and water, and it emits less greenhouse gases compared with other rice growing methods.

The process of transplanted rice often leads to damaging effects on the soil for the succeeding wheat and other upland crops. This makes the process of puddling, the tillage of rice paddies while flooded, and the laborious task of transplanting the young rice seedlings necessary to enhance the sustainability of the soil. Puddling requires large quantities of water and in regions where water is scarce this puts a great amount of stress on the resources. Researchers have also found that it damages soil structure and adversely affects soil productivity.

Direct seeding tackles these issues by eliminating the need for puddling. Unlike puddle fields, these fields do not crack and so help save irrigation water. Surface retained residue serves as physical barrier to the emergence of weeds. They also moderate the soil temperature in summers and winters, conserve soil moisture, add organic matter and nutrients to the soil on decomposition.

The problem of seasonality in labour requirement for rice nursery raising and transplanting operations is another issue related to rice cultivation. Non-development of ground water, erratic monsoon patterns

and time required for operations often delay rice transplanting which leads to late vacation of fields, forcing farmers to plant the winter crops after the optimum sowing time. DSR facilitates timely establishment of rice and succeeding winter crops.

Different techniques of direct seeding

Depending on the land preparation method used, direct seeding can be done in two ways: dry direct seeding or wet direct seeding

Dry direct seeding method is usually practiced for rainfed and deepwater ecosystems and is done by drilling the seed into a fine seedbed at a depth of two to three centimetres. Farmers sow onto the dry soil surface and then incorporate the seed either by ploughing or harrowing. Precision equipment, such as the Turbo Happy Seeder, can be used to drill seeds. In this technique, fertilisers can be applied at the same time as the seed. Manual weeding also is easier in machine-drilled crops than in broadcast crops.

Wet seeding, on the other hand, requires levelled fields to be harrowed and then flooded (puddling). The field is left for 12-24 hours after puddling, then germinated seeds (48-72 hours) are sown using a drum seeder. In wet fields, direct seeding can be done either through broadcasting or drilling seeds into the mud with a drum seeder. Drum seeders are used for fast planting. It operates best on a well-levelled, smooth and wet seedbed.

Tackling weeds

While in this method, plants are not subjected to stresses such as being pulled from the soil and re-establishing fine rootlets, they have more competition from weeds. Weeds are one of the main reasons rice is traditionally sprouted in nurseries and transplanted; standing water prevents germination of competing plants.

Seed can be broadcast for either dry or wet seeding, but manual weeding is far more difficult. Indeed, weed management is a critical factor in direct seeding. According to the International Rice Research Institute (IRRI) knowledge bank, timely application of herbicides and one or two hand weedings can provide effective control.

Promoting DSR in Asia

In an attempt to make the technique of direct seeding more popular among farmers, IRRI and BASF signed three agreements, paving the way for wider dissemination and adoption of DSR tools and technologies. Through this partnership, the two organisations will establish a multi-stakeholder DSR Consortium and further research on the use of non-genetically modified, herbicide-tolerant rice.

Although direct seeding is widely practiced in the United States and South America, challenges such as higher yield losses due to weed infestation have limited its wide-scale adoption in Asia.

The new research consortium aims to develop robust mechanised dry- and wet-DSR systems and investigate solutions to manage weeds and formulate agronomic practices suited for DSR farms in Asia.

Furthermore, the consortium will enable IRRI to develop DSR technologies and test rice varieties suitable to Asian environmental conditions. Membership is open to the public and private sectors, research organisations, NGOs and farmer groups.

"Feeding the world is not just a public sector concern. It is a problem that needs everyone's contribution, including the private sector. With this partnership, we're enabling organisations like IRRI to work closely with companies like BASF toward a common goal, which is sustainable development," said Jacqueline Hughes, deputy director general for research at IRRI.

The partnership will also advance research on non-genetically modified, herbicide-tolerant rice to safely control weed infestation in DSR systems. Once these varieties are introduced to the market, a third-party organisation will assess their impact on rice productivity, profitability, and ecological sustainability.

The demand for rice is predicted to grow exponentially in the next 20 years.

