

# Far Eastern Agriculture

## VIV MEA 2016

The Middle East and Africa's newest  
livestock trade fair



Thai university to research on  
seed development p12

The Philippines supports GAP

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PRRSv-resistant pigs developed

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- Auxiliary equipment • Biomass pelleting technology

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## ●●● Supported by

- Thai Ministry of Agriculture & Co-Operatives • Thai Department of Livestock Development • Thai Department of Fisheries • Thai Feed Mill Association • Thai Rice Milling Association • Thai Chamber of Commerce
- Federation of ASEAN Feed Associations
- Thailand Convention & Exhibition Bureau 

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Victam International BV, PO Box 197, 3860 AD Nijkerk, The Netherlands  
T: +31 (0)33 246 4404 F: +31 (0)33 246 4706 E: expo@victam.com

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[www.victam.com](http://www.victam.com)

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Photo: Peter Vrabec/Shutterstock



Marel Stork's latest technology



Vietnam to explore global dairy markets

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# Far Eastern Agriculture

**Managing Editor :** Sindhuja Balaji - Email: sindhuja.balaji@alaincharles.com  
**Editorial and Design team:** Prashant AP, Hiriya Bairy, Miriam Brtkova, Andrew Croft, Ranganath GS, Georgia Lewis, Rhonita Patnaik, Prasad Shankarappa, Zsa Tebbit, Nicky Valsamakias and Ben Watts  
**Publisher:** Nick Fordham  
**Publishing Director:** Pallavi Pandey  
**Magazine Manager:** Richard Rozelaar, Tel: +44 207 834 7676, Fax: +44 207 973 0076  
 Email: richard.rozelaar@alaincharles.com

Country	Representative	Phone	Fax	Email
China	Ying Mathieson	(86)10 8472 1899	(86) 10 8472 1900	ying.mathieson@alaincharles.com
India	Tanmay Mishra	(91) 80 6684483	(91) 80 67710791	tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	(234) 8034349299		bola.olowo@alaincharles.com
UAE	Graham Brown	(971) 4 448 9260	(971) 4 448 9261	graham.brown@alaincharles.com
USA	Michael Tomaszefsky	(1) 203 226 2882	(1) 203 226 7447	michael.tomaszefsky@alaincharles.com

**Head Office:**  
 Alain Charles Publishing Ltd  
 University House  
 11-13 Lower Grosvenor Place  
 London SW1W 0EX, United Kingdom  
 Phone: +44 20 7834 7676  
 Fax: +44 20 7973 0076

**Production:** Nikitha Jain, Nathanielle Kumar, Nelly Mendes, Donatella Moranelli and Sophia Pinto - Email: production@alaincharles.com

**Subscriptions:** circulation@alaincharles.com

**Chairman:** Derek Fordham

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**Middle East Regional Office:**  
 Alain Charles Middle East FZ-LLC  
 Office 215, Loft 2A  
 11-13 Lower Grosvenor Place  
 PO Box 502207  
 Dubai Media City, UAE  
 Phone: +971 4 448 9260  
 Fax: +971 4 448 9261



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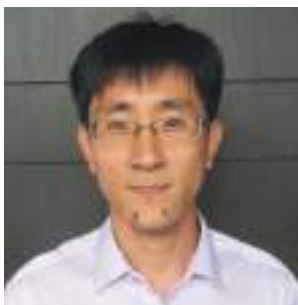


## Hubbard China expands technical team

HUBBARD CHINA HAS appointed two new members in its technical service team, Mingdong Zhou and Wei Liang.

Zhou holds a masters degree in veterinary medicine from Shandong Agricultural University and has joined Hubbard as a technical service manager. He comes with extensive experience of managing broiler breeders of both grandparent and parent stock generations. Previously, he has worked as a production manager, veterinarian and bio-security manager at New Hope Liuhe Group.

Liang is also a masters graduate in veterinary medicine from Shandong Agricultural University and has joined Hubbard as a management trainee. Liang will undertake an extensive training period with Hubbard's poultry specialists, spending time at the company's modern great grandparent and grandparent facilities in the USA and France whilst also spending time at customer locations across the wider Asian region.



Mingdong Zhou

## Hamlet Protein appoints former Danish Crown CEO as board chairman

HAMLET PROTEIN HAS appointed Kjeld Johannesen, outgoing CEO of Danish Crown, as chairman of the board Wef 1 January 2016. Johannesen's new stint at Hamlet Protein follows a 27-year leadership at Danish Crown. Under his guidance, the farmer-owned cooperative has become the world's biggest pork and the largest meat processing company in Europe.

According to Hamlet Protein CEO Søren Munch, the new chairman has the right experience and competence to support the company in realising its potential. "Kjeld Johannesen brings a valuable combination of Danish know-how and a global mindset. With his strong focus on internationalisation, he has built one of Europe's leading food companies."

Danish Crown has also given Johannesen the understanding of challenges usually farmers face while optimising efficiency of pig production.

## New mini fish feedmill in Sukabumi

INDONESIA'S MINISTRY OF Fisheries & Marine Affairs inaugurated a new mini fish feedmill in the Freshwater Fish Culture Agency in Sukabumi, West Java. Slamet Soebjako, director general of aquaculture, said the plant can produce 1.2 tonnes of catfish, tilapia and pangasius feed per day. The feed will be sold to fish farmers in the region at US\$0.36 per kg. To reduce cost of production, the plant will use local ingredients such as fishmeal, tapioca and water hyacinth. "We hope the plant will help farmers in the region improve their production and at the same time reduce their cost of production. In addition, the plant is open for farmer groups who want to learn about feed plant operations," said Slamet.

## Thailand's TFG buys stake in Japan's Seven Foods

THAILAND'S THAIFOODS GROUP'S subsidiary, T Paragon Holding has acquired a 45.71 per cent stake in Seven Foods Co Ltd, Japanese chicken producer, for a total value of US\$265,771. ThaiFoods Group (TFG) is a chicken and pork integrator in Thailand, while Seven Foods undertakes import, export, processing and sale of chicken meat and chicken products and other related businesses in Japan.

## Events 2016

### FEBRUARY

15-17	<b>VIV MEA/GFIA</b>	Abu Dhabi, UAE	<a href="http://www.vivmea.nl">www.vivmea.nl</a>
16-20	<b>FIMA Agricola</b>	Zaragoza, Spain	<a href="http://www.feriazaragoza.com">www.feriazaragoza.com</a>

### MARCH

2-3	<b>Cropworld Global 2016</b>	Amsterdam, The Netherlands	<a href="http://www.cropworld.com">www.cropworld.com</a>
13-15	<b>Agra ME</b>	Dubai, UAE	<a href="http://www.agramiddleeast.com">www.agramiddleeast.com</a>
16-17	<b>SugarTech Indonesia</b>	Surabaya, Indonesia	<a href="http://www.sugarindo.com">www.sugarindo.com</a>
23-25	<b>ILDEX Vietnam</b>	Ho Chi Minh City, Vietnam	<a href="http://www.imexmanagement.com">www.imexmanagement.com</a>
29-31	<b>FIAAP/VICTAM/GRAPAS 2016</b>	Bangkok, Thailand	<a href="http://www.victam.com/?i=320">www.victam.com/?i=320</a>

### APRIL

3-7	<b>Biomasa Brno</b>	Brno, Czech Republic	<a href="http://www.bvv.cz">www.bvv.cz</a>
13-15	<b>Agfopex Nigeria</b>	Lagos, Nigeria	<a href="http://www.agfopexnigeriafair.com">www.agfopexnigeriafair.com</a>
19-21	<b>CIMAE</b>	Beijing, China	<a href="http://www.cimae.com.cn">www.cimae.com.cn</a>
20-22	<b>INPALME Medan</b>	Jakarta, Indonesia	<a href="http://www.palmoilexhibition.com">www.palmoilexhibition.com</a>
29- 8	<b>BEA</b>	Bern, Switzerland	<a href="http://www.bernexpo.ch">www.bernexpo.ch</a>

### JUNE

30 May -2 Jun	<b>Iran Agro Tehran</b>	Tehran, Iran	<a href="http://www.iran-agro.com">www.iran-agro.com</a>
7-11	<b>Belagro</b>	Minsk, Belarus	<a href="http://www.minskexpo.com">www.minskexpo.com</a>
8-11	<b>Agro Kiev</b>	Kiev, Ukraine	<a href="http://www.agro-expo.com">www.agro-expo.com</a>
18-22	<b>Food Taipei</b>	Taipei, Taiwan	<a href="http://www.foodtaipei.com.tw">www.foodtaipei.com.tw</a>
23-24	<b>Fresh AgroMash</b>	Tel Aviv, Israel	<a href="http://agro.mashovgroup.net">agro.mashovgroup.net</a>

## Food Outlook

THE FAO FOOD Price Index\* (FFPI) averaged 154.1 points in December 2015, down 1.5 points (1.0 percent) from its revised November value, with international prices of all the food commodities used in the calculation of the Index falling, except for sugar and oils. Over the full year, the index has averaged 164.1 points, nearly 19 percent less than in 2014, marking the fourth consecutive annual decline. Abundant supplies in the face of a timid world demand and an appreciating US dollar are the main reasons for the general weakness that has dominated food prices in 2015.

The FAO Cereal Price Index averaged 151.6 points in December, down almost 2 points (1.3 percent) from November. Expectation of larger supplies entering world markets following the removal of export taxes in Argentina weighed on wheat quotations. Maize prices also fell in December amid intensifying export competition and sluggish international demand. Rice quotations were more stable, as a revival of purchases sustained the prices of the lower quality Indica and of aromatic rice. Compared to 2014, the cereal price index shed 29 points, or 15.4 percent, in 2015.

The FAO Vegetable Oil Price Index averaged 141.1 points in December, up 2.9 points (2.1 percent) from November. The increase was driven by soybean oil, the prices of which leaped to 6-months highs, reflecting persisting uncertainties regarding Brazil's soybean crop amid prospects of firming soyoil demand worldwide. By contrast, international palm oil prices remained stable, as concerns about possible production declines in Southeast Asia were counterbalanced by weak

global import demand. For 2015 as a whole, the Index averaged 147 points, down 19 percent from 2014 and representing a 9-year low.