Image Credit:Cardaf/Adobe Stock

"This partnership with IRRI will expand our reach and expertise, and we are confident that this will contribute to faster and wider dissemination of rice technologies, such as the Clearfield Production System and Provisia Rice System, that raise rice productivity and farmers' income at the same time. Through this collaboration, we are excited to provide products and programme support that contribute to food security in a significant and environmentally sustainable way," said Gustavo Palerosi Carneiro, head of BASF's crop protection division in Asia Pacific. ■

The future of sustainable farming

Far Eastern Agriculture speaks to brand leader for New Holland Agriculture Asia Pacific region, Vincent De Lassagne, who discusses the importance of sustainability at economic and environmental levels and future plans for expansion in the Asia agri-machinery market.

New Holland's methane powered concept tractor.

Image Credit: New Holland

***Far Eastern Agriculture (FEAG):* What does the Asia agri-machinery market look like at the moment? What are the factors driving growth?**

NHAG: The Asia-Pacific market is massive - it accounts for almost one third all global demand for agricultural machinery and is growing fast. This growth is driven largely by the region's increasing affluence. One of the main reasons for increasing affluence is increasing economic productivity, and in the agricultural sector one of the main reasons for increasing productivity is the adoption of modern equipment. You could say it's a virtuous circle! Another significant factor in growth is government support. China and India, the world's two most populous nations, have great scope for growth, as do countries such as Thailand, Indonesia, Vietnam, etc. But in some places there's still a lack of skilled manpower and a lack of awareness about new technologies.

***FEAG:* Is New Holland looking to expand its presence in Asia?**

NHAG: Yes, in two ways. The first way in which we plan to expand is by introducing new products to the region to help farmers do their work more easily, more productively and more profitably. The other way we'll expand our presence here is in the ongoing support and advice we provide to customers. As part of that commitment, in April 2017, New Holland Agriculture progressed from having a third-party distributor in Thailand to establishing a direct distribution structure there. At the same time, we opened an additional branch in Bang Na, Bangkok, which serves our customers and dealers in Thailand. These recent initiatives will ensure our customers continue to receive market-leading levels of parts and service back-up, as well as specialist advice and tailored finance packages. It is the kind of working partnership we believe farmers deserve.

***FEAG:* What are the latest products that were launched in the region?**

NHAG: There have been quite a few! Across Southeast Asia, we have extended the popular TT4 Series of New Holland tractors, so that this now includes five models ranging from 55 to 85 hp. Also across the region, our recent acquisition of Kongskilde Agriculture has broadened our product range with ploughs, cultivators, seed drills, and grass harvesting and feeding products. In China, we introduced the new Roll Baler 125, which delivers high productivity and uniform bale formation in a wide range of conditions. This further strengthens our position as market leader in hay and forage equipment. And in India, we introduced the TC5.30 combine, the first multi-crop combine of its kind to be offered in Asia. This state-of-the-art five straw-walker machine has the lowest cost of ownership and highest productivity in its segment.

***FEAG:* Can you tell us about New Holland's pro-active and automatic combine setting system which won a Silver at the Agritechnica Innovation Awards?**

NHAG: We're proud to have been awarded a Silver Medal by an independent committee of experts appointed by DLG, the German Agricultural Society. This recognises our innovation of the world's first pro-active and automatic combine setting system, a unique feature found on our CR Revelation combine harvesters. This addresses the big challenge of maintaining maximum throughput levels while keeping losses and damaged grain at acceptable levels. It does this by using GPS data to proactively predict changes in slope and crop density and make corrective adjustments before the combine's header starts cutting and taking the crop. It is a great example of how advances in technology are improving farming productivity.

***FEAG:* Can you tell us about New Holland Agriculture's methane-powered concept tractor that was unveiled recently?**

NHAG: This new concept created quite a stir when it was unveiled last August at the Farm Progress Show in Illinois, USA. It gives a vision for the sustainable future of farming. By pushing the boundaries with alternative-fuel solutions, it shows how a farm could be energy-independent. In addition to producing food, the farm would also produce biomass to generate energy to run its operations and machinery. What's even more impressive is that the methane powered Concept Tractor delivers the same performance and durability as its diesel equivalent but reduces the running costs by about 30 per cent. By running on energy produced from the land and waste products, the tractor combines alternative fuels and advanced agricultural technology to create a vital link that closes the loop in the virtuous cycle of the Energy Independent Farm concept first launched by New Holland in 2009.

***FEAG:* What are New Holland's latest offerings in precision farming? What is the precision farming market in Asia like?**

NHAG: The productivity benefits of precision farming are great, but in some parts of Asia the technologies are in the early stages of adoption because of lack of awareness. This means there's still huge potential in Asia to make gains from these technologies. One good example is New Holland's PLM (Precision Land Management) Software, which enables farmers to download precise yield data from a tractor or combine and analyse it on a PC to tailor activity for future seasons. This helps maximise yields, control input costs, and optimise profits. Then there's PLM Connect telematics, which connects machines to PCs in the office to provide information about the machine's location, operational hours, and scheduled maintenance, with remote diagnostics capabilities. Also popular with machine operators is our IntelliSteer system, which lets you set your guidance path and then sit back, relax, and enjoy the hands-off ride as the machine works to an accuracy of ont to two centimetres.

FEAG: Has New Holland been taking steps towards promoting sustainability in agriculture?

NHAG: Most definitely! It is worth saying something about sustainability, an important issue which grows in urgency every year. Sustainability is important at an economic level because it can lead to lower energy costs for many businesses including farms, and important at the environmental level to prevent the potentially catastrophic effects of global warming. That's why in 2006 New Holland launched its Clean Energy Leader strategy, to pioneer and promote renewable fuels and sustainable agriculture. We are helping our customers reduce emissions, lower fuel consumption, better manage their soil, control valuable water resources, optimise production inputs, and cultivate clean energy sources.

Image Credit: New Holland

Vincent De Lassagne, brand leader for New Holland Agriculture Asia Pacific region.

In Asia, our commitment to sustainability is particularly seen in our pioneering farming technologies for biomass. We are making proactive efforts to reduce emissions from sugarcane burning in countries such as India and Thailand by encouraging the use of balers to re-utilise sugar cane trash for combustion. And in India we have launched a campaign to spread awareness among farmers of the ill-effects of burning crop-residue left in the fields after harvesting, sharing information with them about solutions that can help in crop residue management. As part of this project, New Holland is providing training with a complete range of equipment for straw management such as rakes, balers, mulchers and tractors.

***FEAG:* Can you tell us about your latest innovations in agri-equipment?**

NHAG: While we're talking about equipment, I should like to mention our NHDrive autonomous tractor. This unmanned vehicle can perform a wide range of farming tasks at day and night, meaning it can make full use of the periods of favourable weather for farming - and can even work 24 hours a day, seven days a week. This has the environmentally-friendly benefits of optimising engine running time and reducing crop waste. Further development of this concept will be part of our future PLM strategy, which is one of the pillars of our Clean Energy Leader strategy.

And of course, we cannot forget the already mentioned Methane powered Concept Tractor: which is one of the cornerstones of our Clean Energy Leader strategy, also on display at Agritechnica this year.

At New Holland we see methane and propane as the fuels with the greatest potential for the development of technologies that deliver on all fronts: performance, costs and sustainability. ■

Image Credit: New Holland

A tractor from TT4 Series in Southeast Asia.

Case IH Maxxum Multicontroller tractor wins Machine of the Year

CASE IH'S NEW ActiveDrive 8 version of its latest Maxxum Multicontroller tractor range has been awarded the Machine of the Year title for 2018 at AGRITECHNICA.

Judged by a panel of European agricultural magazine editors, the accolade has been given in recognition of the performance and cost-saving benefits the new transmission and other range developments bring to this tractor market segment.

The Machine of the Year award, one of the key events on the Agritechnica agenda, is judged by journalists from the German agricultural publications agrarheute, traction, Agrartechnik, Land & Forst, Bayerisches Landwirtschaftliches Wochenblatt and from other international agricultural publications. The journalists make their overall selection from 14 categories of tractors and other self-propelled equipment to implements. The winners of each category are then revealed in mid-November, before the overall MOTY winner selected is revealed at Agritechnica.

An entry into the MOTY 'mid-class' tractor bracket, the latest Maxxum Multicontroller models feature a new semi-powershift transmission offering eight powershift steps in each of three ranges. Named ActiveDrive 8, it joins the existing four-speed semi-powershift and continuously-variable transmission options available on Maxxum tractors, which respectively have been renamed as ActiveDrive 4 and CVXDrive. ActiveDrive 8 provides a total of 24 speeds in both forward and reverse. The transmission incorporates a number of features designed to make the tractor more efficient and the driver more relaxed. A creeper version is optional available for special applications.