The FAO Dairy Price Index averaged 149.5 points in December, down 1.6 points (1.0 percent) from November. The decline stemmed from a fall in prices for milk powders, as those for butter rose and those for cheese were unchanged. Weak demand for WMP has led manufactures to focus on producing other dairy commodities. Butter was the product most in demand, particularly in the Middle East, North America and North Africa, which boosted its price by over 3 percent in December. In the EU, the possibility of sales of SMP to intervention stocks at a guaranteed price also increased the attractiveness of butter/SMP production over that of WMP. The Dairy Index averaged 160.3 points in 2015, down 63.8 points or 28.5 percent compared to 2014, marking its lowest annual average since 2009.

The FAO Meat Price Index\* averaged 152.1 points in December, down 3.5 points (2.2 percent) from its November revised value. Quotations fell for the four categories of meat, with ovine, bovine and pigmeat most affected. Reduced import demand in the United States for bovine meat intensified competition in other markets. For pigmeat, a surge in output in the European Union caused both domestic and export prices to fall. For 2015 as a whole, the Meat Index averaged 168.4 points, down 29.9 points or 15.1 percent compared to 2014 (a record year), and its lowest annual average since 2010.

The FAO Sugar Price Index averaged 207.8



points in December, up 1.3 points (0.6 percent) from November. International sugar prices continued to be influenced by concerns over harvesting delays in the South-Central producing regions in Brazil, caused by excessive precipitation. Prospects of reduced sugar harvests in other main producing countries, in particular India, Thailand, and South Africa, also provided support. Overall, the FAO Sugar Price Index in 2015 averaged 190.7 points, 21 percent lower than in 2014.

- Unlike for other commodity groups, most prices utilized in the calculation of the FAO Meat Price Index are not available when the FAO Food Price Index is computed and published; therefore, the value of the Meat Price Index for the most recent months is derived from a mixture of projected and observed prices. This can, at times, require significant revisions in the final value of the FAO Meat Price Index which could in turn influence the value of the FAO Food Price Index.

## Filipino researchers concerned over ban on GM crop field trials

FOLLOWING A BAN on field trials on GM crops and scrapping biosafety standards in the Philippines, the scientific community is concerned over the possible negative effects it may have on food security and research development.

All the supporters of biotech crops are concerned about the verdict since it covered not only GM crops but other products as well. For example, this ban has permanently stopped the field testing of BT eggplant in plots measuring 920 sqm, each in five different places in the Philippines – the field tests were part of a research project to control the fruit and stem borer (FSB) eggplant.



Eggplant is one of the crops NAST-PHL is conducting trials on

The NAST-PHL feels the conclusion on GM crops has been derived on limited literature, and if not clarified, the ban could adversely affect future trials and research.

## Thailand signs major rice and rubber export deals

THAILAND WILL SUPPLY China National Cereals, Oil and Foodstuffs Corporation (Cofco) with 100,000 tonnes of rice per month starting in January, stated the national commerce minister Apirad Tantraporn.

Meanwhile, the Rubber Authority of Thailand has agreed to sell 200,000 tonnes of rubber to Chinese state-owned entity Sinochem.

Thai agriculture officials are concerned with the effects of El Nino that has lead to reduced global production. The Thai Rice Exporters Association honorary president Chookiat Ophaswongse estimated that Thailand's rice production would be reduced to half of the country's off-season output to around four million tonnes.

Due to this, the ministry is open to signing government-to-government rice export deals with many countries, including Iran.



## South Korea to reopen market for Canadian beef

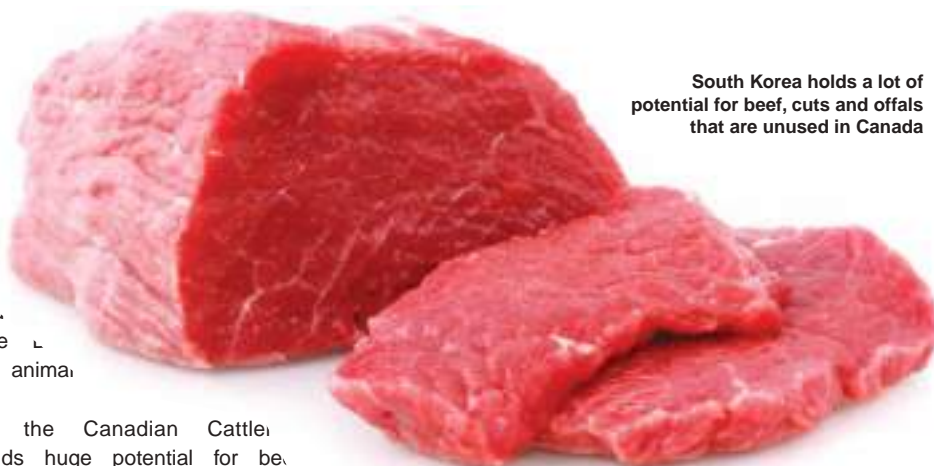
SOUTH KOREA IS all set to re-open beef imports from Canada, following lifting of a temporary ban over E. coli O157:H7 mad cow disease.

In February 2015, the country banned beef from Canada after a case was discovered with bovine spongiform encephalopathy in Edmonton. The Canadian Food Inspection Agency said that contaminated feed was the likely cause of the case of mad cow disease. However, no part of the 10-year-old Angus cow entered human food or animal systems, it reiterated.

Dave Solverson, president of the Canadian Cattle Association, said, "South Korea holds huge potential for beef, especially cuts and offals that are underutilised here at home. South Korea is a market that will pay more for those select items and that helps to increase the overall value of the animal for producers."

South Korea is the sixth largest beef market for Canada. In 2014, Canada, the East Asia region contains two of Canada's biggest beef export markets for agricultural and agri-food exports in 2014 (China, at US\$4.76bn, at second place behind the USA; and Japan, at third place with US\$3.81bn). Other export markets surpassing the US\$200mn-mark include India (US\$914.3mn), South Korea (US\$578.8mn), Indonesia (US\$546.3mn) and Taiwan (US\$222.9mn).

Further, with the implementation of the Canada-Korea Free Trade Agreement in late 2014, the association said Canadian beef exports to Korea have the potential to exceed US\$50mn per year.



South Korea holds a lot of potential for beef, cuts and offals that are unused in Canada

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## Indonesia to import 200,000 cattle

THE INDONESIAN GOVERNMENT is preparing to import cattle in Q1 2016 in an effort to keep inflation within its three to five per cent target, according to Darmin Nasution, coordinating minister for economic affairs. The government has decided on a quota of 600,000 head of cattle, or 238,000 tonnes of beef, Darmin said. "The plan is to bring in 200,000 head in Q1 and 150,000 in Q2. For the third and fourth quarters, import will depend on developments in the previous quarters," he explained.

According to some reports, the government is steering clear of quarterly permits and will instead, allocate permits every four months. ALEC CEO Alison Penfold said, "This is a step forward from quarterly permits and that is certainly progress. Ultimately what we have been pushing for is for the annual numbers to be announced several months before the start of the permit year. That gives us an opportunity to plan the logistics around the export year to Indonesia." Indonesia's annual beef consumption stands at about 675,000 tonnes, while local farmers can only produce 416,000 tonnes of beef. However, Australian federal minister for agriculture Barnaby Joyce said the Indonesian government is expected to import 600,000 heads this year.

"Our live cattle trade is a big contributor to the economies of both nations, as well as the livelihoods and wellbeing of Indonesians and Australians. Australia's relationship with Indonesia in the live cattle export industry is becoming stronger by the day. This is a win-win situation for both those in Indonesia who value add and for farmers in Australia who it supports," said Joyce.

However, the trade capacity to supply this order between now and April depends largely on rainfall. "Given that there was a huge monsoon trough, access to cattle is restricted and supply, challenging," said Stuart Kemp, Northern Territory Livestock Exporters' Association chief executive.



# Landmark show for Victam International



Around 6,000 industry executives from more than 60 nations attend the show

**V**ICTAM INTERNATIONAL BV is set to celebrate its 25th anniversary this year, with the upcoming FIAAP/VICTAM/GRAPAS 2016.

What began as a small expo held in a hotel's parking lot, has now blossomed into an international trade show attracting more than 6,000 industry executives from more than 60 countries.

## **FIAAP Asia 2016:**

This is the only specialist exhibition and conference for the ingredients, additives and formulation of feeds for animals, aquafeed and dry petfood for the expanding Asia/Pacific markets. It primarily profiles animal feed production equipment and technology.

## **VICTAM Asia 2016:**

Asia Pacific's largest exhibition of equipment, technology and ancillary systems required for the safe and effective production of feeds for animals, aquafeed and dry petfood and biomass pellet production.

## **GRAPAS Asia 2016:**

The only trade show in the Asia Pacific region for rice and flour milling systems, grain processing, storage, preservation and distribution, industrial noodle and pasta production, the manufacture of breakfast cereals and extruded snacks.

There is also another area where the shows give added value to both the exhibitors and the visitors and that's in biomass pellet production. Biomass pellets are produced through similar technology used in the production of feed pellets, so the manufacturers of this technology have adapted it so that they can market their pellet mills to the growing biomass industries of Asia. If you are visitor from a biomass pelleting plant you will also need the same equipment used within the other mills: silos, conveyors, bagging systems, etc.

At the show, there will be several supporting conferences which include the FIAAP Conference 2016, Petfood Forum Asia 2016, the Aquafeed Horizons Asia 2016,

GRAPAS & Global Milling Conference Asia 2016, the 2nd ASEAN Feed & Rice Symposium and GMP+.

In addition, members of the Federation of the ASEAN Feed Milling Associations are expected to meet at the show, where feed executives will discuss and help determine future policies and objectives, together with looking at the trading and financial implications of the impending ASEAN Free Trade Zone.

Victam International is supported by the The Thai Ministry of Agriculture & Co-Operatives, The Thai Department of Livestock Development, The Thai Rice Exporters Association, The Thai Chamber of Commerce, The Thailand Convention & Exhibition Bureau, The Thai Department of Fisheries, The Thai Feed Mill Association, The Thai Petfood Association, The Thai Rice Milling Association and the The Thai Rice Packers Association. □

- FIAAP/VICTAM/GRAPAS 2016 will be held at the Bangkok International Trade Exhibition Centre (BITEC) from 29-31 March.

# VIV explores desert farming in Middle East

**V**IV MEA'S INAUGURAL edition took place at Abu Dhabi, UAE, marking the entry of VNU Exhibitions' in the Middle East.

Following a strong industry response, a poultry-focused international trade show was held at the Abu Dhabi National Exhibition Centre (ADNEC). "It had to be a centrally located platform within easy reach for quite a sizeable region. It wasn't an easy task, but we're moving into desert farming, starting with the first edition of VIV MEA," said VIV manager Ruwan Berculo.

The key focus of the show was desert farming, which is all about climate control, biosecurity and disease management. Through a series of industry conferences and master classes, the issue of disease outbreaks was handled and discussed.

Organisers want to position VIV MEA as the go-to specialist feed-to-meat show serving the poultry, aquaculture and dairy industries in the Middle East, Africa, India and Central Asia.

They utilised all their experience with existing international hubs – VIV Asia and VIV Europe - to make sure that VIV MEA exactly

served the businesses that produce and process animal proteins within the region that extends from the Middle East to India and down into Africa, said Berculo. For all these targeted visitors, Abu Dhabi was an affordable destination within easy reach.

After analysing trends, Berculo believed the region deserves to have its own specialised regional platform bringing together international suppliers and the region's producers of poultry meat, eggs, fish and milk. With the launch of VIV MEA, this will become a reality in for the regio in the years to come.

The show drew around 200 exhibitors from all parts of the world, presenting their products and services to about 4,000 of the region's top decision-makers and buyers. "The timing is absolutely right to start this initiative," Ruwan insisted. The target zone – MENA – is witnessing a rapid development of animal protein capability because the industry leaders want to produce food, and not just import it. The region's whole food economy is moving ahead at a fast pace and the investments in the region are increasing all the time.

## Abu Dhabi – the preferred destination

The capital city of the UAE as the location for VIV MEA emphasised its credentials in agricultural development as well as its strategic importance as the region's principal international trading centre. Abu Dhabi focuses specifically on supporting trade shows in the field of sustainable agriculture, in addition to being safe and easily accessible.

## Sustainability for all

VIV MEA was co-located with the Global Forum for Innovations in Agriculture (GFIA) to deliver the largest events on sustainable agriculture innovations in the Middle East. GFIA staged its flagship global edition in Abu Dhabi for the third consecutive year this year.

The hosting of these important international events in Abu Dhabi articulated the priority of the UAE to drive a global dialogue on food security and climate resilience. "We live in a water-constrained region and we must use these platforms to enhance our contribution to the development and implementation of smart solutions for increased food production," said Mohamed Jalal Al Rayssi, chairman of the organising committee for GFIA and director of communication and community service at Abu Dhabi Food Control Authority.

With GFIA, around 500 exhibitors were present, ready with innovative technologies on display.

"GFIA has become the flagship event for agricultural innovation across the world and we are hugely excited to launch VIV MEA alongside such a forward-thinking and influential event," said Berculo.

Mark Beaumont, project director of GFIA said that the launch of VIV MEA alongside GFIA will bring an exciting new dimension to the VIV brand for livestock producers. "As animal numbers in the region increase, productivity will be affected by competition for land and water, and by the need to mitigate the effects of climate change. The only solution is innovation and that is the cornerstone of GFIA."

GFIA was held under the patronage of HH Sheikh Mansour Bin Zayed Al Nahyan, Deputy Prime Minister of the UAE, Minister of Presidential Affairs and Chairman of Abu





Dhabi Food Control Authority and in strategic partnership with the Abu Dhabi Food Control Authority (ADFCA). The show was supported by some of the world's leading players in the field of sustainable agriculture, GFIA works alongside organisations such as the United Nations, World Bank, Bill & Melinda Gates Foundation, USAID, African Union and the Clinton Climate Initiative to ensure its outcomes continue to accelerate the development of solutions to feed nine billion people by 2050.

**France lends expertise in livestock production at VIV MEA**

Business France participated in the upcoming VIV MEA, representing the French livestock industry.

The Middle East is considered a growing

market for the livestock industry, especially for poultry farming. Around 20 French companies are expected to participate in VIV MEA, which will provide a gateway to the region's livestock industry.

Through the show, animal feed, health and nutrition, equipment for poultry and cattle rearing, animal handling and slaughtering equipment, feed preparation and distribution solutions were presented.

Right from genetics, insemination, nutrition and health to slaughtering and meat processing, the show presented a wide array of business opportunities, said the organisers of the show.

Considering how fast the UAE economy is growing, governments have decided to invest in equipment and development of new technologies, with the aim of focusing on local

production. This is to ensure food self-sufficiency, especially in agri-food, agriculture and livestock. Specifically, breeding of dairy cattle, sheep, goats, camels and chickens is being supported by inputs based on genetics, feed, nutrition, veterinary equipment and medicine.

France, being a leader in milk and meat production, can contribute vastly to the development of the Middle East's livestock sector. It is a major breeder in the EU and known for productivity, value-added products and strong distribution network. The country produced 1.8mn tonnes of poultry products in 2014 – 13.5 per cent of total production in the EU. Broiler breeding is also a key revenue generator, comprising hatcheries, breeders and feed manufacturers, state-of-the-art industrial slaughterhouses and facilities. □

**Marel Stork to showcase product line at VIV MEA 2016**

THE COMPANY'S PLUCKERS, which is suited for all weights and all types of poultry and can cope with all processing speeds, is one of their foremost products. Good evisceration is essential for safeguarding the quality of end products, including giblets. The Marel Stork Nuova eviscerator is the world's best automated evisceration system, which removes the complete viscera pack in a single operation. It is then either separated immediately from the carcass and transferred to a separate shackle or is positioned over the back of the product for manual harvesting, giving major benefits in terms of hygiene, quality and labor saving. The evisceration program offers solutions for all processing capacities up to 13,500 broilers per hour. Various modules can be combined, depending on the processor's needs. Valuable giblets can be harvested and processed in a manual, semi or fully automated way. With Marel Stork Poultry Processing evisceration the highest yields and hygiene standards are achievable.



The award winning SmartWeigher Grading & Distribution Line, which automatically weighs and grades products accurately at the highest possible production speeds. It consists of the Stork SmartWeigher, the IRIS vision system, the latest version of the Innova control software, a newly developed, turning shackle and new unloading

stations. These elements combined ensure consistent inline weighing, grading and distribution, generating precise individual data, which remain with the product all through the processing line.

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# ILDEX Vietnam set for high exhibitor turnout



The event will be held from 23-25 March 2016 at the Saigon Exhibition and Convention Center (SECC), in Ho Chi Minh City

**T**HE SIXTH ILDEX Vietnam is set to attract 180 exhibitors from 29 countries – considered an all-time high. Major players in the livestock industry are exhibiting, with some of them tripling in size. The three-day business event is set to boost the Vietnamese livestock industry.

Robert Nichol, general manager of EW Nutrition Southeast Asia-Pacific, said, “ILDEX listens extensively to the requirements of our developing regional feed additive companies. They manage to bring together all key stakeholders.”

Global brands such as Biomin, Big Dutchman and De Heus will return to the show. They will be alongside first-time exhibitors, such as Gartech Equipment from India and Yemmak Pellet Mills from Turkey, which complete the entire supply chain.

Akachai Ponsomboon, ILDEX Vietnam project manager, further revealed that for the first time ever, there will be a USA pavilion, led by Amlan, U.S. Livestock Genetics Export, Big Chemical, and Ceresco Nutrition. Moreover, Famsun (Muyang) tripled its size to join ILDEX as the leading farm climate control system and feed milling company.

Nutriad, a manufacturer of state-of-the-art feed additives, continues sharing knowledge and experience with customers and partners alike

who are aimed at continuous progression. Chew Boon Kee, regional director Asia Pacific, said, “Vietnam is an important market for Nutriad. At ILDEX, we will meet leading national buyers, Asian partners, and international experts. It is a great marketplace for us to do business.”

Leading up to ILDEX Vietnam in March 2016, VNU Exhibitions Asia Pacific is also launching a ‘Master Class Vietnam by VIV Asia’ bringing together the leading livestock experts focusing on “Pig Production and Processing.” The one-day master class takes place on Thursday, 14 January 2016, from 10am to 4pm at Hotel Majestic Saigon, Ho Chi Minh City.

Panadda Atthakowit, VIV Asia Project Manager, said that “VNU is fully committed to the Vietnamese livestock market. The VIV Master Class offers professionals in the pig meat food chain practical know-how for real-life practices.”

With the plan, ILDEX Vietnam is committed in bringing together and growing the Vietnamese livestock industry. Together with the global VIV network, ILDEX Vietnam is expected to be the meeting place for the Asian livestock industry. □

*The event will be held from 23-25 March 2016 at the Saigon Exhibition and Convention Center (SECC), in Ho Chi Minh City*



# Philippines on the green track

**P**HILIPPINES IS SET to make some radical changes in agriculture and promote it in sustainable and economically-profitable ways. The agriculture department's secretary Proceso J. Alcala has paved the way for a multi-sectoral alliance that seeks to promote sustainable agriculture through "efficient crop value chains" nationwide.

In the course of crafting such an alliance, Alcala convened the general meeting of the Philippine Partnership for Sustainable Agriculture (PPSA) at the Agricultural Training Institute (ATI) of the Department of Agriculture (DA) last year in November. Alcala has also asked the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (Searca) Director Dr. Gil C. Saguiguit Jr and leaders of the Grow Asia programme to flesh out the mechanics for improved crop value chains. Grow Asia is a multi-stakeholder partnership platform that supports national and regional agriculture development priorities of the ASEAN comprising Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Dr. Bessie Burgos, programme head of Searca's Research and Development Department (RDD), presented an overview of the academy's involvement in inclusive agricultural growth programmes before a meeting convened by the Philippine Business for Social Progress (PBSP) a week before. The presentation contributed to the identification of potential partners in promoting academic programs aligned with inclusive growth, like entrepreneurship and inclusive agribusiness, through the enhancement of the curriculum and facilities, learning resources development, training courses and research and development among state and university colleges (SUCs).