Image Credit: Case IH)

ActiveDrive 8 provides a total of 24 speeds in both forward and reverse.

Covering speeds up to 10.2 km/h, range one is specifically designed for heavier draft work. For special applications requiring very low speeds, such as vegetable crop work, ActiveDrive 8 is also available with additional creep speeds.

Caring for the soil with CLAAS TERRA TRAC

DRAWING ON ITS many years of experience gained in the field and through meeting the needs of 25,000 satisfied customers, CLAAS showcased its TERRA TRAC expertise at Agritechnica with enhanced versions of its crawler track system fitted to a JAGUAR forage harvester and an AXION large tractor.

Soil compaction reduces yields and takes a great deal of work to eliminate again. CLAAS commented that it attaches great importance to soil protection, starting with measures taken during the machine development process. 30 years ago, the company presented the first series-production combine harvester with full rubber tracks. This was followed by the TERRA TRAC concept a few years later. Since then, CLAAS has pursued the systematic development of crawler track technology on the LEXION large combine harvester.

The benefits of this system for combine harvesters comprise are many. It applies 66 per cent lower soil pressure compared with wheeled machines and delivers 40 km/h on-road travel with a transport width that complies with road traffic licensing regulations. The company pointed that this system also provides high level of driving comfort through hydropneumatic suspension and smooth front attachment guidance and excellent directional stability. It allows for high stability on side slopes and has potential for cost savings through protection of soil structure and reduced effort required for subsequent tillage.

A half-track tractor with full suspension, the AXION 900 TERRA TRAC combines the advantages of a tracklaying tractor with the more convenient drive characteristics of a conventional standard tractor.

As the next logical step, CLAAS is now equipping AXION large tractors and JAGUAR forage harvesters with this concept which has been optimised specifically to meet customers' requirements.

In equipping its JAGUAR with TERRA TRAC, CLAAS is the first forage harvester manufacturer to present a factory-fitted integrated crawler track system for forage harvesters which protects the soil and grass cover with a unique, integrated headland protection feature. During a turning manoeuvre, the machine is supported on the middle support rollers, thereby raising part of each crawler track. As a result, the contact area and degree of soil pressure change briefly to a level comparable to that obtained with 800-size tyres. This innovative concept allows year-round operation with a high degree of machine utilisation and no time lost in conversion.

Pig Buyers'Guide 2017

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

PLEASE MENTION FAR EASTERN AGRICULTURE WHEN CONTACTING YOUR SUPPLIERS

Section One - Categories

All Equipment
Henke-Sass, Wolf GmbH
Hotraco Agri b.v

Breeding Stock
Hermitage Genetics

Disinfection Products
Eurofeed Technologies S.p.A.
Evans Vanodine
Goizper Group - Goizper Spraying Business
Intraco Ltd. n.v

Environmental Control
Big Dutchman International GmbH
Goizper Group - Goizper Spraying Business
Hotraco Agri b.v
LUBING Maschinenfabrik GmbH & Co. KG
Termotecnica Pericoli S.r.l.

Exports
Eurofeed Technologies S.p.A.
Henke-Sass, Wolf GmbH
Hermitage Genetics

Feed
Eurofeed Technologies S.p.A.
Intraco Ltd. n.v
Leiber GmbH
Victam International b.v

Feed Additives
Ayurvet Ltd.
Eurofeed Technologies S.p.A.
Intraco Ltd. n.v
Leiber GmbH
Nutriad International
Unipoint AG Klinofeed
Victam International b.v

Feed Additives, Natural
Ayurvet Ltd.
Eurofeed Technologies S.p.A.
Leiber GmbH
Nutriad International
Unipoint AG Klinofeed
Victam International b.v

Feed Ingredients
Eurofeed Technologies S.p.A.
Intraco Ltd. n.v
Leiber GmbH
Unipoint AG Klinofeed
Victam International b.v

Feeding Systems
Awila Anlagenbau GmbH
Big Dutchman International GmbH
Hotraco Agri b.v
Impex Barneveld b.v
MIK International GmbH & Co.
Schauer Agrotronic GmbH

Flooring
Big Dutchman International GmbH
LUBING Maschinenfabrik GmbH & Co. KG
MIK International GmbH & Co.
Schauer Agrotronic GmbH