Alcala also sought firm commitments from all participants to deliver on the short-term targets as well as prepare for the long-term goal of improving the incomes and economic status of smallholder farmers. In 2015, Alcala formally launched PPSA to establish multi-stakeholder partnerships with business, civil society, farmers, and others focused on developing inclusive and sustainable crop value chains. PPSA's aim is to increase smallholder farmer productivity, profitability and environmental sustainability by enabling access to knowledge, information, technology,

finance and markets. Five priority areas – cassava, coconut, coffee, corn and fisheries – were identified based on the priorities of the government and the interest of corporate players. In addition, the meeting tackled other issues like agri-finance and mobile technology, farmer capacity building and logistics.

The aim was to identify potential partners in promoting academic programmes aligned with inclusive growth, like entrepreneurship and inclusive agribusiness.

## Why is agriculture so important in the Philippines?

According to the Philippine Statistics Authority (PSA), the agriculture and fishing sector – together with hunting and forestry – accounted for 61.28 per cent of the economy of the Autonomous Region in Muslim Mindanao (ARMM). Almost 70 per cent or 840,000 people are employed in the agricultural sector. Data from the ARMM's Agriculture Resource Monitoring and Management Statistics shows that its share in the national production of palay is at almost 612,083 MT, making it 11th among all regions. Area harvested, meanwhile, have been increasing in recent years with 226,700 in 2013 – 11.78 per cent higher than 2012. □



Considering the extent of agriculture in the Philippines, Alcala's efforts will try to make the sector as sustainable and profitable as it can be

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## Philippines roots for good agricultural practices



**GAP certification will allow farmers to compete in an integrated Southeast Asian economy**

AROUND 200 FILIPINO farmers are expected to receive the Good Agricultural Practices (GAP) certification from the country's agriculture department, which will allow them to compete in an integrated Southeast Asian economy.

Dalaguete Vegetable Growers Association-Our Food (DAVEGA) vice-president Jose Dizon Ancla said that if they are not GAP-certified, they will have difficulty competing in region - un-certified products will not be accepted in supermarkets and farmers will incur losses.

Meanwhile, Philippines' agriculture and fisheries sector is well-positioned to get integrated with ASEAN, but should increase the volume of primary products for exports, according to the Philippine Institute for Development Studies.

Coffee, cocoa, tuna, seaweed, shrimp and onions are well-suited to be marketed within the region. Even mangoes, bananas and pineapples are ready for the ASEAN market, added the institute's findings.

"The key to realise larger and more diverse market opportunities of regional integration is to facilitate the movement of economic resources previously in displaced import-competing industries to export-oriented industries and to make more effective those that are already in export-oriented industries."

However, the institute has recommended implementing GAP and Good Manufacturing Practices (GMP). Further, investment in human capital is needed to upgrade skills.

## Chiang Mai Uni and East-West Seed collaborate for research



EAST-WEST SEED and Thailand's Chiang Mai University signed an MoU for a five-year research cooperation, to build on earlier collaborations between the two partners. East-West Seed and CMU have collaborated in a papaya micropropagation project recently and the company provides training for six to 10 bachelor students in their Hortigenetics Research centre every year. In September 2015, the company donated a DNA sequencer to the agriculture faculty. Towards 2018, East-West Seed and CMU will be co-organising the scientific Solanaceae conference, that is organised in a different country every year. The conference focuses on crops such as tomato, potato, tobacco, eggplant, pepper, and the ornamental *Petunia hybrida*. East-West Seed aims to contribute to the academic careers of students and scientists through this MoU.

## Fujitsu and FPT Corporation to drive smart agriculture in Vietnam

FUJITSU LIMITED AND FPT Corporation to promote smart agriculture locally, as well as have established a factory in Hanoi that integrate Vietnamese companies and the showcases Akisai, a smart agriculture government to further the environmentally-solution. Akisai will leverage smart solutions responsible growth of Vietnam's agriculture for the purpose of agricultural productivity industry.

Vietnam, born as a result of Fujitsu's and FPT The special features of the 402 sqm Akisai Corporation's 2014 collaboration to implement farm and vegetable factory showcase are to smart agriculture in Vietnam. implement ICT-based smart agriculture and

Based on a new business model develop an area for Japanese and comprising a network of agricultural Vietnamese agriculture to co-create.

producers, distributors, food processors, local Through the ICT-based smart agriculture governments, academic institutions, plan, Akisai's Greenhouse Horticulture SaaS machinery and materials suppliers, two service will be used to gather real-time production facilities will be set up in Hanoi information to control factors within the facility. The two facilities will implement trials such as curtains and fans. In addition, the cultivation for high value-added vegetables, Imec Film Farming, being implemented in including tomatoes and low-potassium leaf Japan, will be combined with the SaaS lettuce.

Trial cultivation has already begun, This comprises a farming plan under nutrient liquid temperature and electrical confirmed Fujitsu, while the showcase will be greenhouse cultivation.

opened on 24 February 2016. Fujitsu and FPT Meanwhile, vegetable factory cultivation of sensors installed in the factory, to show Corporation is expected to use the showcase will make use of available data such as a low-potassium leaf lettuce is grown.



**ICT-based smart agriculture will be deployed. (Image source: FPT)**

## Dongbu farm adopts new cultivation methods



Project officials at the Dongbu Farm in South Korea

SOUTH KOREA'S DONGBU Farm operates four hectares of pepper and tomato greenhouses. The company switched to integrated pest management and bumblebee pollination in 2009, working with Biobest and its Korean distributor Kyung Nong Corporation.

Sung-eok Kim, office manager at Dongbu Farm, explains the reasons for this decision, "Chemical treatments are a serious stress factor for the crop. With biological control, plants experience less stress and growth inhibition and are therefore more vigorous. The introduction of beneficials also requires less labour compared to continuous spraying, because the beneficials continue to work day and night. All in all, the total cost of crop protection using biological control is lower."

In pepper, the biocontrol programme offers protection against whitefly, aphids and thrips. Whitefly control is achieved with the release of the predatory mite *Amblyseius swirskii* and introduction of *Eretmocerus eremicus*. For aphid control, Sung-eok Kim, in consultation with IPM expert Hyeon-Bae Yoon from Kyung Nong Corporation, decided to introduce the parasitic wasp *Aphidius colemani*. Finally, the predatory bug *Orius laevigatus* is used to control thrips.

"We recommended to start with relatively low release rates," said Yoon "and it worked well". *Orius* and *Swirskii* are introduced once at the beginning of the season. *Colemani* is used preventively in low dose as well. *Eremicus* is applied curatively during four to six weeks when whiteflies are first observed."

Sung-eok Kim said, "Our IPM strategy really works. One always needs to remain vigilant during the season, but we never had major problems with pests. The nice thing about biology is that there is a constant flow of new technologies and products. We want to stimulate the *Orius* development by feeding the predatory bugs with Nutrimac®, so that the population can settle more quickly into the pepper crops."

Sung-eok Kim is also very enthusiastic about the use of bumblebees for tomato pollination. "In spite of the fact that we still use certain chemicals in our tomato crop, the pollination is very successful. With the advice of Biobest on selection of compatible chemicals, things work very well. Yet, in the near future we hope to be able to switch completely to biological control also in our tomato crop."

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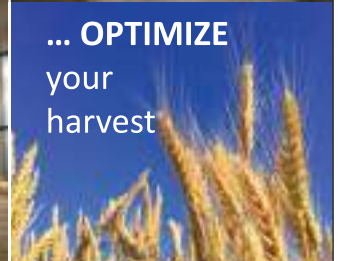
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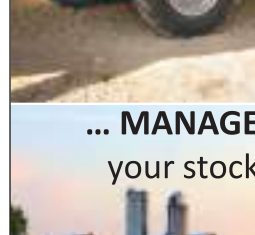
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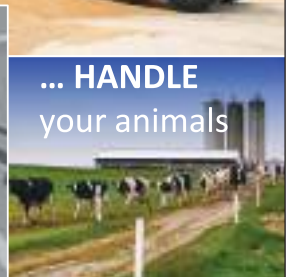
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# Analysing pig nutrition for improved production

**W**ITH COSTS OF pig production under pressure, the nutrition of young pigs is of increasing interest, as this period is critical to the subsequent performance of the animals through to market.

Optimising growth rate and feed efficiency at this time are key requirements for success in today's animal production systems. While antibiotics are available to assist in improving growth during this phase, there are a range of concerns from world-wide pig producers about their use, including bacterial resistance, palatability and the accuracy of antibiotic dosage if feed intake is compromised.

Currently, the use of antibiotic growth promoters comes under increasing pressure from consumers and legal authorities also in Asia. As a result, various feed additives have been studied as alternatives. Organic acids, particularly salts of organic acids, have been reported by many experts to enhance growth performance in the absence of antibiotic growth promoters (AGPs) in pigs, as well as poultry and aquaculture.

A market report from *Global Feed Analysts* (2010) reported that the global market for feed acidifiers is projected to reach US\$1.4bn by 2015, driven by an increasing demand in developing economies, stable demand for meat and meat products from developed economies and a swelling world population.

The potential application of organic acids to livestock nutrition and forage preservation has been known for decades and is documented by many scientific studies. Their mode of action has been described extensively in the literature.



Various feed additives are being considered as alternatives to antibiotics

However, most of the available acids to the industry have an authorisation as feed preservatives only.

One of them, formic acid, is often described as being the strongest organic acid against pathogen gram negative bacteria; however certain disadvantages, like its unfavourable pungent smell and corrosiveness limit its use in feed production. The potassium salt of formic acid, potassium diformate (KDF), on the other hand, also has a strong anti-microbial effect, but additionally is proven safe for humans and has no adverse smell.

In contrary to formic acid, potassium diformate is a solid product (composition: 35.4 per cent formic acid, 34.6 per cent formate and 30 per cent potassium), which is non-corrosive. Because of its unique chemical structure, KDF combines the chemical properties of an acid and a salt. KDF (FORMI,

patented by ADDCON) is the first EU-registered zoo-technical additive for sows, piglets and fatteners which improves growth and health performance in all parts of the pig production chain the natural way.

In order to fulfil the EU-registration requirements, KDF passed standards in several trials with weaners, fatteners and sows – the inclusion of KDF in the feed of weaner piglets for instance has been shown in many experiments to have a substantial positive effect on animal performance (Roth et al. 1996; Kirchgessner et al. 1997; Partanen 2001; Diebold and Eidelsburger 2006).

The benefit on production performance from supplementing pig diets with KDF seems to originate to a certain extent from enhanced body protein retention (Roth et al. 1998), thus supporting improvements in feed conversion. □



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## 'The most bioavailable nutrients give the best return on investment'

ONE OF THE most important parameters when evaluating feed ingredients is the digestibility of the nutrients they contain. Published in nutrition guides, these digestibility values are often used in research projects to verify published data or shed light on new hypotheses – and they are of key importance when formulating feed for each stage of an animal's life.

However, another equally important parameter often receives less attention. That is the amount of undigested nutrients in feed and their effect on animal health. Due to the comparative vulnerability of their gut, piglets are of particular interest in this regard.

### Major feed nutrient

Protein is among the nutrients that both have an easily digestible part and a fraction that passes through the digestive tract without being absorbed. As the most expensive of the major nutrients in feed, it is critical to feed manufacturers and farmers that the protein they use is as digestible as possible. Financial considerations aside, undigested protein is also a potential cause of gut health problems – and it costs energy when

nitrogen from deaminated amino acids is removed and excreted via the liver and kidneys.

### Higher vulnerability in piglets

Studies have shown that the indigestible protein fraction is higher in young piglets (<20kg) during the first few weeks after weaning. Piglets of this age are also more sensitive to anti-nutritional factors in the protein than pigs over 25kg. Crude protein (N x 6.25) is calculated as nitrogen from amino acids and from non-protein nitrogen (NPN). Digestibility of the amino acid fraction varies. This causes various amounts of undigested amino acid to enter the large intestine along with the NPN fraction.

### Risk of diarrhoea

Proteolytic bacteria in the gut feed on these two crude protein fractions, promoting bacteria growth and risking a microflora imbalance that can cause diarrhea. At the same time, ammonia produced in the gut is absorbed and contributes to the nitrogen load that must be removed by the liver and excreted from the kidneys via urine. This both costs energy and diverts liver capacity away from other



metabolic outputs that support growth and health. Feed strategies that focus on minimizing the indigestibility and NPN fraction of raw materials are a worthwhile investment. Risks and maintenance costs are reduced, and healthy young animal growth is in full focus.

– Lars Sangill Andersen, MSc, nutritionist, Hamlet Protein

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## Vietnamese dairy companies explore global markets

THE RECENTLY-CONCLUDED Trans Pacific Partnership (TPP) deal has paved the way for Vietnamese dairy companies to expand business outside the Asia Pacific region. The deal, which was finalized in October 2015, allows enhanced economic growth for members promoting home-grown products. For Vietnam's dairy sector at least, this development could probably threaten the growth of local firms, to the presence of a quickly growing market and their inability to meet the demand, eventually paving the way for foreign companies to sell their products at lower rates.

Preparing for a deluge by other companies, Vietnam's local dairy firms are now looking outside for better business. TH Group president Hoang Cong Trang said, "TPP is definitely a challenge — from big investors entering the market to tariffs being cut. But, we have been preparing for five years."

The market has potential, feel several dairy owners. VPBank Securities has stated that the Vietnam market was worth around US\$4.1bn last year alone. Major companies such as Vinamilk and Hoang Anh Gia Lai are looking abroad. Vinamilk is likely to invest around US\$30mn in USA, New Zealand and Cambodia, and around US\$100mn in Poland, with a bigger plan to use it as a EU trade gateway.

Meanwhile, TH Group recently announced an investment of US\$2.7bn into cow farms, milk plants and distribution channels in Russia, which has a dairy shortage and is restricted by the EU sanctions following its military intervention in Ukraine. This is in addition to TH Group investing around US\$1.2bn in domestic projects.



Though TPP presents challenges, Vietnam dairy sector leaders are prepared

of Hoang Anh Gia Lai has listed a US\$1.1bn agribusiness unit and is planning for its cows to deliver about half the group's 2015 revenue. It fears that the TPP could lead to the closure of smaller firms, but other companies are hoping to capitalise on other markets going forward this year.

## Genus develops first batch of PRRSv-resistant pigs

ANIMAL GENETICS COMPANY Genus, along with USA's University of Missouri, has developed the first lot of pigs resistant to the Porcine Reproductive and Respiratory Syndrome Virus (PRRSv).

PRRSv is the most significant and harmful pig disease faced by many farmers, causing animal reproductive failure, reduced growth and premature death. Even though it has challenged the pork industry for more than 25

years, there is currently no cure for PRRSv, said Genus.

The new technology has the potential to eliminate the disease impact on the animals, improve the well-being of pigs, and enhance pig farm productivity, which ultimately will help meet the global demand for pork products, stressed the company. Using precise gene editing, the University of Missouri was able to breed pigs that do not produce a specific

protein necessary for the virus to spread in the animals.

The early stage studies conducted by the University demonstrate these PRRSv resistant pigs, when exposed to the virus, do not get sick and continue to gain weight normally.

It will be at least five years until PRRSv-resistant animals are available to farmers, Genus is expected to develop the technology and commercialise the technology through PIC, its porcine division.

Dr. Jonathan Lightner, chief scientific officer and Head of R&D of Genus, said: "The demonstration of genetic resistance to the PRRS virus by gene editing is a potential game-changer for the pork industry. There are several critical challenges ahead as we develop and commercialize this technology; however, the promise is clear, and Genus is committed to developing its potential. Genus is dedicated to the responsible exploration of new innovations that benefit the well-being of animals, farmers, and ultimately consumers."

Dr. Randall Prather, distinguished professor of animal sciences at the University of Missouri, said, "We are delighted to have been working with Genus and to have discovered a major breakthrough in tackling this devastating disease that causes suffering to so many animals around the world."



It will be around five years before PRRSv-resistant pigs are made available to farmers. (Image source: Pixabay)



# Looks like catfish, tastes like eel

**J**APAN'S KINKI UNIVERSITY, which was the first in the world to produce farmed bluefin tuna, has recently produced catfish that tastes like eel. Lead developer associate professor Masahiko Ariji of the University's Faculty of Agriculture shed light on the latest development.

Unagi, or freshwater eel, is a big hit during the summer in Japan but its popularity comes at a cost – its price has been rising, as overfishing and pollution have caused stocks to decline. The situation has become so serious that the species is now on the IUCN (International Union for Conservation of Nature and Natural Resources) red list of endangered species. "It's undoubtedly a huge problem," said Ariji. "Many eel farmers told me that their businesses were affected, and asked if there was a way to cultivate a new species that could prove just as popular as eel."

Ariji recently came up with a possible solution to the problem of declining eel stocks - catfish that taste like eel. Because of its unpleasant mud-like smell, catfish isn't a popular choice of food for Japanese people. But it can be farmed in facilities that cultivate eel, and Ariji also discovered that its smell came from bacteria in river water and could be removed through proper cultivation. He began working with eel farming company Makihara Youman in Kagoshima Prefecture to create a catfish with the same taste and texture as eel. His method was to find the best combination of feed that would make the catfish meat juicy and give it a better taste.



Unagi or freshwater eel is very expensive, paving the way for alternatives

Ariji's first sample was produced in February 2015. Although it didn't have a strong smell, salmon feed had made it slightly oily so he worked on creating

different feed combinations and produced another sample for testing in September. He also compared varieties of catfish from across Japan and studied their smell and fat



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content, in order to select the best kind that could be cooked in the *kabayaki* style, a method in which eel is dipped in sweet soy sauce before being broiled on a grill.

"Feed and pellet production are big in Japanese aquaculture," Arijji explained. "I mixed different feed together like coffee beans. I tried salmon feed, yellowtail feed and even feed for sea bream. Each feed has a different content and I checked everything, from protein to fat to oil before producing a range of combinations. Some combinations contained 50 per cent salmon feed, others had 20 per cent yellowtail feed. I created a huge variety. The eel-like taste was very difficult to create, and I ate many samples of raw catfish to see whether we were making progress."

High quality solid feeds that are rich in nutrients are used widely in Japan to culture saltwater fish. Arijji asked Makihara Youman to

raise the catfish on saltwater fish feed that is rich in fats and oils, instead of conventional feed for freshwater fish. In addition to oil and fat content, he also wanted to include enough protein and turned to other feed alternatives like shrimp and other crustaceans that have high amounts of collagen and give catfish meat a good structure and texture.

Some of the challenges they faced entailed getting rid of the strong distinctive smell. "I checked catfish samples from areas such as Lake Biwa where water conditions are good, and the Yamato River in Nara Prefecture where the water conditions are bad. It really was a bit of trial and error. We kept mixing different feed and checking different samples until we'd found the right one. We were also able to reduce the smell considerably by using groundwater to farm the fish."

Another challenge, Arijji says, is that

selling the catfish depends on whether large markets can be developed but he remains optimistic, saying that catfish can be completely farm-raised and if commercialised, would be available for half the price of eel.