Handling Equipment
Goizper Group - Goizper Spraying Business

Health Products
Ayurvet Ltd.
Eurofeed Technologies S.p.A.
Henke-Sass, Wolf GmbH
Socorex Isba SA

Housing
Big Dutchman International GmbH
Hotraco Agri b.v
Impex Barneveld b.v
MIK International GmbH & Co.
Schauer Agrotronic GmbH

International Exhibitions
Victam International b.v

Manure Treatment
Schauer Agrotronic GmbH

Medicators
Ayurvet Ltd.
Impex Barneveld b.v
LUBING Maschinenfabrik GmbH & Co. KG

Mould Inhibitors
Ayurvet Ltd.
Eurofeed Technologies S.p.A.

Pest Control/Disinfection Equipment
Goizper Group - Goizper Spraying Business
LUBING Maschinenfabrik GmbH & Co. KG
Termotecnica Pericoli S.r.l.

Salmonella Control
Eurofeed Technologies S.p.A.

Sanitation
Goizper Group - Goizper Spraying Business

Semen
Hermitage Genetics

Veterinary Instruments
Henke-Sass, Wolf GmbH
Socorex Isba SA

Watering Equipment
Big Dutchman International GmbH
Impex Barneveld b.v
LUBING Maschinenfabrik GmbH & Co. KG

Section Two - Suppliers

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Agents:
China - Big Dutchman (Tianjin) Livestock Equipment Co. Ltd. Supply Chain & After-Sales Service Office
Japan - Fuji Kasei Co. Ltd.
Korea - Jongkeun (Chris) Woo
Korea - Taewon Construction Co. Ltd.
Myanmar - BDA Agriculture (Myanmar) Ltd.
Philippines - BD Agriculture (Philippines) Inc.
Taiwan - Signin Co. Ltd.
Thailand - BD Agriculture (Thailand) Ltd.
Vietnam - BD Agriculture (Vietnam) Co. Ltd.

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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, Antioxidants, Antimicrobials, Aromas, Enzymes, Energising, Electrolyte, Mold Inhibitors, Micotoxin Binders, Natural Adjuvant in Coccidiosis Prevention, Natural Diarrhea Prevention, Natural Growth Promoter, Nucleotides, Organic Trace Elements, Pellet Binders, Pet Food, Sanitizing, Vegetable Protein Concentrates, Vitamins, Tablet Sanitising.

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Goizper-Spraying business has been for more than 50 years present on the market and it is a world-wide reference on the manual spraying sector for different applications on the fields of gardening, agriculture, industry, vector control, animal care and public health.
We pursue the continuous innovation as our strategic goal. We research and innovate in our sprayers, accessories, nozzles. With the commitment of offering quality, ergonomy, efficient and useful sprayers, adapted to the needs of the final user of our products.

Agents:
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Henke-Sass, Wolf GmbH, with location in Tuttlingen, Germany is a leading manufacturer, with more than 90 years of experience in designing and producing veterinary syringes, needles and application systems. Our products stand out with their innovative and modern design, state-of-the art-production techniques and continuous quality control measures.

Agents:
Indonesia - Pesona Scientific
Korea - Yushin Corporation
Philippines - P&J Agricultural Trading
Taiwan - Ennchih Co. Ltd.

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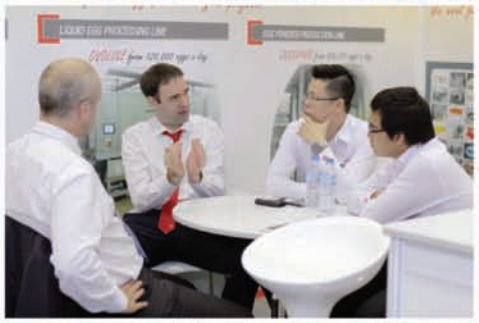

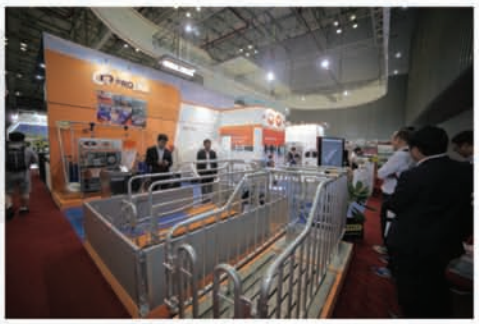

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