Arijji also believes it is possible to market his catfish in other parts of Japan. Twenty areas across the country have expressed interest, as well as companies in the USA who believe there is a big eel market there. Arijji hopes to produce more of the catfish in his own company so he can eventually export to other areas such as Europe. Spawning and producing broodstock is another important part of the process, and Arijji is aiming to turn this into an industry to provide more job opportunities, sustain existing farmers and, of course, increase the amount of eel-tasting catfish he produces. □

## Indian state gets first licence to build vannamei hatchery



Vannamei shrimp production has exponentially grown in India

KERALA UNIVERSITY OF Fisheries and project, which showed that around six tonnes Ocean Studies (KUFOS) has obtained the of vannamei could be produced from one licence for establishing the first vannamei hectare, resulting in a profit margin of around hatchery in the state. "With the establishment of US\$20,557.

of the hatchery in the state, vannamei shrimp farming hasn't been a farming will be more popular among the common practice in Kerala, mainly since farmers in Kerala," said KUFOS vice-chancellor B Madhusoodana Kurup. seeds. However, the new hatchery in KUFOS

Chennai's Coastal Aquaculture Authority is expected to popularise vannamei culture, (CAA) has issued the licence to set up the hatchery at the university's fisheries research station in Pudukkottai, Kerala.

There has been a significant increase in

In the initial stage, the hatchery will begin vannamei shrimp production in the country in operations at the Nauplius Rearing Centre, the past five years from just 50,000 tonnes which can produce two million seeds a year to more than three lakh tonnes in 2012. Second phase of production is expected to begin by February. More than 60 per cent of the production comes from Andhra Pradesh, followed by

KUFOS had embarked on a pilot farming in Tamil Nadu, Gujarat, and Maharashtra.

## Japan seeks stringent fishing practices

JAPAN HAS DECIDED to tighten its existing conditions on fishing, fearing the risk of resource depletion. Businesses as well as a Japanese university are busy trying to ensure the availability of certain kinds of fish by developing new aquafarming technology.

According to the ministry of agriculture, forestry and fisheries, Japan's bluefin tuna catch was nearly 11,000 tonnes in 2014, down 20 per cent from a decade earlier. Average wholesale price at the Tsukiji market rose 10 per cent during the same period. The volume of fully grown bluefin tuna in the Pacific Ocean was estimated at around 26,000 tonnes in 2012, not far from the 1984 low of 19,000 tonnes.

In order to avoid similar issues with other types of fish, Japan's Fisheries Agency has been pushing a strict cap on annual fish catches to prevent overfishing and restore the amount of fishery resources over time.

The country applies a total allowable catch (TAC) system to seven kinds of fish, including saury, mackerel and true sardine. But, none of these caps have hardly been reached, stated a report in Nikkei Asian Review.

Now, the government is planning to apply TAC standards to Pacific cod, in addition to strengthening efforts to put caps on catches of bluefin tuna.

# Steps to prevent contamination in poultry processing

**P**RE-HARVEST INTERVENTIONS, adequate sanitary dressing procedures at slaughter, and adequate sanitary conditions during further processing are a part of an integrated approach to reduce the public health impact of salmonella and campylobacter in a poultry processing plant, stated a report in *PoultrySite*.

Salmonella and campylobacter are hazards that processing plants producing raw poultry products should control through a HACCP plan or prevent in the processing environment through a Sanitation Standard Operating Procedure (SOP) or other programmes.

Problems of Salmonella and Campylobacter contamination can start right at the start of the process when the birds are received into the plant and during the hanging on the line. As the feathers, skin, crop, colon, ceca and cloaca of the birds brought to slaughter are often highly contaminated with Salmonella and Campylobacter the crates and cages that they are brought to the plant in can be sources of cross contamination.

Poultry processing systems manufacturer Marel stressed the importance of ensuring high safety protocols at the start of the line.

"Attention to food safety starts at the very first beginning of poultry processing, the condition of the supplied birds: a dry, stress-free and injury-free chicken in good shape will have much less chance of cross contamination. Regarding bacterial infection, there's a very close relationship between what comes in the processing plant and what goes out," a



**Salmonella and campylobacter contamination is rampant in poultry processing farms**

spokesman for the company said. "Another point of attention at the beginning of the process is the transport of live birds. Transport modules and trucks need to be clean to prevent contamination from one farmer to another. Strong emphasis will be continuously placed on food safety, up to the cold storage and transport of end products. The complete processing chain should focus on food safety to achieve the highest quality possible. When

the start is right and process discipline is respected from beginning to end, the risk of cross contamination is at its lowest."

"The foundation of securing food safety is also formed by the right layout of the processing plant. The processing departments should be separated, while logistics and product flows should be optimised. Ventilation flows, temperature and humidity should be secured for optimal conditions. In fact, the

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**The foundation of food safety lies in the right layout of a processing plant - logistics and product flows should be optimised.**  
(Image source: Picsfive/Shutterstock)

entire building should be constructed with food safety in mind.

Following stunning and slaughter, the next process on the line of scalding to loosen the feathers can be seen as a two-edged sword. In some circumstances, the scald tanks in which the birds are immersed can act as a carrier for bacteria to transfer from one carcass to another. However, it can also help to reduce levels of *Salmonella* and *Campylobacter* as much of the dirt, litter and faeces are removed.

Dutch poultry processing equipment manufacturer Meyn has developed the jet stream scalding system that has a unique water flow system that pulls the carcasses down in a stream that moves with the line direction. As the water floats with high velocity along the entire skin, the heat exchange is optimised resulting in a shorter processing time. The water not only pulls the bird down, but also makes it move along with the line direction. This way, scalding at high line speeds is no longer an issue as products are not dragged to the surface and scalded on only e.g. one side. Scald water that contains high levels of faecal contamination is a problem, as the bacteria gets massaged into the skin and open feather follicles.

A bird brush and washer used before the scalding process can help to reduce contamination and the use of counter flow systems in the scald tank and multi stage scald tanks that see the birds moving into ever cleaner water can help to reduce contamination.

The pH of the water also needs to be tested as a high alkaline content in the water the better for reducing *Salmonella* and *Campylobacter* contamination. Scalding can be used as an intervention if the pH is properly maintained in the scald tank. Most poultry processors in the USA prefer a hard

scald to a soft scald, which has a shorter scald time at higher temperatures. This allows better removal of the outer layer of skin.

The correct water temperature for the appropriate amount of time is important to prepare the carcasses for feather removal. It also reduces defects during dressing. When the water temperature is too high, the carcasses become oily. This oiliness makes it easier for *Salmonella* to stick to the surface of the skin. Also, if carcasses are over-scalded, the meat may start to cook, and the carcasses may be marked unacceptable and rejected by inspectors.

If the temperature is too low, the tank becomes a breeding ground for bacteria.

Good process controls during the picking to remove the feathers are critical as cross-contamination occurs through contact with contaminated rubber picking fingers and contaminated reuse water. There needs to be regular maintenance and sanitation of equipment at this stage of the process including prevention of a build-up of feathers. The process also sees faecal material released when the picking fingers agitate and rub the carcasses, leading to potential for cross contamination.

The spokesman for Marel said: "First of all it is most important that the input of live birds is as clean as possible. The farmer should make sure that the birds are treated in optimal conditions.

"There are two stunning possibilities; water bath stunning and controlled atmosphere stunning. Water bath stunning can contaminate the product via water to a certain extent, but to my personal interpretation the direct influence of a water bath stunner on the micro-biological end quality is limited.

Nevertheless, controlled atmosphere stunning has considerably less risk of contamination.

"The most occurrences of cross contamination find their origin in the scalding, picking and evisceration departments. When using multi-tank immersion scalding, it is very important to use the counterflow principle and therefore enough fresh water should be applied in the last scalding tank."

The new Marel Stork AeroScalder, launched at IPPE Atlanta, virtually prevents cross contamination in the scalding process; it doesn't make use of immersion, but blows moisturised hot air onto the products.

"Pickers have the key job to eliminate micro-organisms through feather and manure removal. Picking needs to be done profoundly, processors should not risk applying too less picking machines in relation to capacity. After picking it is most important to wash the product thoroughly adequately to reduce microbiological count," the Marel spokesman added.

The next critical point along the processing line is evisceration, because if the viscera is not handled correctly during removal are of employee hygiene practices are not followed correctly an increase in microbial contamination can occur. The equipment needs to be maintained in good sanitary condition, free from intestinal contents and segments. Automated re-hanging of carcasses between the defeathering and evisceration lines can reduce external surface cross-contamination.

The Stork Nuova eviscerating system not only removes the viscera pack safely from the carcass, it also separates the viscera pack by transferring it to a separate viscera pack line, securing maximum food safety. □



# Poultry Buyers' Guide 2016

**Section One** - Listings by categories

**Section Two** - List of suppliers

**Section Three** - Contact details of agents in Asia

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**Marel Stork Food Systems Australasia (Pty) Ltd.**

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 Capalaba, 4157  
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 Fax: +61 7 39003033  
 Web: www.marel.com/australia/  
 E-mail: info@marel.com

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 Tel: +880 2 8858404  
 Fax: +880 2 9858547  
 E-mail: wasusalam@hotmail.com

**Axon Ltd.**

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 Dhaka  
 1206  
 Tel: +880 2 8417331  
 Fax: +880 2 8417330  
 E-mail: info@axon-group.net

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 E-mail: naharpoultry@yahoo.com

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## Marel Stork Food Systems China Co. Ltd.

Caiyuan Industrial Zone No. 16  
Nancai Town  
Shunyi District  
Beijing  
101300  
Tel: +86 10 89472150  
Fax: +86 10 89472350  
E-mail: china.poultry@marel.com

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Stork House  
Jalan Rawa Pandan No. 19 B  
Tomang Raya  
Jakarta  
11430  
Tel: +62 21 56974008  
Fax: +62 21 56959071  
E-mail: indonesia.poultry@marel.com

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Komplek Kopo Mas Regency  
Bandung  
ID-40225  
Tel: +62 22 5430583  
Fax: +62 22 5430314  
E-mail: cvpesona@bdg.centrin.net.id

### PT BD Agriculture Indonesia

Green Office Park 6, Wing A  
3rd Floor, Zone 6  
Jl. Grand  
Boulevard, BSD Green Office  
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Tangerang  
15345  
Tel: +61 21 29580286  
Fax: +62 21 29580275  
E-mail: bdai@bigdutchman.com

### PT BD Agriculture Indonesia

**Surabaya Office**  
Graha Pena Lt. 18 No. 1807  
Jl. A Yani No. 88  
Surabaya  
60234  
Tel: +62 315 8251920  
Fax: +62 315 8251920

### PT Japfa Comfeed Indonesia

**Tbk**  
Web: www.japfacomfeed.co.id  
E-mail: teguhyp@japfacomfeed.co.id

## PT. Charoen Pokphand Indonesia

Poultry Equipment Division  
Jl. Raya Serang Km. 30  
Balaraja, Tangerang  
15610  
Tel: +62 21 5951012  
Fax: +62 21 5951013  
Web: www.cp.co.id  
E-mail: antoni@cpi-pe.co.id

## Japan

### Ghen Corporation

Web: www.ghen.co.jp  
E-mail: info@ghen.co.jp

### Hytem Co. Ltd.

2-10 Techno Plaza  
Kakamigahara City  
Gifu  
509-0109  
Tel: +81 58 3850505  
Fax: +81 58 3851230  
Web: www.hytem.com  
E-mail: info@hytem.com

### Marel Japan Co., Ltd.

162, Morita Takuchi, Okubo  
Akashi City  
Hyogo  
674  
Tel: +81 78 9341610  
Fax: +81 78 9340204  
E-mail: info.poultry@marel.com

### Masahiro Sumiya

5-18-3-1402  
Minamikasai, Edogawa-Ku  
Tokyo  
1340085  
Tel: +81 3 59397061  
Fax: +81 3 59397061  
E-mail: sumiya@bigdutchman.com

### Nakajima Seisakusho Co. Ltd.

Nagano City  
33 Ai Shinonoi  
Nagano Pref.  
388-8004  
Tel: +81 262 921203  
Fax: +81 262931611  
E-mail: info@nakamatic.co.jp

### Tohzei Sangyo Boeki Inc.

2-Chome, 17 Yushima  
Bunkyo-Ku  
Tokyo  
113-0034  
Tel: +81 3 38154491  
Fax: +81 3 38154456  
E-mail: it@tohzei-sangyo.co.jp

## Korea

### Ganong International Co. Ltd.

349-1 Cheonhyun-Dong  
Hanam-shi, Kyunggi-Do  
South Korea  
465-816  
Tel: +82 23 4366790  
Fax: +82 31 7926305  
E-mail: starmanpark@hanafos.com

### Jeong Jin Soo

486-18 Ui-Green Villa 6-202  
Ssangmun-dong  
Dobong-ku  
Seoul  
Tel: +82 10 52174518  
E-mail: jeong@bigdutchman.com

### Join Co Ltd.

Web: www.nuriwell.com  
E-mail: info@joinbio.co.kr

## LSG Co. Ltd.

#525, Industry-University  
Collaboration Building Dongguk  
University lisan 32 Dongguk-ro  
Ilsan-donggu  
Goyang-si  
410-820  
Tel: +82 31 9160895  
Fax: +82 31 9160896  
Web: www.lsglobal.kr  
E-mail: lsglobal@naver.com

## Samsung MS

29-23, Bakdalro 275gjl  
Anyang-si  
Kyunggi-do  
430-849  
Tel: +82 31 4037291  
Fax: +82 31 4037295  
E-mail: ds2hns@hanmail.net

## Sein United

Songpa PO Box 96  
Songpa-Ku  
Seoul 138-600  
Tel: +82 2 4487188  
Fax: +82 2 4487189  
Web: www.lubing.com  
E-mail: schein@seinunited.com

## Yushin Corporation

7F, 751 Bldg.  
Kangnam-Ku  
KR Seoul  
135-010  
Tel: +82 2 5682525  
Fax: +82 2 5693113  
E-mail: ryushin@netsgo.com

## Malaysia

### Advance Farm Systems (M) Sdn Bhd

CT-6-19  
6th Floor Subang  
Square Jalan SS15/4G  
Subang Jaya  
Selangor Darul Ehsan  
47500  
Tel: +60 3 56363204  
Fax: +60 3 56362784  
E-mail: adv-ps@streamyx.com

### Advance Farm Systems (M) Sdn Bhd-Marel

46, Lorong Nagasari 11  
Taman Nagasari  
Prai Industrial Estate  
Prai, Pulau Pinang  
13600  
Tel: +60 4 3995157  
Fax: +60 4 3909578  
E-mail: info.poultry@marel.com

### BD Asia Sdn Bhd

No. 20, Lorong Kelui 1B  
Kawasan Perindustrian  
Bukit Raja, Shah Alam  
Selangor  
40000  
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Fax: +60 3 33422866  
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E-mail: alex.ong@layhong.com.my

## Pericoli Asia Pacific

14 Jalan Sejahtera 25/124  
Axis Premier Industrial Park  
Sector 25  
Shah Alam  
Selangor  
40400  
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Fax: +60 3 51225899  
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E-mail: termotecnica@pericoli.com

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Fax: +60 3 32915198  
Web: www.tongseh.com.my  
E-mail: enquiry@tongseh.po.my

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Taman IKS Simpang Ampat 1  
Simpang Ampat  
S.P.S. Pulau Pinang  
Tel: +60 12 4023167  
Web: www.yenheragro.com  
E-mail: phong.vet@yenheragro.com

## Myanmar

### Aung Tet Htun Co. Ltd.

E-mail: khinmyoang@myanmar.com.mm

### Myanmar Frontline Co. Ltd.

E-mail: misan17183@gmail.com

### Yin Yin Kyaw Int'l Trading

**Co. Ltd.**  
No.476  
East Gyogone  
St 1 Insein T/S  
Yangon  
Tel: +95 9 421144757  
E-mail: yinyinkyawvet@gmail.com

## Nepal

### Brown Bird Hatchery Pvt. Ltd.

Web: www.browbird.org.np  
E-mail: brownbirdh@gmail.com

### Budhanikantha Breeder

### Hy Lay Breeders Nepal Pvt. Ltd.

E-mail: rebanta.bhattarai@gmail.com

### National Breeders Nepal Pvt. Ltd.

E-mail: kplkhanal@yahoo.com

### Pancharatna Group of Companies

Web: www.pancharatnagroup.com  
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Web: www.safnepal.com  
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## Pakistan

### Ample Trade Impex

Suit #3, 3rd floor,  
Sumak Centre, 1-D  
Commercial  
DHA Lahore-EME Sector  
Lahore  
Tel: +92 42 7584400  
Fax: +92 42 7532102  
Web: www.lubing.com  
E-mail: ample@hotmail.com

### Awaz Poultry

E-mail: mzahidrahim98@gmail.com

### Bahoo Chicks

E-mail: bahoochicks@yahoo.com

### Chairman Chicks Ltd.

E-mail: tahir341@hotmail.co.uk

### Eastern Veterinary Services

Office 7  
2nd Floor  
Allied Commercial Plaza  
Chandi Chowk  
Murree Rd, Rawalpindi  
Punjab  
46000  
Tel: +92 51 4421771  
Fax: +92 51 4421776  
E-mail: estrnbio@dsl.net.pk

### Samundri Chicks

E-mail: anees482@hotmail.co.uk

## Philippines

### Asia Giant Enterprises

Unit 403  
Gold Hill Tower  
San Juan  
Metro Manila  
1500  
Tel: +63 2 7236347  
Fax: +63 2 7253942  
E-mail: bengo@asiagiantgroup.com

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### Marel Stork Asia

#1 Langka Road  
FTI Complex  
Taguig  
Metro Manila  
Tel: +63 2 8383912  
Fax: +63 2 8383913  
E-mail: asia.poultry@marel.com

### P & J Agricultural Trading

184, St. Antonio Ave.  
Manila  
Tel: +63 2 6410053  
E-mail: bobby@pjagri.net

### Vemaval Incorporated

#1 Langka Road, FTI Complex  
Taguig, Metro Manila  
Tel: +63 2 8384647  
Fax: +63 2 8384540  
E-mail: vemaval@info.com.ph

### Welissa Farm

## Singapore

### Advance Farm Systems Pte Ltd.

No. 57, Ubi Avenue 1, #07-1  
Ubi Centre  
408936  
Tel: +65 67486613/17  
Fax: +65 67457687  
E-mail: info.poultry@marel.com



**Morgan Enterprise**  
 Bedok Centre  
 914614  
 Tel: +65 93832534  
 E-mail: tanchinleong2001@yahoo.com.sg

**Sri Lanka**

**Bodum Aussenhandels GmbH**  
 Liaison Office #11  
 Suranimala Place  
 Colombo 6  
 Tel: +94 11 4510719  
 Fax: +94 11 2827957  
 E-mail: bodum@sltnet.lk

**Noorani Estates Ltd.**  
 Web: www.nelfarms.com  
 E-mail: nooni@nelfarms.com

**Taiwan**

**Bartholomew Lo, Siu-Man**  
 #50, Floor 8-1  
 Chung Ching 1 Street  
 Jen-Te Shiang - 717  
 Tainan Hsien  
 Tel: +886 9 39375876  
 Fax: +886 6 2709332  
 E-mail: bart@bigdutchman.com

**Donbell Enterprise Corporation**  
 E-mail: kddonbell@gmail.com

**Ennchih Co. Ltd.**  
 No. 310 Chung Shan S. Rd  
 Taoyuan Hsien  
 Tel: +886 347 58168  
 Fax: +886 347 53803  
 E-mail: ennchih3@ms6.hinet.net

**Ever Prima Co. Ltd.**  
 4th Floor  
 No. 77  
 Le Shan Street  
 Nei Hu Chu  
 Taipei  
 Tel: +886 2 26276815  
 Fax: +886 2 26270211  
 E-mail: info.poultry@marel.com

**Global Ace Trading Co.**  
 11-F-1, No. 239  
 I Hsin, 1st Rd.  
 Kaohsiung  
 Tel: +886 7 3335481  
 Fax: +886 7 3314190  
 E-mail: e0904@ms10.hinet.net

**J. John Industry Co. Ltd.**  
 8th Floor, No-160  
 Sec-6  
 Min Chuan E Road  
 Taipei  
 Tel: +886 922 045892  
 E-mail: rita.hung@jjohngroup.com.tw

**Ye Tair**

**Thailand**  
**American Marketing Co. Ltd.**  
 1964, 1966  
 1968, 1970  
 On-Nut Road  
 Suanluang  
 Bangkok  
 10250  
 Tel: +66 2 3217181  
 Fax: +66 2 7211535  
 E-mail: nithitad.amcovet@gmail.com

**BD Agriculture (Thailand) Ltd.**  
 Block F7 & F8  
 41/76 - 77 Moo 6 Bangna  
 Trad Rd. Km 16.5  
 Bangchal  
 Bangplee  
 Samutprakarn  
 10540  
 Tel: +66 2 3496531  
 Fax: +66 2 3496535  
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 Sukhumvit Road  
 Klongton Nua  
 Wattana  
 10110  
 Tel: +66 2 7878700  
 Web: www.chemicals.jjsea.com  
 E-mail: info\_jjcht@jjsea.com

**Kiatdamrongchai K-Plus Engineering Co. Ltd.**  
 299/132 Areeya Mandarin  
 Sutthisam Winijchai Road  
 Samsennok, Huaykwang  
 Bangkok  
 10310  
 Tel: +66 2 3188458  
 Fax: +66 2 7196092  
 E-mail: info.poultry@marel.com

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 Tumbon Lamsai  
 Amphoe Wang Noi  
 Pranakhonsi  
 Ayuttaya  
 13170  
 Tel: +662 81 76410  
 Fax: +662 81 76439  
 Web: www.kspthailand.com  
 E-mail: kannika@cpf.co.th

**Lanna Poultry Farm Marel Stork SE-Asia**  
 97, Rama IX Soi 59  
 Rama IX Road  
 Suanluang sub-district  
 Suanluang district  
 Bangkok  
 10250  
 Tel: +66 8477512203  
 Web: www.marel.com/poultry  
 E-mail: info.poultry@marel.com

**Nadee Pundee Breeding Farm Co. Ltd.**

**STF Annon Farm**  
 Web: www.stf.co.th  
 E-mail: thanawut@stf.co.th

**Thai Eggs farm Co. Ltd.**  
 E-mail: ttpaob@gmail.com

**Vietnam**  
**Big Dutchman Vietnam HCM Rep.**

Office of BD Agriculture (Malaysia) Sdn Bhd  
 Unit 203  
 2nd Floor, 91 Pasteur  
 St. Ben Nghe Ward, Dis. 1  
 Tel: +84 8 39390948  
 Fax: +84 8 39390951  
 E-mail: bdvietnam@bigdutchman.com

**Dong A Material-Veterinary JSC**  
 62, Ho Tung Mau, Caudien  
 Tuliem, Hanoi  
 Tel: +84 4 37632583  
 Fax: +84 4 37632602  
 Web: www.dmvjsc.com  
 E-mail: dmvsjc@fpt.vn

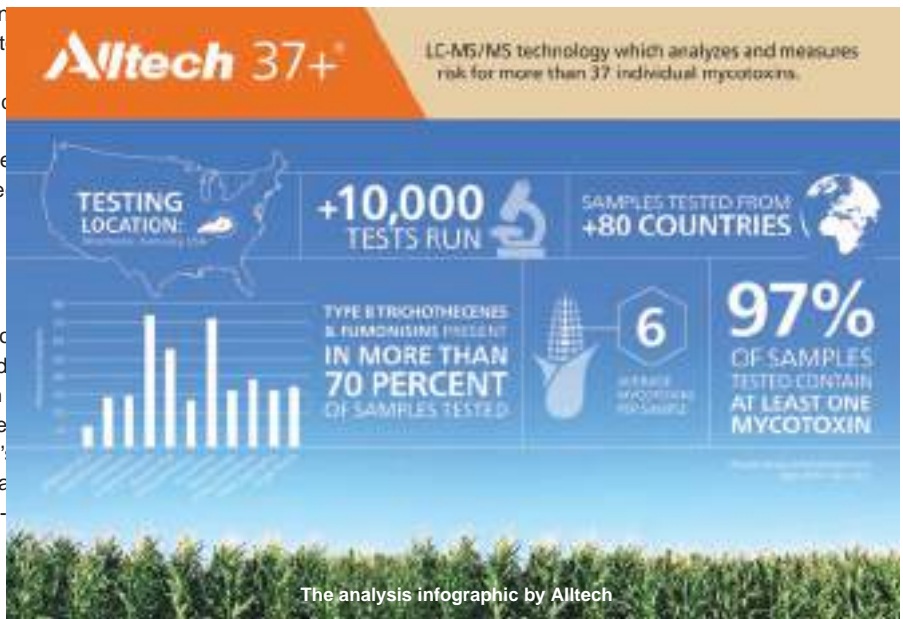
**Peja Vietnam**  
 Unit 806, Me Linh Point Tower  
 2 Ngo Duc Ke Street, 8th Floor  
 1st District  
 Ho Chi Minh City  
 Tel: +84 8 8293503  
 Fax: +84 8 8251021  
 E-mail: info@pejavietnam.com

**Alltech completes test on 10,000 mycotoxin sample**

THE ALLTECH MYCOTOXIN Management programme ended last year after mycotoxin analysis testing was completed on 10,000th sample. Since the Analytical Services Laboratory of Alltech opened in September 2012, more than 10,000 domestic and international samples have been analysed for mycotoxin contamination at ISO/IEC 17025:2005 accredited laboratory.

ISO/IEC 17025:2005 is the basis of laboratory accreditation in more than 100 countries. The Analytical Services Laboratory of Alltech has received more than 50 domestic feed sample types from more than 50 countries since the laboratory first opened in Winchester, Kentucky. The laboratory's proprietary 37+® LC/MS/MS analytical method, developed by Alltech, is state-of-the-art in its detection and quantization of more than 37 mycotoxins at parts per billion (ppb) and parts per trillion (ppt) levels.

"This 10,000-sample milestone sets the bar in global mycotoxin investigation and reaffirms our customers' confidence in our precise, accurate and thorough testing of Alltech's 37+ mycotoxin analysis programme. Our diagnostic approach allows us to further investigate



The analysis infographic by Alltech

livestock and poultry health issues, and global mycotoxin trends and developed regional trends over time. The laboratory has found 97 per cent of samples tested contain one or more mycotoxins, with an average of six mycotoxins per sample. Type B Trichothecenes and Fumonisin were present in more than 70 per cent of samples.







# Southeast Asia's fading mangroves

**T**HE THREAT POSED by the development of rice and palm oil plantations to mangroves in Southeast Asia has been underestimated, a study in the Proceedings of the National Academy of Sciences stated.

Rice and oil plantations accounted for 38 per cent of mangrove deforestation between 2000 and 2012, the research showed. As well as being important carbon sinks and rich in biodiversity, mangrove forests provide fuel and food for coastal communities.

"Aquaculture has largely been held responsible for causing mangrove deforestation, particularly in countries like Thailand and the Philippines," explained co-author Daniel Richards from the National University of Singapore.

He told BBC News that a study of eight countries around the world between the 1970s and the early 2000s found that 54 per cent of deforested mangroves were replaced with aquaculture ponds used for fish or shrimp/prawn production. "Our study found that aquaculture was still important but we were surprised that in Southeast Asia between 2000 and 2012, just 30 per cent of deforested mangroves were replaced with aquaculture.

"The impact of other drivers, like rice and oil palm agriculture, was greater than we expected."

Dr. Richards observed that nearly almost 25,000 hectares of Myanmar's mangroves were converted to rice paddy between 2000 and 2012. He added that while there had

been a few previous studies that had highlighted the role of oil palm production as a cause for mangrove loss, they had no idea of the scale of the deforestation. Sixteen per cent of all deforested mangroves in Southeast Asia were replaced with oil palm plantations during our study period," he said.

"We usually think of oil palm as an issue which affects tropical forests on land but our study shows that demand for oil palm is also driving deforestation in coastal mangrove forests."

Dr Richards and his colleague, Daniel Friess, used Google Earth to monitor how land was used once mangrove forests had been felled. "We viewed [more than] 3,000 deforested mangrove patches, and recorded the land-use that they were replaced with," Dr Richards said.

"This study also builds on some great existing data sets that were provided by scientists at the University of Maryland and the US Geological Survey." He warned that mangrove forests in the region were "very threatened."

"Our study focused on quite a recent period of time but mangroves in South-East Asia have experienced widespread deforestation for decades. Previous research suggests that around 90 per cent of Singapore's original mangrove forests have been lost."

The region is home to about one third of the world's mangroves, including some of the most biodiverse. The researchers said mangroves were important to people because

they provide fish and crabs, wood and charcoal, and can help protect coastlines from erosion. Mangrove forests also stored very high densities of carbon so had a role in regulating carbon in the atmosphere, they added.

In other regions, such as Sri Lanka, the value of intact mangrove forests has been recognised by authorities and measures have been put in place to protect them.

Dr. Richards said that the importance of mangrove forests is becoming better understood, but it was a slow process. "It is encouraging that our study found low rates of mangrove deforestation in Vietnam, the Philippines, and Brunei, and this is partly due to stronger protection of mangroves in these countries.

"There are initiatives to restore mangroves in some countries: the Mangrove Action Project in Thailand, and Blue Forests in Indonesia, are working with governments and local communities to protect and restore mangrove forests."

But he warned that more needed to be done: "Indonesia has more mangrove forests than any country in the world, and the mangroves in the more remote parts of the country, such as Indonesian Papua, are almost intact. However, these mangroves may be at risk of deforestation [as a result of] recent plans to grant concessions and develop the agriculture industry in this region.

"If we want to protect Indonesia's remaining mangroves then we need to act quickly." ■

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**Ms. Aishah Feroza**

M : +62 877 88 133 122  
Tel : +62-21 846 4756/85 Ext 313  
Email : [oza@napindo.com](mailto:oza@napindo.com) / [oza.napindo@gmail.com](mailto:oza.napindo@gmail.com)

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